

वार्षिक प्रतिवेदन ANNUAL REPORT 2017-18

01 अप्रैल 2017 – 31 मार्च 2018
(01 APRIL 2017 – 31 MARCH 2018)



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद
INDIAN INSTITUTE OF TECHNOLOGY
(INDIAN SCHOOL OF MINES), DHANBAD

Published in 2018 © IIT (ISM), Dhanbad

CONTENTS

		Page No.
	Foreword	i
	Vision	ii
	Mission	ii
	Executive Summary	iii - xxiii
1	About IIT (ISM), Dhanbad	1 - 4
2	Academic Activities	5 - 10
	2.1 Undergraduate Programmes	6
	2.2 Dual Degree Programmes	7
	2.3 5-year Integrated Programmes	7
	2.4 Postgraduate Programmes	8 - 9
	2.5 Research Programmes	10
3	Research and Development	11 - 138
	3.1 State-of-the-art Laboratories	11 - 12
	3.2 Sponsored Research Projects	13 - 17
	3.4 Ph.D. Degree Awarded	18 - 33
	3.5 Research Publications	34 - 138
4	Centres of Advanced Learning	139 - 142
	4.1 Central Research Facility (CRF)	140
	4.2 Centre of Excellence in Safety, Occupational Health and Disaster Management (CoESOHDMD)	141
	4.2.1 Collaborative R&D projects with CIL and Australian Universities/ Organizations under CoESOHDMD	141
	4.3 Australia-India Joint Centre of Excellence in Mining Technology (CEMT)	141
	4.3.1 Institution of Australian Partnership Coordinator (APC) position	141
	4.3.2 Collaborative R&D Projects with CIL and Australian Universities/ Organizations under CEMT	142
	4.4 Oil and Gas Reservoir Characterization Simulation	142
5	Industry-Institute Interaction	143 - 178
	5.1 Consultancy Projects	143
	5.1.1 List of major industries, Government organizations, research institutions sponsoring projects to IIT (ISM)	143 - 172
	5.2 Professional Development Programmes (PDPs)	173 - 178
6	International Relations and Alumni Affairs	179 - 182
	6.1 International Relations	179 - 180
	6.2 Alumni Affairs	180 - 182
7	Students' Activities	183- 206
	7.1 Technical Activities	183
	7.2 Sports and Co-curricular Activities	183 - 199
	7.3 Extra Curricular Activities	200 - 205

		Page No.
8	Departmental Activities	207 - 256
	8.1 Best Practices	207 -210
	8.2 Major Experimental/Research facilities at the Departments	211 - 232
	8.3 Important Collaborative Works	233 - 243
	8.4 Seminar, Conference, Symposium and Workshop	244
	8.5 Deputation of Faculty Members Abroad	245 - 247
	8.6 Field Visits, Excursions and Training	248 - 255
9	Awards and Recognitions	257 - 266
	9.1 List of Awards	257 - 260
	9.2 Awards and Recognitions to Faculty Members	261 - 263
	9.3 Awards and Recognition to Students	264 - 266
10	Infrastructural Facilities	267 - 276
	10.1 Central Library	267 - 269
	10.2 Computer Centre	269 - 270
	10.3 Central Workshop	271
	10.4 Health Centre	272 - 273
	10.5 Hindi Cell	274 - 276
11	Personnel	277 - 290
12	Board of Governors, Senate and Finance Committee	291 - 296
13	Financial Statements	297 - 404
14	Audit Report	405 - 413

FOREWORD

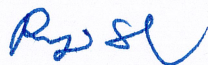
As I prepare to take up the responsibilities of the new office at IIT (ISM) Dhanbad, it is with a degree of pride that I note another successful year for the Institute. Right from its inception to its re-christened state, IIT (ISM) Dhanbad has added numerous feathers to its cap and has constantly strived to keep on to its mission and vision of producing the best work force of the future - be it in the field of engineering, science and technology, or research.

Harking back, the institute in these nine decades or so has achieved immensely, but we are not resting on our laurels or our illustrious history. Evidently, the academic year 2017-18, marked a positive progress across each of the areas of research, teaching, students welfare, employability, international mobility, industry-institute connect and academic ties with global universities. This year a total of 184 Ph.D. degrees were awarded. In terms of employability, despite industrial recession and increased student strength, the institute facilitated 80% of the outgoing students to secure a job in their respective fields. We also partnered with leading foreign universities for the generation, dissemination and application of knowledge based on global requirements. Here, particularly worth-mentioning is the Indo-Australian Joint Research Venture. This academic tie has not only paved a way to collaborative projects and research programmes for knowledge to keep advancing but it has also extended our breadth of international presence, and I strongly believe that more such linkages are crucial to further institute development.

These achievements could not have been possible without the sustained and quality commitment from my staff and colleagues. I would like to add my thanks to them for their hard work and enthusiasm in delivering this success. My deep appreciation goes to the students as they are the backbone of academic spaces.

As the Director of this institute, I have taken some significant strategic initiatives that largely concentrate on building up academic excellence, on creating more teaching spaces, on adopting digital approaches that teachers and learners will need in the classrooms of tomorrow, on supporting the quality of the student experience, and on developing a strong research base on campus so as to catch-up with the global technological trends.

Ars longa, vita brevis (The day is short and there is much work to be done), but I am confident that the collegial, pluralistic and supportive intellectual environment will breed more and more creativity, learning and freedom of thought, inquiry and expression in days to come.



(Prof. Rajiv Shekhar)
Director
IIT (ISM), Dhanbad

Vision

To be an internationally acclaimed premier institution of higher technical and scientific education with social commitment having an ethos for intellectual excellence, where initiative is nurtured, where new ideas, research and scholarship flourish and intellectual honesty is the norm, and from which will emerge the leaders and innovators of tomorrow in the realms of technology. While serving as a catalyst in a developing society, its goal as one of the premier technology education institution of the country would be to intimately involve itself not just in the technological development of the Nation but also in its overall development.

Mission

- ❖ To educate and train manpower in various disciplines of engineering and technology, applied sciences, management and applied arts at the graduate, postgraduate and research levels.
- ❖ To foster the creation of new and relevant technologies in the areas of its core competency and to transfer them to industry for effective utilization.
- ❖ To participate directly in the planning and solving of engineering and managerial problems of relevance to industry and the society at large.
- ❖ To develop and conduct continuing education programmes for practicing engineers and managers.
- ❖ To develop strong collaborative and cooperative links with private and public-sector industries and government user departments.
- ❖ To develop comprehensive and intimate interaction with premier academic and research institutions within the country and abroad for mutual benefit.
- ❖ To develop programmes for faculty growth and development.
- ❖ To anticipate the technological needs of the Nation and to plan and prepare to cater to them.
- ❖ To interact with the community/society at large with a view to inculcate in them a feel for scientific and technological thoughts and endeavours.
- ❖ To develop the region in which the Institute is located through community development programmes including training and education.

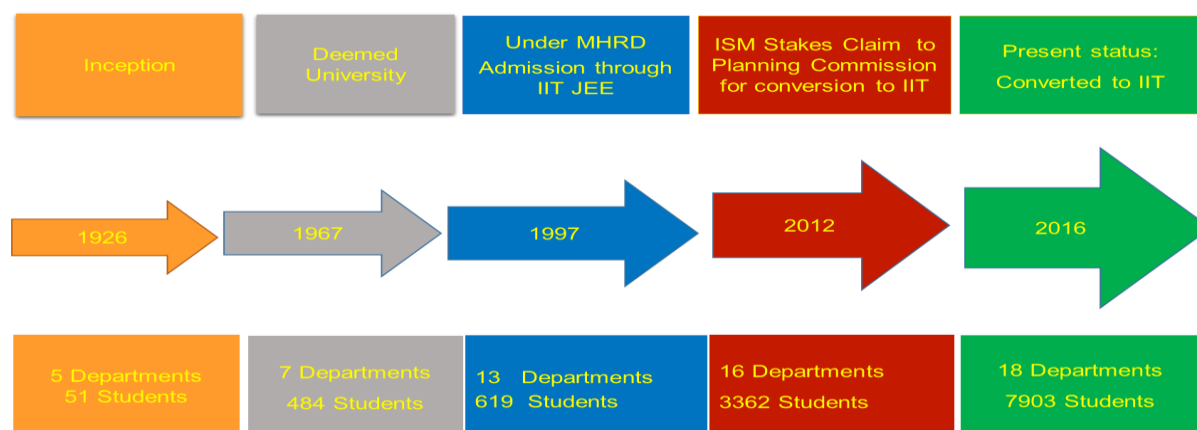
Executive Summary

Innovations and Marching Ahead Towards Excellence

The Institute made rapid strides in its pursuit for academic and research excellence through the implementation of a number of innovative schemes and initiatives as under:

1. PROLOGUE

Today, the policy makers are concerned about the institutes of higher technical education of the nation which are not placed in the same bracket with that of the top institutions of the world. International ranking of the institutes is assessed on several parameters which include growth in research publications, external funding for research and development activities, international collaborations, etc. Indian Institute of Technology (Indian School of Mines), Dhanbad has been consistently growing at a rate of over 35% annually in these parameters over the last six years. The journey of the Institute since its inception is given below:



The achievements of IIT (ISM) are the outcome of relentless innovative drives undertaken by the Institute during the last few years. Some of these initiatives are discussed in the following sections.

2. ACADEMICS

2.1 Academic Programmes and Student Strength

In the Academic year 2017-18, IIT (ISM) offered 61 programmes at UG and PG levels, apart from offering Ph.D. and D.Sc. in each department.

The details of programmes offered by IIT (ISM) are given below:

Sl. No.	Courses offered	No. of Courses In 2017-18
1.	4-Year B.Tech.	13
2.	5-Year Dual Degree	6
3.	5-Year Integrated M.Tech./M.Sc.Tech/M.Sc.	3
4.	3-Year M.Sc.Tech.	2
5.	2-Year M.Sc.	3
6.	2-Year MBA	1
7.	3-Year Executive MBA	1
8.	2-Year M.Tech.	27
9.	3-Year M.Tech.	5
Total		61

A number of new academic programmes have been offered at the Institute, which include four under graduate programmes (admission through JEE Advanced), twelve 2-Year M.Tech Programmes, five 3-Year M.Tech Programmes and one 3-Year Executive MBA programme.

B.Tech and Dual Degree Programmes

- B.Tech (Civil Engineering)
- B.Tech (Electronics & Instrumentation Engineering)
- B.Tech (Engineering Physics)
- Dual Degree (Computer Science & Engineering)

M.Tech Programmes (2-Years)

- | | |
|--|-------------------------------|
| • Earthquake Disaster, Hazard & Risk Mitigation | • Opencast Mining |
| • Computer Science & Engineering with Specialization in Information Security | • Power System Engineering |
| • Power Electronics & Electrical Drives | • Design Engineering |
| • Chemical Engineering | • Manufacturing Engineering |
| • Reservoir & Production Engineering | • Thermal Engineering |
| | • Mine Electrical Engineering |
| | • Structural Engineering |

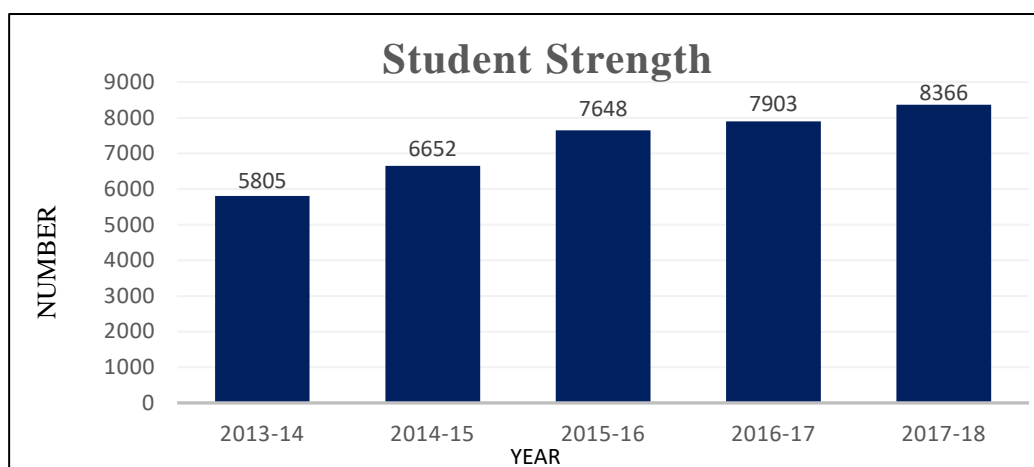
M.Tech Programmes (3-Years)

- Electronics and Communication Engineering
- Power Electronics & Electrical Drives
- Computer Science and Engineering
- Mechanical Engineering
- Power System Engineering

MBA Programme (3-Years)

- Executive MBA

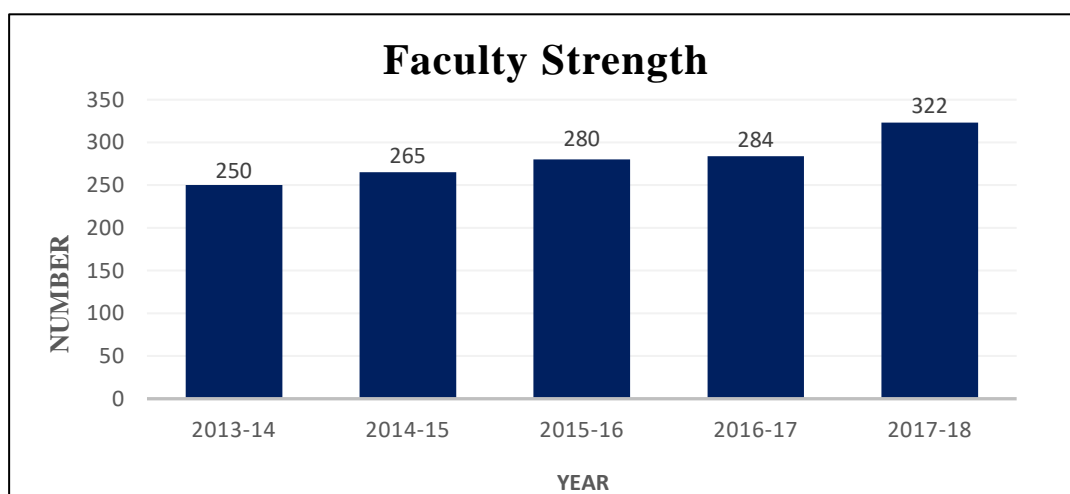
The student strength in 2017-18 has gone up to 8366. The growth of student strength over last five years is given here:



2.1 Faculty Strength

2.2.1 Full-time Faculty Members

In consonance with the increase in student strength, the number of faculty members has also gone up to 322 in 2017-2018:



2.2.2 Chair Professors

In recognition to the longstanding interaction of IIT(ISM) and its contribution to industry, following Endowment Chairs have been instituted by different public and private sector companies for the appointment of professors in specialized areas:

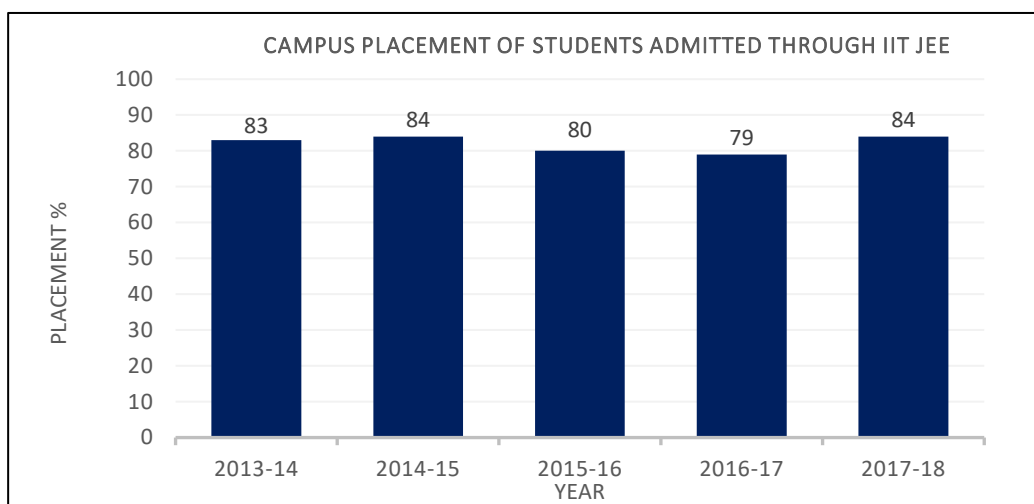
Sl. No.	Name	Department
1	Coal India Limited Chair	Mining Engineering
2	Ministry of Labour and Employment Chair	Mining Engineering
3	Rajiv Gandhi Chair	Environmental Science and Engineering
4	NMDC Chair	Mining Engineering

2.2.3 Adjunct Professors

In the year 2017-18, the total number of Adjunct Professors was 18.

2.3 Campus Placement

The institute has maintained a sustained growth of placement, though the number of graduating students has increased significantly over the years. The placement percentage of students admitted through IIT-JEE over the last few years is presented below:



2.4 Innovative Initiatives in Academics

The major initiatives taken during the last few years for further strengthening the academic activities at IIT(ISM) are as follows:

- Project mode learning from second year onwards.
- In-house development and implementation of online students' semester feedback system for every subject and for each teacher including the exit feedback at the end of a course.
- Introduction of Major, Minor and Honours for undergraduate courses.
- Introduction of foreign languages, leadership development, and entrepreneurship development programmes.
- Introduction of relative grading system and new academic programmes.
- Appointment of eminent persons including Padma awardees and retired faculty members from established IITs & IISc as adjunct /re-employed Professors.
- Conferment of externally funded sponsored awards to students and faculty members.
- Establishing new industry sponsored professional chairs and enhancement of funding for the existing chair positions.
- Accessibility of e-library sources by the students and faculty members in the hostels, quarters and also in the departments through campus-wide fibre optic network.
- Upgradation of syllabus from time to time positively within 3 years to maintain its contemporariness.
- Foreign exposure to selected students under semester exchange with credit transfer at top ranking universities in Europe under academic scholarship from European Commission.

3. Research Scholars and Ph.D. Degree Awarded

3.1 Research Scholars

IIT (ISM), Dhanbad continues to support increasing level of research activities in regular academic curriculum leading to the award of research degree.

Total Student Strength in Ph.D Programme 2017-18									
	Total	Gen	OBC	SC	ST	Male	Female	PwD	Foreign Students
Ph.D (Full Time)	1186	622	338	172	54	827	359	6	2
Ph.D (Part Time)	1075	-	-	-	-	923	152	-	-
Total	2261	622	338	172	54	1750	511	5	2

Sl. No.	Department	No. of Full Time Ph.D Students in 2017-18
1	Applied Chemistry	101
2	Applied Geology	93
3	Applied Geophysics	54
4	Applied Mathematics	122
5	Applied Physics	101
6	Chemical Engineering	23
7	Civil Engineering	22
8	Computer Science & Engineering	83
9	Electrical Engineering	68
10	Electronics Engineering	86
11	Environmental Science & Engineering	97
12	Fuel & Mineral Engineering	45
13	Humanities & Social Studies	46
14	Management Studies	44
15	Mechanical Engineering	100
16	Mining Engineering	39
17	Mining Machinery Engineering	30
18	Petroleum Engineering	32
Total		1186

3.2 Ph.D. Degrees Awarded

A total of 184 PhD degrees were awarded in the year 2017-18. Following table shows department wise total number of PhD degrees awarded:

Sl. No.	Department	No. of PhD Degree awarded in 2017-18
1	Applied Chemistry	18
2	Applied Geology	5
3	Applied Geophysics	7
4	Applied Mathematics	23
5	Applied Physics	13
6	Computer Science and Engineering	14
7	Electrical Engineering	7
8	Electronics Engineering	18
9	Environmental Science and Engineering	19
10	Fuel and Mineral Engineering	4
11	Humanities and Social Sciences	5
12	Management Studies	14
13	Mechanical Engineering	17
14	Mining Engineering	9
15	Mining Machinery Engineering	4
16	Petroleum Engineering	7
	Total =	184

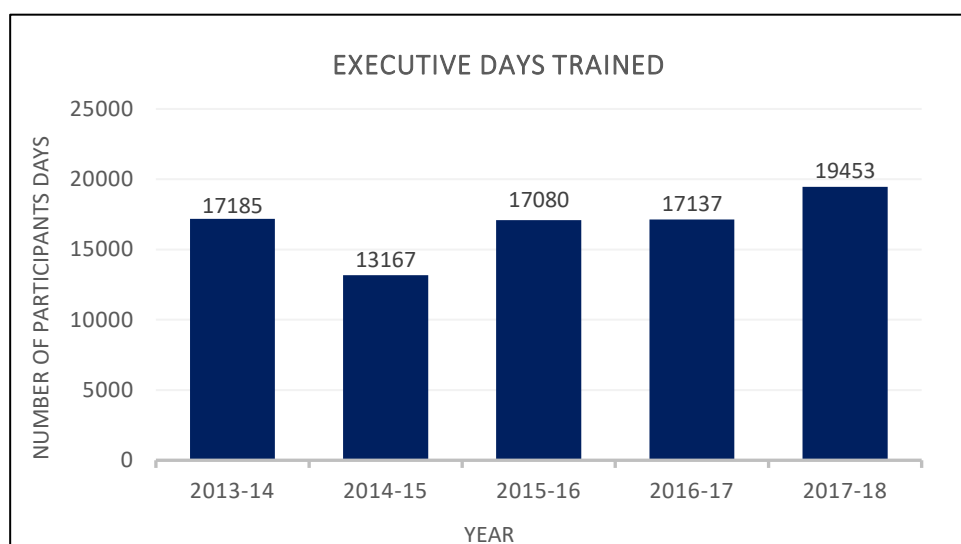
3.3 Sponsored Research/Industry Sponsored Projects

The Institute continued its growth in R&D and Industry sponsored projects and executed projects worth Rs.74.29 crores during the year 2017-18.

In the year 2017-18, more than sixty-five organizations comprising government, public and private sectors have sponsored more than 500 sponsored R&D and Industrial projects.

3.4 Executive Development Programmes

IIT (ISM) has been contributing to the up-gradation of knowledge and expertise of executives of different companies by offering executive development programmes in its core areas of competence. Over the years, it has established excellent credentials in this area. The chart below depicts the cumulative number of participant-days of executives trained in each year.



Certificate Courses Organised

Apart from the Executive Development Programmes, a number of courses, workshops and certificate courses were conducted by the Departments of Computer Science and Engineering, Electrical Engineering, Electronics Engineering, Mechanical Engineering, Applied Geology, Applied Geophysics, Applied Chemistry, Applied Physics, Humanities and Social Sciences, Management Studies and other departments of the Institute. These training programmes include advanced algorithms and their applications, Linux operating system, Information and network security: goals, attacks and defenses, Foreign language courses (French, German, Chinese and Spanish), Transcending from studentship to corporate citizen ship, Challenge the uncertain future with confidence, MATLAB and SIMULINK for engineering applications, Mine electrical engineering, Wireless communication and environment monitoring in underground mines - possibilities and implementations.

3.5 Industry-Institute Interaction Facilities

IIT (ISM) has established Industry-Institute Interaction Facilities (IIIF) at two metro cities of the country:

Centre	Address	Established
IIIF Kolkata	NBCC Shopping Centre, New Town, Rajarhat, Kolkata	2015
IIIF New Delhi	Unit No.401, NBCC Centre, Plot No.02, Okhla Phase-I, New Delhi	2017

The main objectives of the Industry-Institute Interaction Facilities are:

- To interact with the industries for solving real-life problems
- To update the knowledge and skills of working executives
- To facilitate student placements, important meetings, recruitment of teachers, etc.

4. Centres of Advanced Learning

IIT(ISM) has been recognized as a Centre of Advanced Learning in the fields of mining, mineral, mining environment, earth sciences, petroleum, mining machinery, mine electronics, applied sciences etc. A list of research centres in the Institute are as follows:

List of Research Centres

- ❖ *Centre for Mining Environment*
- ❖ *Centre of Advanced Study in Mining Engineering*
- ❖ *Centre of Rock Excavation Engineering*
- ❖ *Centre of Longwall Mine Mechanization*
- ❖ *ENVIS Centre of MoEF&CC*
- ❖ *Central Research Facility*
- ❖ *Centre of Water Resource Management*
- ❖ *Center of Excellence in Safety, Occupational Health and Disaster Management*
- ❖ *Key Resource Centre for Water and Sanitation*
- ❖ *Center for Renewable Energy*
- ❖ *Centre of Excellence in Mining Technology*
- ❖ *Australia-India Joint Research Centre for Clean Coal and Energy Technology*
- ❖ *Reservoir Characterization Centre*
- ❖ *Centre for Innovation, Incubation, and Entrepreneurship*
- ❖ *Faculty Development Centre as a part of Pandit Madan Mohan Malviya National Mission for Education*
- ❖ *Centre for Societal Mission*
- ❖ *Centre for Climate Change and Atmospheric Studies*
- ❖ *Centre for Mineral Exploration*

5. Innovative Initiatives for Augmenting Research and Industry-Institute Collaboration

The innovative steps taken in the areas of Research, Innovation and Development are as follows:

- Establishment and operationalization of state-of-the-art Central Research Facility (CRF).
- Institution of Post-Doctoral Fellowship programme.
- Opening of Centre for Incubation, Innovation and Entrepreneurship in sync with stated Govt. Policy of encouraging start-ups.
- Establishment of eight new Research Centers as mentioned above.
- Institutionalized goal setting system for faculty members and departments for improvement of research and industry interface. Faculty members encouraged to set own professional targets in consonance with Departmental/Institutional goals.
- In consonance with global standard, publications in SCIE/SSCI journals made mandatory for the award of Ph.D. degree.
- Regular review of Research Scholars.
- Conferment of industry and externally sponsored awards to students, research scholars and faculty members for excellence in research.
- Established linkages with foreign universities and organizations for collaborative academic and research activities of students and faculty members.
- Institution of CIIE for the support of innovations, patent filing, etc. to faculty members and students.
- Enhancement of Research Grant under Faculty Research Scheme.
- Revision in consultancy rules, Faculty Development Fund, etc.
- Innovative steps introduced in the Industry-Institute Collaboration are as follows:
 - Operationalization of Industry-Institute Interaction Facilities (IIIF) at Kolkata and New Delhi from Institute generated resources for interacting with industries to solve real-life problems and to update the knowledge and skills of working executives.
 - Encouragement of interdisciplinary teams and proposing consultancy in multidisciplinary areas.
 - Seamless interaction for cutting-edge technology development and refinement with industry.
 - Slow-paced Post-graduate programmes (3-Year M.Tech. Programmes) at IIIF for working professionals with a goal of capacity building, knowledge exchange and enhancing problem solving skills under an academic environment.

6. EXPERIMENTAL FACILITIES DEVELOPED

Many major experimental facilities have been setup under the Central Research Facility (CRF) and various laboratories of all Departments of the Institution in order to enhance the academic and research potential of students and faculty members, out of which, a few major experimental facilities developed for the inter- disciplinary research areas are listed below:

Name of Equipment	Purpose/Uses
FE-SEM (Field Emission Scanning Electron Microscope) Software :Smart SEM	To find the surface structure, surface morphology & elemental composition.
RHEOMETER Software :BohlinR6.51.0.3	To find the viscosity & strength of the liquid & gel sample.
UV-VIS-NIR Spectrophotometer Software :CarryWinUV	To find the optical properties of liquid, solid & thin film sample.
EPMA (Electron Probe Micro Analyzer) Software :Cameca PeakSightV5.1	To find the qualitative, quantitative, x-ray mapping & BSE image.
SPM (Scanning Probe Microscope) Software :Nano Scope Analysis 1.5	To find the 3D mapping, topography with roughness & height profile, Microscopy like MFM, CFM, EFMetc.
MALSS (Multi Angle Light Scattering Spectrophotometer) Software :ParSEC Chromatography Software :NanoScopeAnalysis 1.5	To find the average molecular weight and PDI of polymer sample.
Single Crystal XRD Software :38.46CrysAlis PRO	To find the structure of crystal
Single Crystal XRD Software: 38.46 CrysAlis PRO	To find the average molecular weight and PDI of polymer sample.
Gas Sorption Analyser Software : 3Flex 3.02	To determine the surface area, pore size, pore volume.

7. DISCOVERY/ MAJOR TECHNOLOGY DEVELOPED AND IMPLEMENTED IN THE LAST FEW YEARS

- Self-Advancing Goaf Edge Support (SAGES) for improvement of safety in underground coalmines.
- Development and implementation of technology of mine cooling and air conditioning for improving underground mine environment upto 1 km depth from surface.
- Development of “VENTSYS” software for solving complex sub-surfaces mine ventilation problems including mine fire.
- LASER guided and gyro-based precision surveying technology for correlation in underground mines and alignment of tunnels.
- Under-water drilling and blasting technology for deepening of existing ports and intake channels for movement of large ships and heavy vessels for docking in the ports.
- Design and development of Caverns for Strategic Petroleum Reserve (SPR).
- Design and implementation of mine ventilation system for reduction in radiation dose in all the seven underground mines of Uranium Corporation of India Ltd. operating upto a depth of 940 m from the surface.
- Design and implementation of particulate Emission Control System for Coke-Oven Plants.
- Enrichment of low grade iron ore fines for use in steel making.
- FRP (Fibre Reinforced Plastic) blades for high capacity mine ventilation fans.
- Development of system for conservation of energy in main mine ventilation fans.
- Design and development of Jigs and Heavy Media Cyclones for treatment of different coals.
- Development of pilot scale technology for underground coal gasification.
- Discovery of Chromite deposits in Sukinda Chromite Belt.
- Electrical Resistivity Imaging and Self Potential Survey for locating Fracture Zones and Seepage Analysis in coal mines.
- Energy Efficient Hydrostatic transmission system for off-road vehicles using two motor summation drives.
- Integrated sensor technology for mobile robotic application in mining industry.
- Development of performance standardization techniques for Surface Continuous Miners for enhancing indigenous surface miner usage in coal and lime stone mines in collaboration with L&T.

8. INTERNATIONAL ENDEAVOURS

Principal activities under taken in international collaborations are as follows:

8.1 Prime Minister mandated Indo-Australian Joint Research Initiative

A joint statement was made on 18th November 2014 by Honourable Prime Ministers of India and Australia to explore opportunities for partnership between Australian Institutions and IIT(ISM), Dhanbad in the area of Clean Coal and Energy Technologies. The statement is reproduced below:

“Energy is a central pillar of the economic relationship. Prime Minister Abbott and Prime Minister Modi agreed to expedite approvals for key mining investment projects. They agreed to cooperate on clean coal technologies and welcomed the intention to explore opportunities for partnership between Australian institutions and the Indian School of Mines in Dhanbad.”

Taking forward the joint statement, MoUs were signed between IIT(ISM) Dhanbad, India and eight universities, two research organizations and one industrial partner of Australia, viz. Curtin University of Technology, University of New South Wales, University of New Castle, University of Wollongong, University of Western Sydney, University of Queensland and, Monash University, Simtars, CSIRO and TVS-LUCAS-UGTC; for research and academic collaborations in the areas of Energy, Clean Coal Technologies and Mines Safety.

- Australia-India Centre for Clean Coal and Energy Technologies (AICCET) has been established at IIT (ISM) Dhanbad and Curtin University, University of Queensland, University of New Castle and CSIRO, Australia for conducting joint research in the areas of Energy and Clean Coal Technologies.
- Ongoing exchange of research scholars between IIT(ISM), Dhanbad, India and Curtin University, Australia towards the joint Ph.D. programme will broaden the horizon of young researchers of both the countries and open newer vistas of research for them.
- To take the collaborative initiatives further, Australian High Commission in India has established position of Australia-India Partnership Coordinator at IIT (ISM), Dhanbad.
- R&D projects worth Rs. 45 crores are ongoing with joint collaborations with Australian universities and organizations. All the projects have the consent of Australian Collaborating University/Institute.
- The Centre of Excellence in Mining Technology (CEMT) has also been established at IIT(ISM) Dhanbad in collaboration with Australian institutions and research organizations for conducting research in the areas of Advanced Mining Technology and Mines Safety. Under this research centre, a Virtual Reality Mine Simulator (VRMS), a unique facility is being developed at IIT(ISM) Dhanbad.

A joint statement was made by the Honourable Prime Minister of India, Shri Narendra Modi and Honourable Prime Minister of Australia, Mr. Malcolm Turnbull MP on April 10, 2017 during the visit of Australian Prime Minister to India. A part of the joint statement under the heading “Energy, Resources and Environment” is given below:

Prime Minister Turnbull briefed Prime Minister Modi on the Australia-India mining partnership at the Indian Institute of Technology-Indian School of Mines (IIT-ISM), Dhanbad. Partnership activities with Australian institutions in clued research and development collaboration, training and technology transfer.

8.2 International Academic and Research Collaborations

Strengthening the academic and research frontiers in tune with the advances that are taking place globally is the key for developing into a world-class institution. To open up the doors for facilitating cutting-edge research, IIT (ISM) has established collaborations with 29 world class Universities/Institutions and some of the institutions in developing countries in consonance with the vision of the Government of India. The following is the list of Universities/Institutions with whom active collaborations have been established:

America

- Texas Tech University, USA
- University of South Florida-St Petersburg, USA
- Arkansas State University, USA
- University of Windsor, Canada
- Laurentian University
- Politecnica De Universidade De Sao Palo, Brazil

Australia

- Curtin University of Technology
- University of New Castle
- University of Wollongong
- University of New South Wales
- University of Queensland
- University of Western Sydney
- Monash University
- Safety in Mines, Testing & Research Station (Simtars)
- CSIRO
- LUCAS-UGTC

Europe

- Clausthal University of Technology, Germany
- Politecnico Di Torino, Italy
- Perm National Research Polytechnic University (PNRPU), Perm
- Politecnico Di Torino (Dept. of Mechanical and Aerospace Engineering)
- Technical University of Kosice, Slovakia
- University of Osijek, Croatia
- Institute of Geonics, Czech Republic

Asia and Africa

- University of the Free State, South Africa
- University of Western Cape, South Africa
- National United University, Taiwan
- Botho University, Botswana
- University of Tunis and National High Engineering School of Tunis, Tunisia
- All Nations University, Ghana

8.3 Innovative Initiatives in the area of International Endeavours

The innovative steps taken in the area of International Endeavour are as follows:

- Establishment of International Executive Development Centre.
- Establishment of International Hostel.
- Formulation of guidelines and image building of the institute for attracting foreign students in taking admission to post-graduate and Ph.D. programmes of IIT(ISM).
- Establishing collaborations with 29 universities and research organizations cutting across all continents in the field of research and academic activities.
- Prime Minister mandated Indo-Australian joint research initiative undertaken for Clean Coal and Energy Technology.
- Exchange of research scholars between IIT(ISM) Dhanbad, India and Curtin University, Australia towards joint Ph.D. programme.
- Institute credited to mentor another institution from inception to operationalization in a friendly foreign Country (Islamic Republic of Afghanistan) as a part of the bilateral relation.
- Encouraged and sponsored 340 numbers of visits by the faculty members to different universities/ research institutions abroad during the last six years for research and academic collaborations.
- Formation of IRAA group under the leadership of Associate Dean (International Relations and Alumni Affairs) with one faculty coordinator from each department to establish linkage with internationally acclaimed institutions.

9. DEVELOPMENT OF MAJOR INFRASTRUCTURE

- Central Library (G+7) building has been constructed so as to cater to the needs of increasing number of students, research scholars and faculty members. The Central library is having an area of 21,260 sq m and is centrally air-conditioned with all state of the art facilities to fulfill all academic and research requirements.
- Rosaline girls hostel building has been constructed with 600 rooms (1000 seat) for coping up with the increasing strength of girls students in the IIT(ISM) campus.
- Boys Hostel (G+10) with 1000 Rooms (2000 seat) is under construction stage for taking care of the increasing strength of the students at IIT(ISM) campus.
- Faculty quarters (120 Type V and 60 Type VI) (S+15) are under construction for catering to the increasing faculty strength at IIT(ISM) Dhanbad.
- Central Research Facility Building (G+7) is under construction for housing the most advanced and state of the art instruments and research equipment for aiding the academic excellence of the Institute.
- Centre of excellence in safety, occupational health and disaster management (G+8) building is under construction stage.

10. SOCIETAL MISSION

In consonance with the ‘Unnat Bharat Abhiyan’ scheme initiated by Shri Narendra Modi, Hon’ble Prime Minister of India, a “Center of Societal Mission (CSM)” has been operational since 2015 at Indian Institute of Technology (Indian School of Mines) Dhanbad as a part of national initiative of Government of India to enable processes that connect institutes of higher education with local communities, to address the development and challenges of rural India through participatory processes and to utilize an appropriate technologies for accelerating sustainable growth.

Vision:

Sustainable and all-encompassing growth through awareness and education.

Mission:

Sustainable and inclusive growth of the villages adopted by IIT(ISM) by increasing opportunities for improvement of quality of life through education and general awareness about Social, Environmental and Health.

Objectives of CSM

1. To create an educational, health and environmental awareness among the villagers surrounded by IIT(ISM), Dhanbad.
2. To impart basic computer training to the underprivileged children and parents.
3. To drive clean and green environment in an around the villages.
4. To assist the underprivileged children for bringing them into mainstream education.
5. To organize workshops, seminars and symposiums for the development of the people.
6. To facilitate convergence of development schemes, resources, various planning and implementation initiatives, and coordination of agencies for successful interventions and measurable outcomes in consonance with the ‘Unnat Bharat Abhiyan’ scheme, launched by the Government of India.
7. To promote network and coordination among various science and technology based voluntary organizations and developmental agencies already functional in those areas.
8. To develop an academic framework for working on societal problems, their solutions, delivery, reporting and assessment.

Working Force at CSM:

1. Karma Jyoti:

Karma Jyoti is a not-for profit group functional in Dhanbad, Jharkhand which was formed by a group of scholars of Indian Institute of Technology (Indian School of Mines), Dhanbad on 20th February, 2015 with the aim towards uplifting the society on basic aspects like education, healthcare, sports and art and culture through free teaching and social awareness. It has been approved to be one of the functional groups under the Center of Societal Mission (CSM), Indian Institute of Technology (Indian School of Mines), Dhanbad w.e.f. 27/04/2015.

Vision: Karmajyoti envisions enlightening the lives of indigent and marginalized section of the society.

Mission: Karmajyoti aims to alleviate the lives of underprivileged children and youth of the society through education, healthcare and skill development programmes notwithstanding caste, gender, race, religion, or political affiliations. Presently, Karma Jyoti is operational at 6 centers namely Nirmala Leprosy Hospital and School (Govindpur), Hindu Mission Orphanage (Hirapur), Al Islah School (Wasseypur), Balak Madh Vidyalaya (Chhai Gadda) and 2 centers within the IIT (ISM) campus at ISL, Dhaiya Gate and PS ISMAG, staff colony with a total strength of 245 students from Primary level to graduation. As a part of our healthcare project, daily Yoga classes and Heartfulness Meditation sessions are held at Student Activity Center (SAC), IIT (ISM) (excluding Monday).

Under the banner of Centre of Societal Mission (CSM), IIT(ISM) Dhanbad, an induction program was organized by Karma Jyoti in Student Activity Center (SAC) on 5th August, 2017 for the newly joined students of IIT(ISM) Dhanbad. The objective of this induction was to introduce the new comers with the activities of CSM and to increase the number of working heads in the group.

Highlights of the induction program:

- Activities of CSM (Karma-Jyoti, in particular) were presented through slides.
- A total of 62 new students gave their consent to work for the group.
- Newly joined M. Tech. students and research scholars were added to the group with a strong commitment of active participation in different areas like teaching, rural development, cultural activities, etc.
- Members of Karma-jyoti and group volunteers were felicitated and encouraged.
- Prizes were distributed to the students of different centers for their notable accomplishments (viz. cracking the exams. Like IIT-JEE and others)
- Prof. M K Singh (Head, CSM) and other CSM members addressed the gathering and motivated them to work for the welfare of the society.
- Swachchhata Pakhwada (15 Days cleanness drive) was organized by Centre of Societal Mission in and around IIT(ISM) Dhanbad. The pakhwada started on 17.09.2017 from Golden Jubilee Lecture theater of IIT(ISM) Dhanbad. A group of faculty members, offices, workers and students participated in the program with great enthusiasm lead by Prof. D. C. Panigrahi, Director, IIT(ISM) Dhanbad. Following actions were taken during the program:
- IIT(ISM) Dhanbad along with Dhanbad Municipal Corporation organized a Swachchha Sarvekshan (स्वच्छ सर्वेक्षण) in Golden Jubilee Lecture Theatre (GJLT) on 14th December 2017. The objective of the program was to analyze the health of the city and to set goals for future. The members of IIT(ISM) Dhanbad participated actively and suggested their views on how to tackle this situation. They suggested effective ways of controlling the pollution.

2. Fast Forward India:

FFI [Fast Forward India] is an initiative taken by the students of IIT(ISM), Dhanbad to bring awareness and upliftment of the society. It aspires to provide a platform for the underprivileged to learn and develop skills which will help in the upliftment of the society. FFI is divided into four chapter's viz. ESCAPE, DISHA, JAGRITI & BLOODLINE.

- Bloodline was started in 2007 sighting the lack of Awareness among people in this part of the country regarding the Importance of blood donation with a vision that no one shall die in Dhanbad for the want of Blood.
- Jagriti was started with a vision to Empower underprivileged students with computer education so that they can stand in this changing era of India, also computer education for those people who are disconnected from society and want to change themselves so that they can serve and live in society with self-respect.
- Disha was started with a vision that DISHA will eradicate, the chimera of misinformation and ignorance, so that no student pays the Cost because of such things. As in various cases, parents are not well-informed over the current career options and are often misguided. Also, there are cases where due to financial constraints, higher studies aren't a priority. DISHA provides the students with a medium through which they can explore their options when they complete their 10+2.
- Through ESCAPE we intend to eliminate the communication barrier amongst masses from different sects of society and to install within our students enhanced speaking skills along with a pleasing personality.

Fast Forward India (FFI), under the aegis of CSM, IIT(ISM) Dhanbad organised following events under the aegis of CSM, IIT(ISM) Dhanbad:

- **On 20th August'17**, organized BLOOD DONATION CAMP, at Health Centre, IIT(ISM) Dhanbad and collected a total of 300 units of blood which was given to BLOOD BANKS of PMCH and JALAN hospital.
- **On 3rd September'17**, organized first STEM CELL REGISTRATION DRIVE, via support of DATRI, a Kolkata based NGO who had organised such drives and helped various cancer patients over the globe and registered 461 stem cell donors.
- **On 1st December'17**, organized BLOOD DONATION CAMP, at SSLNT, Dhanbad and collected a total of 37 units of blood which was given to BLOOD BANKS of JALAN hospital and the camp was sponsored by HDFC bank.
- **On 3rd December'17**, organized BLOOD DONATION CAMP, at Health Centre, IIT(ISM) Dhanbad and collected a total of 191 units of blood which was given to BLOOD BANKS of PMCH and JALAN hospital and the camp was sponsored by HDFC bank.
- **On 21st January'18**, organized annual fest UMEED'18, at Penman Auditorium, IIT(ISM) Dhanbad. The basic idea behind the event, was to provide a platform to the students, who are privileged by our volunteers and of government schools among the private schools.
- **On 26th January'18**, organized BLOOD DONATION CAMP, which was held at three different places from 9:00AM to 5:00 PM at the following venues:
1-Gurukripa Hero Motors, Saraidhela, 2-Jalan Hospital, City Center Dhanbad
3-DAV School Ground, Purana Bazar, Dhanbad

Total 153 donations over all three venues by the support of localities' of Dhanbad.

- **On 11th February’18**, organized DWANDWA, annual quiz competition of JAGRITI chapter at our centre and recorded a participation of 40 students, which were taught at centre regularly. FFI volunteers aspire to achieve more such landmarks in future as well.

10.1 Unnat Bharat Abhiyan

In view of ‘Unnat Bharat Abhiyan’ (UBA) scheme of MHRD, IIT(ISM) Dhanbad has signed MoU with National Coordinator of UBA programme, IIT Delhi dated 12th July, 2017 and accordingly five villages have been adopted such as Lahbani, Dhaiya, Bhelatand, Bapunagar and Mondal Basti nearby IIT(ISM) Dhanbad and the Coordinator of the UBA programme is Dr. M K Singh, Head, Center of Societal Mission (CSM), IIT(ISM) Dhanbad. In view of that Rs.1.75 Lakhs has been received from IIT Delhi to meet the expenditure related with Village/Household survey of the adopted villages and meeting with them.

Under the UBA scheme, the various programme has to be organized for their upliftment that may be social, academic, health and environmental, skill development etc., and in view of that Health Awareness Programme-cum-Medical Camp in association with Upanishadan (Dhanbad Chapter)-a social forum, was organized on 8th December, 2017 at SAC, CSM, IIT(ISM) Dhanbad. The programme was inaugurated by Shri Raj Sinha, MLA Dhanbad; Shri Chandra Shekhar Agarwal, Mayor, Dhanbad Nagar Nigam and Prof. D C Panigrahi, Director, IIT(ISM) Dhanbad. In this programme about 300 villagers from adopted villages were participated in the programme. About 10-15 doctors of various specializations along with paramedical staffs provided their services voluntarily.

The Karmajyoti, student group has also actively participated in organizing this type of programme.

A free **Health Awareness Program – cum – Medical Camp** was organized by Centre of Societal Mission in collaboration with ‘Upnishadan’ on the ground floor of Student Activity Center (SAC) of IIT(ISM) Dhanbad on 8th December, 2017. Objective of the program was to spread an awareness among the people of five adopted villages (Namely: Lahbani, Dhaiya, Bhelatand, Bapunagar and Mandal-Basti) and to provide them a free medical check-up and medicines as prescribed by the doctors, during the camp.

It was a multi-specialty medical camp, addressed to the less fortunate populace of Dhaiya, Lahbani, Bhelatanr, Mandal Basti and Babu Nagar localities of Dhanbad, followed by an interactive session on Health Awareness-cum-Empowerment through knowledge-sharing,

11. ORGANIZATIONAL DEVELOPMENT & ADMINISTRATION

Major administrative/managerial endeavours undertaken during the last few years can be summarized as under:

- Successful implementation of in-house developed MIS and on-line Student Feedback System.
- Streamlining of the promotional avenue of staff members and implementing DPC after a gap of 23 years.
- Achievement of almost Nil attrition rate for faculty members.
- Improvement Group for formulating policy frame work for all round growth.
- Adoption of new Store and Purchase Manual to stream line purchase process and disposal of dead stocks occupying valuable space.
- Restoration of IIT pay-scale for all faculty members.
- Backlog audit paras of the last 20 years stream lined and resolved.
- Successful steering the growth path of the Institute, justifying its conversion to IIT.
- Successful persuasion with the State Government, resulting into first phase acquisition of land since 1967.
- Co-hosted the 34th National Games in 2013 on behalf of the State of Jharkhand.
- Change of the overall student mess system, contract based unitary mess management system under the administrative committee of students and hostel administration.
- Implementation of student management through MIS.
- Student participation in management by the formation of Student Coordination Group.
- Goal setting appraisal at the institute level.
- Establishment of automated mass cooking system in the hostels.
- Creation of new posts of Deans and Associate Deans.
- Realistic performance feedback through student feedback system.

1. ABOUT IIT (ISM), DHANBAD

Indian Institute of Technology (Indian School of Mines), Dhanbad was established in 1926 to address the need for trained manpower related to mining activities in the country with disciplines of Mining Engineering and Applied Geology. In 1967, it was granted status of a Deemed to be University under Section 3 of UGC Act, 1956. Over the last nine decades, IIT (ISM) has incorporated important core engineering disciplines and has acquired the status of a full-fledged institute of global standing for imparting higher education in engineering, science and management. The Institute has been conferred the status of Indian Institute of Technology (IIT) on 6th September 2016 by Government of India and has been renamed as Indian Institute of Technology (Indian School of Mines), Dhanbad.

Situated in the heart of the country's prime coking coal belt, 260 km from Kolkata with a campus spread over an area of 218 acres the fully residential IIT (ISM) has all the facilities of a world-class academic institute. What started as an institution to impart engineering education has steadily graduated into a full-fledged technical institution of national and international acclaim offering a host of programmes like B. Tech, M. Tech, Dual degree, M.Sc, M.Sc Tech, M.Phil and MBA and awards Ph.D. and D.Sc degrees.

Since its inception and for more than nine decades, IIT (ISM) has been serving Indian industries in the energy, mining, mineral and petroleum sectors by providing high quality trained and specialized manpower in the form of engineers, scientists and managers to develop and sustain the ever-increasing activities in these industrial sectors at various levels of exploration, exploitation, management and environmental protection. In fact, it may be said with considerable confidence that a majority of the mining and mineral based industries in both the pre- and post- independence period of the nation have been planned and executed by the eminent alumni of IIT (ISM). The institute has also made an indelible mark for itself at the global level by providing quality trained technical manpower to the industry/academia in other contemporary engineering disciplines.

From the beginning, the Institute has had an all-India character and a national flavour. Admission to all undergraduate (UG) including 5 years integrated and dual degree programmes is through the IIT Joint Entrance Examination (IIT-JEE). Likewise, admissions to all its PG programmes including the Ph.D. programme are through either National level entrance tests like GATE, NET and CAT or, through ISM-conducted all-India level admission tests. Its faculty members have a national profile with performance being at par with that of well-established IITs in terms of various key performance parameters such as per faculty research contributions, the number of research publications, revenue outlay on industry sponsored consultancy projects for solving the real-life problems, laboratory testing assignments and the conduct of Executive Development Programmes for different industries.

Both the alumni and faculty of IIT (ISM) have been bestowed with numerous awards and prizes in recognition of their significant contributions to the development of their respective fields of professional endeavour as well as to the overall task of national development. The alumni of IIT (ISM) have also established their credentials at the national as well as international levels. They have occupied key positions of Director General / CMD / CEO of various public and private sector companies and professional / Government organizations both in India and abroad. The alumni have also made noteworthy contributions to academics at the Institute itself. A number of alumni have distinguished themselves with significant achievements having been conferred with distinguished civilian honours namely, Padmavibhushan, Padmabhushan and Padmashree. Some of the faculty members are recipient of civilian honours like Padmashree.

The serene campus comprises academic buildings and 100% residential facilities for students, faculty and staff apart from other infrastructure for a cosmopolitan community. The Institute has links with reputed universities and institutes across the globe and has an alumni base all over the world. The institute today is making foray into the new areas of academic endeavours in tune with the changing times.

The Institute has eighteen departments and 322 faculty members as on 31-03-2017. A list of the Departments is stated below:

Department	Year of Establishment
Department of Applied Geology	1926
Department of Mining Engineering	1926
Department of Humanities and Social Sciences	1926
Department of Applied Geophysics	1957
Department of Petroleum Engineering	1957
Department of Mining Machinery Engineering	1975
Department of Fuel and Mineral Engineering	1976
Department of Management Studies (Erstwhile Industrial Engineering and Management)	1976
Department of Electronics Engineering	1977
Department of Applied Chemistry	1989
Department of Applied Physics	1989

Department	Year of Establishment
Department of Applied Mathematics	1989
Department of Computer Science and Engineering	1997
Department of Mechanical Engineering	1999
Department of Electrical Engineering	2005
Department of Environmental Science and Engineering	2007
Department of Chemical Engineering	2010
Department of Civil Engineering	2013

2. ACADEMIC ACTIVITIES

IIT (ISM) contributes to the trained manpower requirement of several crucial industrial sectors, viz. Mining, Coal, Steel, Power, Petroleum and Natural Gas, Ocean Development, IT, Manufacturing, Environment and Forests, Science and Technology, Service and Social Welfare.

The Institute offers a host of Academic Programmes of considerable relevance such as Engineering in Mining, Petroleum, Mining Machinery, Electrical, Electronics, Computer Science & Engineering, Mechanical, Civil, Mineral, Environmental Science & Engineering, Chemical at under-graduate and post-graduate levels. It also offers higher degrees in Management and Humanities. Additionally, it is acknowledged for International Standards in its areas of core competence, viz. Mining, Oil and Gas, Mineral, Mining Environment, and Mining Equipment.

IIT (ISM) offers thirteen 4-years B.Tech. programmes in various branches of Engineering like Chemical, Civil, Computer Science & Engineering, Electrical, Electronics & Communication, Electronics & Instrumentation, Engineering Physics, Environmental Science & Engineering, Mechanical, Fuel & Mineral, Mining Machinery, Mining and Petroleum. It also offers 5-years Dual Degree programmes in B.Tech (Computer Science & Engineering) with M.Tech (Computer Science & Engineering). Besides, it also offers 5- years Integrated M.Tech programme in Applied Geology, Applied Geophysics, and Mathematics & Computing. Admission to these B.Tech, Dual Degree, and Integrated courses is done through IIT- JEE (Advanced). Apart from these, the Institute offers 3-years Masters programmes viz., M.Sc. (Tech.) in Applied Geology & Applied Geophysics. Also, 2-years M.Sc. programmes in Chemistry, Physics, and Mathematics & Computing are offered. The institute also offers Twenty Seven (27) 2-year M.Tech Programmes through GATE in various disciplines along with 3-year slow paced M.Tech programmes through its Industry-Institute Interaction Facility (IIIF) located at Kolkata and Delhi. Admission to all these programmes is through all-India competitive examination, observing reservation norms of Government of India. Admissions to post-graduate courses leading to award of M. Tech., MBA, Executive MBA and Ph.D. degrees are conducted through all-India level examinations and personal interviews.

The student strength of various programmes during the Academic year 2017-18 is presented in the subsequent sections.

2.1 Undergraduate Programmes

Total Student Strength in 4 year B.Tech Programme 2017-18							
Sl. No.	Discipline	Sanctioned Strength	I Sem	III Sem	V Sem	VII Sem	Total
1	Chemical Engineering	40	38	21	25	30	114
2	Civil Engineering	50	46	40	37	43	166
3	Computer Science & Engineering	103	102	158	176	131	567
4	Electrical Engineering	92	92	96	108	104	400
5	Electronics & Communication Engineering	92	92	106	102	102	402
6	Engineering Physics	22	20	10	7	14	51
7	Environmental Science & Engineering	40	33	22	17	24	96
8	Mechanical Engineering	103	100	112	120	114	446
9	Mineral Engineering	40	33	21	21	23	98
10	Mining Machinery Engineering	50	49	33	25	31	138
11	Mining Engineering	92	91	60	73	89	313
12	Petroleum Engineering	60	58	54	56	91	259
13	Electronic Instrumentation Engineering	40	40	29	21	29	119
Total		824	794	762	788	825	3169
Prep			3	-	-	-	-
Gen			393	377	385	437	1592
OBC			220	206	224	213	863
SC			120	97	128	115	460
ST			61	62	51	60	234
PwD				13	5	6	24
Male			740	699	745	775	2959
Female			54	43	43	50	190

2.2 Dual Degree Programmes

Total Student Strength in 5 year Dual Degree Programme 2017-18								
Sl. No.	Discipline	Sanctioned Strength	I	III	V	VII	IX	Total
1	5yr. Dual Degree Mineral Engg.+ Mineral Engg.	Discontinue	-	-	6	10	12	28
2	5yr. Dual Degree Mining Engg.+ Mining Engg.	Discontinue	-	3	8	12	9	32
3	5yr. Dual Degree Mining with MBA	Discontinue	-	-	-	-	13	13
4	5yr. Dual Degree Petroleum Engg.	Discontinue	-	-	-	-	17	17
5	5yr. Dual Degree Computer Science & Engg.+ Computer Science & Engg	18	18	21	18	24	16	97
6	5yr. Dual Degree Mineral with MBA	Discontinue	-	-	-	-	2	2
Total			18	24	32	46	69	189
Gen			9	12	15	22	42	100
OBC			5	5	11	12	14	47
SC			3	5	6	9	13	36
ST			1	2	0	3	5	11
PwD					-	-	-	0
Male			16	24	31	45	72	188
Female			2	0	1	1	2	6

2.3 5-year Integrated Programmes

Total Student Strength in 5 year Integrated M.Tech Programme 2017-18								
Sl. No.	Discipline	Sanctioned Strength	I	III	V	VII	IX	Total
1	5yr. Intt. M.Tech Applied Geology	15	12	10	7	13	15	57
2	5yr. Intt. M.Tech Applied Geophysics	15	11	8	7	9	10	45
3	5yr. Intt. M.Tech Math & Computing	40	40	43	42	39	27	191
Total		70	63	61	56	61	52	293
Gen			30	33	31	32	33	159
OBC			19	15	17	15	14	80
SC			9	10	8	10	5	42
ST			5	3	0	4	0	12
PwD			3	1	-	-	-	4
Male			59	56	52	51	48	266
Female			4	5	4	10	4	27

2.4 Postgraduate Programmes

Total Student Strength in 2 year M.Sc/ 3 year M.Sc Tech Programme 2017-18						
Sl No.	Discipline	Sanctioned Strength	I Sem	III Sem	V Sem	Total
1	M.Sc Applied Physics	44	44	29		73
2	M.Sc Applied Chemistry	62	48	46		94
3	M.Sc Math & Computing	44	44	41		85
4	M.Sc Tech Applied Geology	62	61	60	60	181
5	M.Sc Tech Applied Geophysics	44	41	42	40	123
Total		256	238	218	100	556
Gen			107	106	40	253
OBC			75	63	34	172
SC			40	32	17	89
ST			16	16	9	41
PwD			-	-	-	1
Male			172	132	74	378
Female			66	85	26	177

Total Student Strength in 2 year MBA Programme 2017-18										
Sl. No.	Sanctioned Strength	Semester	Total	Gen	OBC	SC	ST	PwD	Male	Female
1	62	I	40	21	6	10	3	0	33	7
2		III	46	31	6	6	3	0	33	13
Total			86	52	12	16	6	0	66	20

Total Student Strength in 3 year Ex-MBA Programme 2017-18										
Sl. No	Sanctioned Strength	Semester	Total	Gen	OBC	SC	ST	PwD	Male	Female
1	50	I	21	20	1	0	0	0	16	5
2		III	19	17	0	0	2	0	14	5
3		V	15	10	0	3	2	0	15	0
Total			55	51	1	3	4	0	45	10

Total Student Strength in 2 year M.Tech Programme 2017-18						
Sl. No.	Discipline	Sanctioned Strength	Sanctioned Strength Sponsored	I Semester	III Semester	Total
1	Chemical Engineering	22	3	23	17	40
2	Computer Science & Engineering	51	6	57	48	105
3	Computer Science & Engineering (Spl. In Information Security)	51	3	45	44	89
4	Earthquake Disaster, Hazards and Mitigation	22	4	23	4	27
5	Electronic & Commutation Engineering	80	6	83	65	148
6	RF & Microwave Engineering	20	3	16	14	30
7	Engineering Geology	14	3	15	10	25
8	Environmental Science & Engineering	45	5	48	45	93
9	Fuel Engineering	16	3	15	12	27
10	Geomatics	11	3	12	7	19
11	Industrial Engineering & Management	40	5	44	41	85
12	Mechanical Engineering (Spl. Desing Engineering)	40	5	43	36	79
13	Mechanical Engineering (Spl. Manufacturing Engineering)	40	4	42	43	85
14	Mechanical Engineering (Spl. Thermal Engineering)	40	3	40	35	75
15	Maintenance Engineering & Tribology	40	4	35	39	74
16	Mineral Engineering	28	5	16	13	29
17	Mineral Exploration	14	4	10	10	20
18	Mining Engineering	11	3	14	11	25
19	Mining Machinery Engineering	30	4	33	13	46
20	Opencast Mining	15	3	9	15	24
21	Petroleum Engineering	40	5	21	34	55
22	Petroleum Exploration	26	4	15	3	18
23	Power Electronic & Electrical Drives	40	3	41	38	79
24	Power System Engineering	40	3	42	38	80
25	Mine Electrical Engineering	15	3	17	14	31
26	Structural Engineering	22	3	24	22	46
27	Tunnelling Underground Space Technology	11	3	10	8	18
Total (GATE+ ISM EE+SPON)		824	103	793	679	1472
	Gen			398	314	712
	OBC			255	228	483
	SC			109	97	206
	ST			31	40	71
	PwD			2	5	7
	Male			682	527	1209
	Female			111	152	263

Total Student Strength in 3 year M.Tech Programme 2017-18					
Sl.	Discipline	I Sem	III Sem	V Sem	Total
1	Mechanical Engineering	29	17	16	62
2	Power System Engineering	27	11	14	52
3	Power Electronic & Electrical Drives	29	14	10	53
4	Computer Science & Engineering	40	7	13	60
5	Electronic & Communication Engg.	32	5	6	43
Total		157	54	59	211
Gen		122	51	56	173
OBC		24	1	2	25
SC		8	1	1	9
ST		3	1	0	4
PwD		0	0	0	0
Male		128	45	52	173
Female		29	9	7	38

2.5 Research Programme

IIT (ISM), Dhanbad continues to support increasing level of research activities in regular academic curriculum leading to the award of research degree. A total of 2261 (Full Time 1186 + Part Time 1075) students are enrolled in PhD Programmes during the session 2017-18.

Total Student Strength in Ph.D Programme 2017-18									
	Total	Gen	OBC	SC	ST	Male	Female	PwD	Foreign Students
Ph.D (Full Time)	1186	622	338	172	54	827	359	6	2
Ph.D (Part Time)	1075	-	-	-	-	923	152	-	-
Total	2261	622	338	172	54	1750	511	5	2

Sl. No.	Department	No. of Full Time Ph.D Students 2017-18
1	Applied Chemistry	101
2	Applied Geology	93
3	Applied Geophysics	54
4	Applied Mathematics	122
5	Applied Physics	101
6	Chemical Engineering	23
7	Civil Engineering	22
8	Computer Science & Engineering	83
9	Electrical Engineering	68
10	Electronics Engineering	86
11	Environmental Science & Engineering	97
12	Fuel & Mineral Engineering	45
13	Humanities & Social Studies	46
14	Management Studies	44
15	Mechanical Engineering	100
16	Mining Engineering	39
17	Mining Machinery Engineering	30
18	Petroleum Engineering	32
Total		1186

3. RESEARCH AND DEVELOPMENT

Central Research Facility (CRF) and various other laboratories of all departments of the Institute have been equipped with major experimental facilities to enhance the academic and research potential of students and faculty members. A few major experimental facilities for the inter-disciplinary research are mentioned in the sub-sections below:

3.1 State-of-the-art Laboratories

Following listed laboratories are having facilities of International standards in its areas of core competence:

- ❖ *Mining Engineering: Rock Mechanics, Rock Excavation, Mine Ventilation, Mine Surveying;*
- ❖ *Applied Physics: Time Resolved Spectroscopy Laboratory, Biomedical Optics Laboratory. Nanophotonics Laboratory equipped with Physical Vapor Deposition System, XRD Laboratory;*
- ❖ *Petroleum Engineering: Natural Gas Hydrate, Enhanced Oil Recovery, Reservoir Engineering;*
- ❖ *Environmental Science and Engineering: Waste Water Engineering, Water Analysis, Air and Noise Pollution, Solid Waste Treatment, Rain Harvesting;*
- ❖ *Fuel and Mineral Engineering: Mineral Engineering, Coal Characterization, Fluidized Bed Combustion, Heat Treatment, Centrifugal Separation, Pilot Plant Gravity Separation;*
- ❖ *Applied Geology: Coal Petrology, Geotechnical Engineering, Geo-chemical, Geological Museum; Ore and Mining Geology Lab, Remote Sensing and GIS Lab, Geo-Statistical/Mathematical Geology Lab, Micro-paleontology Lab, Geo-Computational Lab, Petrology Lab, Structural Geology Lab, DST-FIST Lab*
- ❖ *Applied Mathematics: Three computer labs: (i) UGC-SAP Lab I- 30 systems (ii) UGC-SAP Lab II- 30 systems (iii) DST-FIST Lab 20 systems, Four servers (Two Red Hat LINUX based, One CentOS based other WINDOWS based), MATHEMATICA, thirty-one users network licenses, MATLAB, SPSS/CUDA C/C++, PyCUDA and other open source software, NVIDIA GPU Cards and three High End Supermicro Workstations(supported by DST FIST/ISRO Project/SERB Project)/ Support under NVIDIA GPU Education Centre (GEC), Awarded: 2014, NVIDIA Tesla Kepler K20c--two , NVIDIA Quadro 6000--two , NVIDIA GeForce GTX TITAN X(PG600-A04)--one , NVIDIA GTX 680 GPUs--two, NVIDIA Tesla C2070--two , NVIDIA Quadro 5000--one*

- ❖ *Petroleum Engineering: Drilling Fluid and Cementing Laboratory, Reservoir Engineering Laboratory, Production and Product Testing Laboratory, Process Engineering Laboratory, Computational Laboratory: Reservoir Characterization Center, EOR Laboratory, Gas Hydrates Laboratory, Coalbed Methane Laboratory, Instrumentation Laboratory, Multiphase flow Laboratory, Bioenergy and Fuels Laboratory, Flow Assurance Laboratory, Chemical Flooding Laboratory, Long Core Apparatus Laboratory.*
- ❖ *Applied Geophysics: Magneto-Telluric, Geophysical Instrumentation, Remote Sensing, Seismological Observatory.*
- ❖ *Mining Machinery Engineering: Power Hydraulics Laboratory, Material Handling laboratory, Whole body vibration and Drilling Engineering Laboratory.*
- ❖ *Instrumentation and Control Laboratory, Digital Signal Processing Laboratory, Fiber-optics Laboratory, Communication Laboratory, VLSI Laboratory, Computer and Simulation Laboratory, Microwave Laboratory, Digital Electronics Laboratory, Basic Electronics Laboratory and Microprocessor and Embedded Systems Laboratory.*
- ❖ *Mechanical Engineering: Air Conditioning and Refrigeration Laboratory, IC Engine and Thermal Engineering Laboratory, Heat and Mass Transfer Laboratory, CAD Laboratory, CAM Laboratory*
- ❖ *Power System Laboratory, Electrical Machine Laboratory, Measurement Laboratory and Power Electronics Laboratory.*
- ❖ *XRD Laboratory, SEM Laboratory, Biomedical Optics Laboratory.*
- ❖ *Parallel Processing Laboratory equipped with cluster of processors used for simulation, implementation, execution of parallel algorithms.*
- ❖ *VLSI Laboratory for design, simulation and testing of MOS, MOS gates, MOS circuits using software like NetSim (NI Multi-sim).*
- ❖ *Network Laboratory equipped with LAN trainer kit, QualNet simulator for simulation and testing of LAN protocols, routing protocols for both wired and wireless networks.*
- ❖ *Security Laboratory for simulation, testing of cryptographic algorithms and protocols like PGP, SET, IPSec, etc.*
- ❖ *Digital Electronics and Computer Organization Laboratory (Hardware Laboratory) for performing experiments of digital electronics and computer organization.*
- ❖ *Two programming laboratories for B.Tech and M.Tech students for implementing their assignments using common programming languages, simulators and rapid prototyping tool like MATLAB.*
- ❖ *Central server systems consisting of IBM e-server x Series 235, X86 based PC, e-Server x Series 236, HP Xeon Proliant ML350e Gen8, HP Proliant DL 360, HP server TC2120, etc.*
- ❖ *Applied Chemistry: SEM and FTIR Laboratory;*

3.2 Sponsored R&D Projects

The Institute continued its growth in R&D projects in the year 2017-18 and executed projects worth Rs. 1273.56 lakhs sponsored in the state-of- art research in diverse disciplines of engineering, science and management. The major sponsoring agencies are M/s Coal India Limited; Department of Science & Technology; Defence Research Development Organization; Ministry of Mines; Ministry of Coal; Ministry of Environment; Forest and Climate Change; Ministry of Information & Communication Technology; Indian Space Research Organization; Uranium Corporation of India Limited; M/s Schlumberger and others. The execution of such research projects have led to significant discoveries and development of major technologies, which are given below:

- Development of Self-Advancing Goaf Edge Support (SAGES) for improvement of safety in underground coal mines.
- Development and implementation of technology of mine cooling and air conditioning for improving underground mine environment upto 1 km depth from surface.
- Development of “VENTSYS” software for solving complex sub-surface mine ventilation problems including mine fire.
- LASER guided and gyro-based precision surveying technology for correlation in underground mines and alignment of tunnels.
- Under-water drilling and blasting technology for deepening of existing ports and intake channels for movement of large ships and heavy vessels for docking in the ports.
- Design and development of Caverns for Strategic Petroleum Reserve (SPR).
- Design and implementation of mine ventilation system for reduction in radiation dose in all the seven underground mines of Uranium Corporation of India Ltd., operating upto a depth of 940 m from the surface.
- Design and implementation of particulate Emission Control System for Coke-Oven Plants.
- Enrichment of low grade iron ore fines for use in steel making.
- FRP (Fibre Reinforced Plastic) blades for high capacity mine ventilation fans.
- Development of system for conservation of energy in main mine ventilation fans.
- Design and development of Jigs and Heavy Media Cyclones for treatment of different coals.
- Development of pilot scale technology for underground coal gasification.
- Discovery of Chromite deposits in Sukinda Chromite Belt.
- Electrical Resistivity Imaging and Self-Potential Survey for locating Fracture Zones and Seepage Analysis in coal mines.
- Energy Efficient Hydrostatic transmission system for off road vehicles using two motor summation drive.
- Integrated sensor technology for mobile robotic application in mining industry.
- Development of performance standardization techniques for Surface Continuous Miners for enhancing indigenous surface miner usage in coal and limestone mines in collaboration with L&T.

A list of R&D projects executed during the financial year 2017-18 is provided in Table 3.1.

Table 3.1: R&D Projects executed in the year 2017-18:

Sl. No.	Project No.	Title of the Project	PI/CI, Co-PI/Co-CI & PI(s)	Department	Total cost of the project (Rs. In lakhs)	Sponsoring Agency
1	DST(SERB)/(168)/2017-2018/511/ME	An Investigation into the Effects of Intrinsic Properties of Indian Coals on Spontaneous Combustion Process and Coal Mine Fires.	Dr. D. P. Mishra, Asstt. Professor Prof. V. Raghvan, NCCRD, IIT, Madras	Mining Engineering	21.45	DST (SERB)
2	DST(SERB)/(169)/2017-2018/512/AM	Joint Modeling of Event Time and Non-Ignorable Missing Covariate Data in Survival and Longitudinal Analysis.	Dr. G. K. Vishwakarma, Asstt. Professor Dr. Atanu Bhattacharya, Asstt. Professor	Applied Mathematics	15.68	DST (SERB)
3	ISRO/(6)/2017-2018 / 513/ECE	A Compact Low Volume Dielectric Resonator Antenna Loaded with Metamaterial Structure for Small Satellite Application.	Dr. . Raghvendra Kr. Chaudhary, Asstt. Professor Dr. R. K. Gangwar, Asstt. Professor	Electronics Engineering	20.10	ISRO
4	CIL(7)/2017-2018/ 514/FME	Design of Cost Effective Process Flowsheet for Improved Washing Efficiency of Indian Coking and Non-coking Coals.	Prof. Nikkam Suresh Dr. Shravan Kumar, Asstt. Professor	Fuel and Mineral Engineering	1212.98	CIL
5	ISRO/(7)/2017-2018/515/AP	Electron Induced Chemistry of Molecules Relevant to Space Applications.	Dr. Bobby Antony, Associate Professor	Applied Physics	24.56	ISRO
6	NIRDPR/2017-2018/516/MS	Behavioral and Cultural Causalities Affecting MGNREGA Implementation at Local Governmental Bodies : A Critical Assessment in Jharkhand.	Dr. Bibhas Chandra, Asstt. Professor,	Management Studies	10.93	NIRDPR
7	DST(SERB)/(170)/2017-2018/517/CE	Static Stability Analysis of Carbon Nanotube Reinforced Laminated Composite Plate Subjected to Axial Compressive Loading.	Dr. Tanish Dey, Asstt. Professor	Civil Engineering	29.85	DST (SERB)
8	CSIR(22)/2017-2018/518/AM	Mathematical Modeling of Dynamical Diseases in the Human Brain.	Prof. R K Upadhyay	Applied Mathematics	5.87	CSIR
9	IIT(ISM) & Tata Steel (MoU)/2017-2018/519/Instt.	Selection, Detailed Characterization and Optimization of Commercial Flocculants Towards the Treatment of Major Water Consuming Unit of Steel Plant.	Dr. Sagar Pal, Assoc. Professor	Applied Chemistry	12.65	IIT(ISM) & Tata Steel (MoU)
10	CSIR(23)/2017-2018/520/AM	Study on Some Solution Methods of Vector Optimization Problems.	Dr. Anurag Jayswal, Asstt. Professor	Applied Mathematics	5.87	CSIR
11	CSIR(24)/2017-2018/521/CSE	WSN based Disaster and Environmental Monitoring System for Safety of Miners Working in Underground Coal Mines.	Dr. Chiranjeev Kumar, Associate Professor	Computer Science and Engineering	5.41	CSIR
12	CSIR(25)/2017-2018/522/AM	Study of Wave Propagation Aspects in Piezoelectric, Piezomagnetic and Functionally Graded Piezoelectric Composite Structures.	Dr. Abhishek Kr. Singh, Asstt. Professor	Applied Mathematics	5.87	CSIR
13	DST(SERB)/(171)/2017-2018/523/MECH. ENGG	Development of New Strategy to Enhance Cylindrical Wire Electrical Discharge Turning Process.	Dr. Amitava Mandal, Asstt. Professor .	Mechanical Engineering	33.61	DST (SERB)
14	DST(SERB)/(172)/2017-2018/524/CSE	Precision Agriculture Model to Increase Crop Productivity in India using Big Data.	Dr. Dharavath Ramesh, Asstt. Professor	Computer Science and Engineering	18.13	DST (SERB)

Sl. No.	Project No.	Title of the Project	PI/CI, Co-PI/Co-CI & PI(s)	Department	Total cost of the project (Rs. In lakhs)	Sponsoring Agency
15	CSIR(26)/2017-2018/ 525/AC	Titanate Nanosheet/Cationically Modified Dextrin Through in-situ Exfoliation: Development and Application Towards Enhanced Dye Adsorption and Photodegradation Property.	Dr. Sagar Pal, Associate Professor	Applied Chemistry	11.00	CSIR
16	DST(SERB)/(173)/2017-2018/526/ESE	Design and Development of Full Solar Spectrum Enriched Photocatalyst for Sustainable Water Treatment.	Dr. Saravanan Pichiah, Asstt. Professor	Environmental Science and Engineering	15.40	DST (SERB)
17	DST(SERB)/(174)/2017-2018/527/CIVIL ENGG	Dynamic Crack Kinking from Aggregate-Mortar Interface of Concrete Sub-Structural System.	Dr. S Chakraborty, Asstt. Professor	Civil Engineering	28.70	DST (SERB)
18	NBHM/2017-2018/528/AM	Mathematical Modelling of Elastic Wave Propagation in Highly Anisotropic and Heterogeneous Media.	Dr. Abhishek Kr. Singh, Asstt. Professor Dr. Sanjeev Anand, Asstt. Professor	Applied Mathematics	14.38	NBHM
19	DST(SERB)/(175)/2017-2018/529/AC	Synthesis and Catalytic Investigation Towards H ₂ Evolution by 1 st Row Transition Metal Based Molecular Catalysts.	Dr. Sumanta K. Padhi, Asstt. Professor	Applied Chemistry	28.99	DST (SERB)
20	DST(SERB)/(176)/2017-2018/530/AGP	A Seismic Transect Across Northeastern India Beneath the Shillong Plateau.	Dr. Mohit Agrawal, Asstt. Professor	Applied Geophysics	43.05	DST (SERB)
21	DRDO(8)/2017-2018/531/CIVIL ENGG.	Comprehensive Study on Effect of High Temperature on Concrete Structure Related to the Lining of Curved Structure such as Tunnel.	Prof. Sekhar Ch. Dutta Dr. Virendra Kumar, Asstt. Professor, NIT, Jamshedpur, Dept. of Civil Engg.	Civil Engineering	9.75	DRDO
22	DST(SERB)/(177)/2017-2018/532/AM	Mathematical Modelling of Seismic Wave Propagation in Composite Layered Structures.	Prof. A Chattopadhyay Dr. Abhishek Kr. Singh,	Applied Mathematics	15.19	DST (SERB)
23	DST(SERB)/(178)/2017-2018/533/MECH. ENGG.	Development of modular type high speed ultra-precision machining center.	Dr. Vivek Bajpai, Asstt. Professor	Mechanical Engineering	35.16	DST (SERB)
24	ARDB(MoD)/2017-2018/534/MECH. ENGG.	Experimental Investigation on the Heat Transfer Enhancement of Hybrid nano-fluids in a plate heat exchanger.	Dr. Subrata Kr. Ghosh, Asstt. Professor	Mechanical Engineering	20.53	ARDB (MoD)
25	Tata Steel/2017-2018/535/ESE	Study to Develop & Improve Nitrification in AIS (Advent Integral System) at BOT Plant	Prof. S. K. Gupta Dr. Alok Sinha, Associate Professor & Dr. B. K. Mishra, Asstt. Professor,	Environmental Science and Engineering	11.50	TATA STEEL
26	DST(SERB)/(179)/2017-2018/536/AGL	Possible Hadean to Archaean Crustal Evolution in the Singhbhum Craton: An Investigation into the Detrital Zircon Archive.	Dr. Sukanta Dey, Associate Professor	Applied Geology	41.00	DST (SERB)
27	MOM(17)/2017-18/537/ME	Development of Environment Friendly Blasting Techniques.	Dr. B. S. Choudhary, Assistant Professor Prof. A. K. Mishra,	Mining Engineering	29.04	MoM

Sl. No.	Project No.	Title of the Project	PI/CI, Co-PI/Co-CI & PI(s)	Department	Total cost of the project (Rs. In lakhs)	Sponsoring Agency
28	ISRO/(8)/2017-2018/538/ECE	Design and Development of Substrate Integrated Waveguide (SIW) Based Circular Polarized High Gain Slot Array Antenna for Satellite Communication.	Dr. Santanu Dwari, Asstt. Professor Dr. Sushrut Das, Associate Professor	Electronics Engineering	18.20	ISRO
29	CIL(8)/2017-2018/539/CHE MICAL ENGG.	High ash coal gasification and associated upstream and downstream processes (Coal to Chemicals - CTC).	Prof. I. M. Mishra Prof. V.K Saxena Prof. D.D Pathak Prof. A K Varma Prof. Vineet Kumar Prof. Ashok Khanna Dr. A K Samanta Dr Suresh K Yatirajula Dr. A K Prasad Dr. Alok Sinha Dr. B.K Mishra Dr. Pankaj Mishra Dr. Suman Dutta Dr. K Sandilya Durbha Dr. S K Bhaumik Dr. S Sengupta	Chemical Engineering	1872.00	CIL
30	CIL(9)/2017-2018/540/ME	Development of Virtual Reality Mine Simulator (VRMS) for improving safety and productivity in coal mines.	Prof. V. M. S. R. Murthy	Mining Engineering	1320.10	CIL
31	ISRO/(9)/2017-2018/541/AM	Predicting Reliability and Optimal Release Time of Various Categories Software Systems.	Dr. S Chatterjee, Associate Professor	Applied Mathematics	16.48	ISRO
32	DST(SERB)/(180)/2017-2018/542/ECE	Analysis of Phonocardiogram (PCG) Signal for Classification of Heart Valve Disease.	Dr. Sumitra Shukla, Post Doctoral Fellow	Electronics Engineering	9.60	DST (SERB)
33	MoES(12)/2017-2018/543/PE	Development and Characterization of Efficient Drilling Fluid Systems to Explore Huge Natural Gas Hydrate Resource in the Offshore of India.	Dr. Ajay Mandal, Assoc. Professor Prof. Sukumar Laik	Petroleum Engineering	42.77	MoES
34	DST(RFBR)/(181)/2017-2018/544/AM	Approach for the Processing of Data of Vibro-seismic Waves Records and Theoretical Investigations on Seismic Waves.	Dr. Santimoy Kundu, Asstt. Professor	Applied Mathematics	14.22	DST (RFBR)
35	IRS, ONGC & IIT(ISM) /2017-2018/545/PE	Development of Polymer Nano-composite Hydrogel Systems for Water Control in Oil/Gas Wells Completed in Harsh Environment.	Dr. Keka Ojha, Associate Professor	Petroleum Engineering	45.40	IRS, ONGC & IIT(ISM)
36	DST(182)/2017-2018/546/MS	Designing a Model for Measuring Entrepreneurial Drive of Active and Prospective Entrepreneurs with Science & Technology (S&T) Background in Jharkhand.	Dr. Niladri Das, Asstt. Professor Prof. J. K. Pattanayak	Management Studies	18.15	DST
37	DST(183)/2017-2018/547/ME	4 Days Training Programme on Application for Numerical Simulation for Slope stability Risk Mitigation and Management.	Dr. A.K.Verma, Asstt. Professor	Mining Engineering	4.50	DST
38	MoT(1)/2017-2018/548/MS	Study of Living and Working Conditions of Artists of Tribal Paintings of Jharkhand.	Dr. Mrinalini Pandey, Asstt. Professor	Management Studies	11.92	MoT

Sl. No.	Project No.	Title of the Project	PI/CI, Co-PI/Co-CI & PI(s)	Department	Total cost of the project (Rs. In lakhs)	Sponsoring Agency
39	Tata Steel & IIT(ISM) - MoU/2017-2018/549/Instt.	Investigation on corrosion inhibition properties of nanostructures passivated zinc surface using surface Plasmon resonance and electrochemical impedance spectroscopy.	Dr. M Rakesh Singh, Asstt. Professor	Applied Physics	12.50	Tata Steel
40	DST-SERB/(184)/2017-2018/550/AC	Financial Support under National Post Doctoral Fellowship to Dr. Sumanta Sahoo under the mentorship of Dr. Ganesh Chandra Nayak,	Dr. G. C. Nayak, Asstt. Professor	Applied Chemistry	19.20	DST (SERB)
41	DST-SERB/(185)/2017-2018/551/AM	The Kontorovich-Lebedev Transform and Related Integral Operators on Function and Distribution Spaces.	Dr. Akhilesh Prasad, Associate Professor	Applied Mathematics	15.79	DST (SERB)
42	IUSSTF/2017-2018/552/AC	2D Nanomaterials for Energy Storage.	Dr. G. C. Nayak, Asstt. Professor	Applied Chemistry	30.25	IUSS&TF
43	DST-SERB/(186)/2017-2018/553/AC	Extraction of Nanocellulose from Waste Paper for Production of Biodegradable, Flexible and Cheaper Electrodes for Energy Storage Devices	Dr. G. C. Nayak, Asstt. Professor	Applied Chemistry	36.69	DST (SERB)
44	DST-SERB/(187)/2017-2018/554/AP	Electron and Positron Induced Chemistry at the Molecular Level Investigation Through Scattering Studies	Dr. Bobby Antony, Associate Professor	Applied Physics	23.34	DST (SERB)
45	DST-SERB/(188)/2017-2018/555/AP	Development of Surface Plasmon Resonance Ellipsometry as Label-free Optical Biosensor for Ultrasensitive Detection of Chemical and Biological Species	Dr. Moirangthem R. Singh, Asstt. Professor	Applied Physics	37.06	DST (SERB)

3.1 Ph.D. Degree Awarded

The total number of Ph.D. degree awarded during the year 2017-18 has increased substantially and was recorded 184 in the year 2017-18.

A list of Ph.D. degrees awarded during the year 2017-18 is presented in Table 3.2.

Table 3.2: Research degrees awarded during 2017-18

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
1	Saurabh Mishra 2013/DR/0290	05.05.2017	Petroleum Engineering	Dr. Keka Ojha (Guide)	DEVELOPMENT OF CHEMICAL SYSTEMS FOR CONSOLIDATING SAND FORMATION TO IMPROVE OIL PRODUCTION
2	Ram Chandra Chaurasia 2012/DR/0088	05.05.2017	Fuel and Mineral Engineering	Prof. Nikkam Suresh (Guide)	PERFORMANCE ANALYSIS OF MULTI GRAVITY SEPARATOR (MGS) FOR BENEFICIATION OF COAL AND HEMATITIC IRON ORE
3	Anirban Dasgupta 2013/DR/0246	05.05.2017	Management Studies	Dr. Bibhas Chandra (Guide)	ANALYZING CONSUMER BEHAVIOUR OF HANDICRAFTS WITHIN THE FRAMEWORK OF FAIR TRADE CONSUMPTION: A STUDY OF WESTERN AND INDIAN CONSUMERS
4	Ajay Kumar Kushwaha 2013/DR/0029	30.06.2017	Electronics Engineering	Prof. S. K. Paul (Guide)	SIGNAL PROCESSING AND GENERATING CIRCUITS USING CMOS BASED CURRENT MODE BUILDING BLOCKS
5	Buddhadeo Mahato 2012/DR/1054	30.06.2017	Applied Mathematics	Dr. Anurag Jayswal (Guide) & Prof. Bimal Kumar Mishra, BIT Mesra, Ranchi (External Guide)	MATHEMATICAL MODELS AND SIMULATION ON EPIDEMIC DISEASES
6	Shirsendu Banerjee 2013/DR/0287	30.06.2017	Petroleum Engineering	Dr. T. K. Naiya (Guide) & Dr. Ajay Mandal (Co-Guide)	EXPERIMENTAL AND MODELING STUDIES OF FLOW OF PARAFFINIC CRUDE OIL THROUGH HORIZONTAL PIPES
7	Sayantani Ghosh 2012/DR/1063	30.06.2017	Management Studies	Dr. Niladri Das (Guide)	DEVELOPING A FRAMEWORK FOR PERFORMANCE MANAGEMENT IN HIGHER EDUCATIONAL INSTITUTIONS OF INDIA – A STUDY OF SELECT TECHNICAL INSTITUTES OF WEST BENGAL
8	Shubhashish Bhakta 2015/DR/1025	30.06.2017	Electrical Engineering	Dr. V. Mukherjee (Guide) & Dr. Binod Shaw, NIT Raipur (External Guide)	TECHNO-ECONOMIC ANALYSIS AND OPTIMUM SIZING OF RENEWABLE ENERGY HYBRID POWER SYSTEM
9	Sultana Begam 2013/DR/0003	30.06.2017	Applied Mathematics	Dr. M. K. Singh (Guide)	STUDY OF CONTAMINANT CONCENTRATION DISTRIBUTION THROUGH UNSTEADY GROUNDWATER FLOW IN POROUS FORMATION

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
10	Shobha Kumari 2011/DR/0145	30.06.2017	Applied Chemistry	Prof. G. Udayabhanu (Guide) & Dr. J. K. Pandey, CSIR-CIMFR, Dhanbad (External Guide)	DEVELOPMENT OF A STANDARD METHOD FOR DETERMINATION OF MINERAL MATTER AND QUARTZ IN COAL AS WELL AS AIRBORNE RESPIRABLE DUST AND STUDY THE EFFECT OF BENEFICIATION ON QUARTZ CONTENT OF COAL
11	Gupteshwar Prasad 1387/2006	30.06.2017	Management Studies	Prof. Chandan Bhar (Guide)	QUALITY ASSESSMENT OF UNDERGRADUATE DEGREE PROGRAMMES IN ENGINEERING AND TECHNOLOGY WITH REFERENCE TO TECHNICAL EDUCATIONAL SECTOR IN INDIA
12	Tanima Kumari 2013/DR/0058	30.06.2017	Humanities and Social Sciences	Dr. Rajni Singh (Guide)	CONSTRUCTIONS OF BLACK FEMALE SUBJECTIVITY IN AFRICAN-AMERICAN WOMEN'S POETRY SINCE THE 1980s: A STUDY
13	Vikas Kumar 2014/DR/1026	10.08.2017	Mechanical Engineering	Dr. Subrata Kumar Ghosh (Guide) & Prof. Arun Kumar Tiwari, IET, GLA University, Mathura (External Guide)	EXPERIMENTAL INVESTIGATION ON THE PERFORMANCE OF NANOFLUIDS IN A PLATE HEAT EXCHANGER
14	Sneha Sharma 2012/DR/0131	10.08.2017	Electronics Engineering	Dr. Jitendra Kumar (Guide)	DESIGN AND ANALYSIS OF PHOTONIC CRYSTAL FIBERS FOR NONLINEAR OPTICAL APPLICATIONS
15	Dinesh Kumar 2014/DR/1062	10.08.2017	Mechanical Engineering	Dr. Shibayan Sarkar (Guide)	MODELING AND SIMULATION OF HYDRO KINETIC TURBINE
16	Sowrav Saikia 2015/DR/1036	10.08.2017	Applied Geophysics	Dr. Upendra K. Singh (Guide) & Dr. Sumer Chopra, ISR, DST, Govt. of Gujrat (External Guide)	THE LITHOSPHERIC STRUCTURE OF THE HIMALAYAN BELT AND ITS ADJOINING REGION FROM RECEIVER FUNCTION ANALYSIS
17	Binod Kumar Sharma 2011/DR/0151	10.08.2017	Applied Mathematics	Dr. S. P. Tiwari (Guide) & Prof. (Mrs.) V. Bhattacharjee, BIT Mesra, Ranchi (External Guide)	ON THE STUDY OF AUTOMATA AND LANGUAGES BASED ON FUZZY SETS, FUZZY MULTISETS AND ROUGH SETS
18	Brijendra Paswan 2013/DR/0132	10.08.2017	Applied Mathematics	Dr. Sanjeev A. Sahu (Guide)	SOME PROBLEMS OF SEISMIC WAVES IN ANISOTROPIC MEDIA
19	Rahul Kumar Gangwar 2013/DR/0125	10.08.2017	Applied Physics	Dr. Vinod Kumar Singh (Guide)	DESIGNING AND ANALYSIS OF PHOTONIC CRYSTAL FIBER FOR VARIOUS APPLICATIONS
20	Rajib Mia 2013/DR/0086	10.08.2017	Applied Mathematics	Dr. Badam Singh Kushvah (Guide)	STABILITY AND ORBITAL DYNAMICS IN EXOPLANETARY SYSTEMS
21	Santan Kumar 2013/DR/0180	10.08.2017	Applied Mathematics	Dr. Abhishek Kumar Singh (Guide)	MATHEMATICAL MODELING OF CERTAIN ELASTODYNAMIC PROBLEMS IN LAYERED MEDIA
22	Shrabani Mondal 2013/DR/0052	10.08.2017	Applied Physics	Dr. Prashant Kumar Sharma (Guide)	ENGINEERED NANOCOMPOSITE PROBES AS AN ULTRASENSITIVE SENSING ASSAY

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
23	Bindu Priyadarshini 2012/DR/0010	10.08.2017	Electronics Engineering	Dr. Mukul Kumar Das (Guide)	MODELING OF Si- BASED RADIAL JUNCTION MICRO AND NANO-WIRE ARRAY SOLAR CELLS
24	Baisakhi Das 2013/DR/0277	10.08.2017	Applied Geophysics	Prof. Rima Chatterjee (Guide)	ANALYSIS OF WELL LOGS AND WELLBORE INSTABILITY IN OIL/GAS FIELDS OF KRISHNA – GODAVARI BASIN, INDIA
25	Praveen Lalwani 2014/DR/0023	10.08.2017	Computer Science and Engineering	Dr. Haider Banka (Guide) & Dr. Chiranjeev Kumar (Co-Guide)	STUDY AND INVESTIGATION OF ROUTING PROTOCOLS FOR WIRELESS SENSOR NETWORKS USING SOFT COMPUTING
26	Prabal Boral 2011/DR/0100	10.08.2017	Applied Geology	Prof. Atul K. Varma (Guide) & Dr. Sudip Maity, CSIR- CIMFR, Dhanbad (External Guide)	STRUCTURAL PARAMETERS OF COALS AND THEIR MODIFICATIONS BY NITRIC ACID TREATMENT FROM SELECTED INDIAN COAL BASINS
27	Ankur Shukla 2013/DR/0079	10.08.2017	Applied Mathematics	Dr. Subhashis Chatterjee (Guide)	SOFTWARE RELIABILITY MODELLING UNDER THE EFFECT OF CHANGE POINT
28	Rajni Kant 2012/DR/1093	10.08.2017	Mining Engineering	Prof. Phalguni Sen (Guide) & Dr. Partha Sarathi Paul (Co-Guide)	DEVELOPMENT OF A PLANNING STRATEGY FOR THE SELECTION OF OPTIMUM STOPING METHOD FOR HARD ROCK MINES
29	Ekta Roy 2013/DR/0108	10.08.2017	Applied Chemistry	Dr. Rashmi Madhuri (Guide)	DESIGN OF NANOSTRUCTURED MATERIALS FOR TARGET SPECIFIC APPLICATIONS
30	Dhiraj Kumar 2013/DR/0010	10.08.2017	Mechanical Engineering	Dr. K. K. Singh (Guide)	EXPERIMENTAL INVESTIGATION OF CONVENTIONAL AND LASER DRILLING OF FIBER REINFORCED POLYMER COMPOSITE LAMINATES
31	Sunil Kumar Sharma 2012/DR/0161	04.09.2017	Mechanical Engineering	Prof. Randip K. Das (Guide)	PERFORMANCE AND EMISSION ANALYSIS OF DIESEL ENGINE BY USING JATROPHA BIODIESEL AND TYRE PYROLYSIS OIL MIXED WITH NANO ADDITIVES
32	Tapas Kumar Mishra 2013/DR/0222	04.09.2017	Computer Science & Engineering	Dr. Sachin Tripathi (Guide)	DESIGN OF RELIABLE AND ENERGY EFFICIENT PROTOCOLS FOR AD HOC NETWORKS
33	Vikram Palodiya 2013/DR/0007	04.09.2017	Electronics Engineering	Dr. S. K. Raghuwanshi (Guide)	DESIGN AND ANALYSIS OF SPECIALTY OPTICAL FIBERS AND WAVEGUIDES FOR OPTICAL COMMUNICATION SYSTEMS
34	Subir Chattopadhyay 2013/DR/1028	04.09.2017	Management Studies	Prof. J. K. Pattanayak (Guide) & Dr. Niladri Das (Co-Guide)	EFFECT OF ECONOMIC POLICIES ON INDUSTRIAL SECTOR PERFORMANCE - A STUDY IN INDIAN CONTEXT
35	Jay Prakash Tripathi 2013/DR/0116	04.09.2017	Mechanical Engineering	Dr. S. K. Ghoshal (Guide) & Prof. K. Dasgupta (Co-Guide)	FAULT DIAGNOSIS OF A HYDRAULIC LIFTING SYSTEM USING ANALYTICAL REDUNDANCY

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
36	Mohua Chakraborty 2013/DR/0053	04.09.2017	Applied Physics	Dr. R. Thangavel (Guide)	PHOTOELECTROCHEMICAL STUDY OF METAL OXIDE BASED SEMICONDUCTING THIN FILMS FOR WATER SPLITTING APPLICATIONS
37	Puneet Kumar Maurya 2014/DR/0010	04.09.2017	Applied Mathematics	Dr. Akhilesh Prasad (Guide)	AN INVESTIGATION AND DEVELOPMENT OF HANKEL-TYPE INTEGRAL TRANSFORMATIONS AND ASSOCIATED OPERATORS
38	Tarkeshwar 2013/DR/0094	04.09.2017	Electrical Engineering	Dr. V. Mukherjee (Guide)	LOAD FREQUENCY CONTROL OF ISOLATED HYBRID POWER SYSTEM
39	Puja Kumari 2013/DR/0075	04.09.2017	Applied Physics	Prof. J. Manam (Guide)	STRUCTURAL AND OPTICAL STUDIES OF VANADATE COMPOUNDS
40	Manjunath A. 2014/DR/1000	04.09.2017	Mining Engineering	Dr. Partha Sarathi Paul (Guide) & Dr. Biswajit Paul (Co-Guide)	INVESTIGATION OF ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACT OF MINE CLOSURE WITH REFERENCE TO KOLAR GOLD FIELDS
41	Rajat Tripathi 2013/DR/0134	04.09.2017	Applied Mathematics	Prof. Gauri Shanker Seth (Guide)	MATHEMATICAL MODELLING OF HYDROMAGNETIC FLUID FLOW PROBLEMS
42	Sabitri Majhi 2013/DR/0004	04.09.2017	Applied Mathematics	Dr. S. Kundu (Guide) & Prof. P. C. Pal (Co-Guide)	THEORETICAL STUDY OF ELASTO-DYNAMIC WAVE PROPAGATION IN INHOMOGENEOUS, FUNCTIONALLY GRADED AND VISCO-ELASTIC LAYERED MEDIA
43	Priyanka 2013/DR/0178	04.09.2017	Computer Science & Engineering	Dr. Sushila Maheshkar (Guide)	BLIND AND NON-BLIND DIGITAL IMAGE WATERMARKING TECHNIQUES
44	Madan Lal Chandravanshi 2012/DR/1007	11.10.2017	Mechanical Engineering	Prof. A. K. Mukhopadhyay (Guide)	INVESTIGATIONS OF STRUCTURAL DAMAGES IN VIBRATORY FEEDER USING FINITE ELEMENT METHOD AND MODAL TESTING
45	Surya Prakash Tiwari 2013/DR/0051	11.10.2017	Applied Physics	Dr. Kaushal Kumar (Guide)	UPCONVERSION EMISSION STUDIES IN RARE EARTH IONS DOPED OXIDE PHOSPHORS AND THEIR APPLICATION FOR FINGERMARK DETECTION
46	Falguni Sarkar 2012/DR/1058	11.10.2017	Mining Engineering	Dr. Partha Sarathi Paul (Guide) & Shri. S. C. Bhowmik, GM (Mines), UCIL (External Guide)	AN INVESTIGATION OF MULTIVARIATE STATISTICAL MODELS TO ESTIMATE THE RISK AND RISK PERCEPTION OF MINE WORKERS IN UNDERGROUND HARD ROCK MINES
47	Abhijit Ghosh 2012/DR/0116	11.10.2017	Applied Physics	Prof. A. K. Nirala (Guide)	DESIGN AND FABRICATION OF HOLOGRAPHIC OPTICAL ELEMENTS AND THEIR APPLICATIONS
48	Pinku Ranjan 2012/DR/0149	11.10.2017	Electronics Engineering	Dr. Ravi Kumar Gangwar (Guide)	STUDIES ON MULTI-ELEMENT MULTI-SEGMENT DIELECTRIC RESONATOR ANTENNAS FOR MICROWAVE APPLICATIONS
49	Suchita Lakra 2013/DR/0099	11.10.2017	Electrical Engineering	Dr. S. Mandal (Guide)	MODELLING AND ANALYSIS OF OPTICAL CAVITY AND ITS PERFORMANCE AS FILTER

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
50	Anirban Roy 2014/DR/1164	11.10.2017	Electronics Engineering	Prof. Debjani Mitra (Guide)	MULTI-TARGET TRACKING ALGORITHMS FOR SURVEILLANCE AND RECONNAISSANCE APPLICATIONS
51	Chinmoy Paul 2013/DR/0185	11.10.2017	Applied Mathematics	Dr. G. K. Vishwakarma (Guide)	ESTIMATION PROCEDURES FOR REGRESSION AND TIME SERIES MODELS USING NEURAL NETWORK
52	Shipra Singh 2014/DR/0118	11.10.2017	Applied Mathematics	Dr. Anurag Jayswal (Guide)	SOME ASPECTS OF VECTOR VARIATIONAL INEQUALITIES
53	Bindeshwar Singh 2013/DR/1103	11.10.2017	Electrical Engineering	Dr. V. Mukherjee (Guide) & Dr. Prabhakar Tiwari, GCET, Greater Noida (External Guide)	IMPACT ASSESSMENT OF OPTIMALLY PLACED DISTRIBUTED GENERATION AND FACTS CONTROLLERS IN POWER SYSTEMS
54	Prasenjit Adak 2012/DR/0154	11.10.2017	Environmental Science & Engineering	Dr. Suresh Pandian Elumalai (Guide) & Prof. Asim Kumar Pal (Co-Guide)	STUDY ON EFFECTS OF PRIVATE AND PUBLIC TRANSPORT ON VEHICULAR EXHAUST EMISSION (VEE) AND STRATEGIES TO IMPROVE AMBIENT AIR QUALITY OF DHANBAD ROAD NETWORKS
55	Malati Majhi 2013/DR/0206	11.10.2017	Applied Physics	Dr. R. B. Choudhary (Guide)	AN INVESTIGATION ON POLYANILINE BASED NANOCOMPOSITES FOR ENERGY STORAGE APPLICATION
56	Aparna Choudhary 2013/DR/0078	3.11.2017	Management Studies	Dr. Sandeep Mondal (Guide) & Prof. Kampan Mukherjee, IIM Kashipur (Co-Guide)	STUDY OF INFLUENCING FACTORS IN MANAGING GREEN SUPPLY CHAIN OF SMEs IN INDIA
57	Binoti Patro 2013/DR/0107	3.11.2017	Management Studies	Prof. J. K. Pattanayak (Guide)	STUDY OF RELATIONSHIP BETWEEN EARNINGS MANAGEMENT PRACTICES AND CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES IN SELECT INDIAN MINING FIRMS
58	Arup Kumar Kunti 2013/DR/0129	3.11.2017	Applied Physics	Dr. S. K. Sharma (Guide)	DEVELOPMENT OF OXIDE BASED MATERIALS FOR OPTOELECTRONIC APPLICATIONS
59	Kshitish Ch. Mistri 2014/DR/0102	3.11.2017	Applied Mathematics	Dr. Abhishek Kumar Singh (Guide)	THEORETICAL INVESTIGATION OF SOME ELASTODYNAMIC PROBLEMS IN LAYERED MEDIA
60	Prakash Pareek 2013/DR/0050	3.11.2017	Electronics Engineering	Dr. Mukul Kumar Das (Guide)	MODELING AND DESIGN OF Sn-INCORPORATED Group IV ALLOY BASED QWIP
61	Akanksha Dubey 2013/DR/0066	3.11.2017	Management Studies	Dr. Mrinalini Pandey (Guide)	IMPACT OF ORGANIZATIONAL POLITICS ON EMPLOYEES' JOB SATISFACTION IN INSTITUTES OF HIGHER LEARNING IN INDIA
62	Satish Kumar Tiwari 2012/DR/0071	3.11.2017	Applied Mathematics	Prof. R. K. Upadhyay (Guide)	MODELING THE SPATIOTEMPORAL COMPLEXITY OF WETLAND SYSTEMS
63	Angshuman Ray Chowdhuri 2013/DR/0142	3.11.2017	Applied Chemistry	Dr. Sumanta Kumar Sahu (Guide)	FABRICATION OF MULTIFUNCTIONAL NANOSCALE MATERIALS FOR CHEMOTHERAPEUTIC DELIVERY

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
64	Jugul Kishor 2012/DR/1034	3.11.2017	Electronics Engineering	Dr. Santanu Dwari (Guide) & Prof. B. K. Kanaujia, JNU, New Delhi (External Guide)	DESIGN AND CHARACTERIZATION OF DIELECTRIC RESONATOR FILTER FOR WIRELESS COMMUNICATION SYSTEM
65	Soumen Chandra2013/DR/0056	28.11.2017	Applied Chemistry	Dr. Sumanta Kumar Sahu (Guide)	SYNTHESIS AND SURFACE MODIFICATION OF FLUORESCENCE CARBON DOTS FOR SENSING, IMAGING AND CATALYSIS
66	Pankojini Mulia2013/DR/0039	28.11.2017	Humanities and Social Sciences	Dr. A. K. Behura (Guide) & Dr. Sarita Kar (Co-Guide)	ROLE OF BUSINESS ORGANIZATIONS IN ENVIRONMENTAL SUSTAINABILITY: AN ETHICAL ANALYSIS FROM KANTIAN PERSPECTIVE
67	Amit Bage2013/DR/0102	28.11.2017	Electronics Engineering	Dr. Sushrut Das (Guide)	DESIGN OF PLANAR STRUCTURE INTEGRATED WAVEGUIDE BANDPASS FILTERS
68	Subhash Chandra2013/DR/0151	28.11.2017	Computer Science and Engineering	Dr. Sushila Maheshkar (Guide)	ONLINE AND OFF-LINE SIGNATURE VERIFICATION
69	Saheli Bera2012/DR/0113	28.11.2017	Applied Chemistry	Prof. G. Udayabhanu (Guide) & Dr. Tapan Kumar Rout, Tata Steel Ltd., Odisha (External Guide)	STUDIES ON WATER BASED ANTI- CORROSIVE COATINGS FOR GALVANIZED STEEL AND ALUMINUM SUBSTRATES
70	Pranabi Maji2013/DR/0112	28.11.2017	Applied Physics	Dr. R. B. Choudhary (Guide)	AN INVESTIGATION ON PMMA BASED NANOCOMPOSITES FOR ENERGY STORAGE APPLICATION
71	Sanjaya Kumar Panda2013/DR/0147	28.11.2017	Computer Science and Engineering	Prof. P. K. Jana (Guide)	DESIGN OF RESOURCE ALLOCATION AND TASK SCHEDULING ALGORITHMS FOR CLOUD COMPUTING
72	Anuradha2013/DR/0070	28.11.2017	Management Studies	Dr. Mrinalini Pandey (Guide)	A COMPARATIVE STUDY ON WORK-LIFE BALANCE OF WOMEN EMPLOYEES IN SELECT PUBLIC AND PRIVATE SECTOR ORGANIZATIONS IN INDIA
73	Arti Hansda2013/DR/0263	28.11.2017	Environmental Science & Engineering	Dr. Vipin Kumar (Guide) & Dr. Anshumali (Co- Guide)	ISOLATION AND CHARACTERIZATION OF Cu (II) RESISTANT BACTERIA AND THEIR PLANT GROWTH PROMOTING ACTIVITIES
74	Haribandhu Chaudhuri 2013/DR/0048	22.12.2017	Applied Chemistry	Prof. Ashis Sarkar (Guide)	SYNTHESES AND APPLICATIONS OF MESOPOROUS SILICAS AND THEIR DERIVATIVES
75	Ashish Kumar Dash 2013/DR/0249	22.12.2017	Mining Engineering	Prof. R. M. Bhattacharjee (Guide) & Dr. Partha Sarathi Paul (Co- Guide)	DEVELOPMENT OF AN ACCIDENT INVESTIGATION METHODOLOGY FOR INDIAN COAL MINES

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
76	Rajesh Arora 2014/DR/1144	22.12.2017	Mining Engineering	Dr. B. S. Choudhary (Guide)	INVESTIGATIONS INTO THE ROLE OF FRONT ROW BURDEN, STEMMING COLUMN AND ROW DELAY TIMING ON BLAST PERFORMANCE IN SURFACE MINES
77	Venkataramana B. 2013/DR/0122	22.12.2017	Applied Mathematics	Dr. Subhashis Chatterjee (Guide) & Dr. Gajendra Kumar Vishwakarma (Co-Guide)	EVALUATION OF NETWORK RELIABILITY USING OPTIMAL REDUCED ORDERED BINARY DECISION DIAGRAM
78	Jyoti Singh 2013/DR/0188	22.12.2017	Applied Physics	Prof. J. Manam (Guide)	LUMINESCENCE STUDIES OF RARE EARTH DOPED STRONTIUM GADOLINIUM OXIDES
79	Santosh Kumar Tiwari 2013/DR/0123	22.12.2017	Applied Chemistry	Dr. Ganesh Chandra Nayak (Guide)	SYNTHESIS AND DISPERSION OF GRAPHENE OXIDE/REDUCED GRAPHENE OXIDE IN POLYMER BLENDS FOR ENHANCED THERMOMECHANICAL PROPERTIES
80	Vineet Kumar Srivastava 2014/DR/1140	22.12.2017	Applied Mathematics	Dr. Badam Singh Kushvah (Guide) & Dr. Jai Kumar, SAC, ISRO, Ahmedabad (External Guide)	LAGRANGIAN POINT HALO ORBITS AND TRANSFER TRAJECTORIES IN PHOTOGRAVITATIONAL SYSTEM
81	Sujeet Kumar Mritunjay 2013/DR/0034	22.12.2017	Environmental Science and Engineering	Dr. Vipin Kumar (Guide)	MICROBIOLOGICAL SAFETY EVALUATION AND RECOMMENDATION OF RAW EATEN SALAD VEGETABLES
82	Ratan Mani Prasad 2014/DR/0096	22.12.2017	Applied Mathematics	Dr. Santimoy Kundu (Guide)	STUDY OF ELASTIC WAVES IN HETEROGENEOUS LAYERED MEDIA
83	Dilip Kumar Rajak 2014/DR/0101	22.12.2017	Petroleum Engineering	Dr. Chandan Guria (Guide) & Prof. A. K. Pathak (Co-Guide)	FUNCTIONALIZATION OF FLY ASH FOR THE SUBSTITUTION OF BENTONITE IN DRILLING FLUID
84	Radha Rani 2013/DR/0239	22.12.2017	Environmental Science and Engineering	Dr. Manish Kumar Jain (Guide)	ENVIRONMENTAL EVALUATION OF FLY ASH FROM SELECTED THERMAL POWER PLANTS WITH REFERENCE TO MINE FILLING
85	Abhinav Anand 2013/DR/0098	22.12.2017	Humanities and Social Sciences	Dr. Ajit Kumar Behura (Guide)	BUDDHIST PHILOSOPHY AND ENVIRONMENTALISM: AN ETHICAL INQUIRY
86	Soumya Mohan Ghosh 2013/DR/0219	22.12.2017	Humanities and Social Sciences	Dr. Rajni Singh (Guide)	THEATRE OF EXCLUSION: A SELECT STUDY OF INDIAN WOMEN PLAYWRIGHTS AND INDIAN FEMINIST THEATRE
87	Sayandeep Bhattacharyya 2013/DR/1065	22.12.2017	Management Studies	Dr. Saumya Singh (Guide)	ANALYSIS OF CRITICAL FACTORS FOR VENDOR SELECTION IN INDIAN PRIVATE INDUSTRIAL SECTORS: A STUDY IN EASTERN REGION
88	Tinku Saikia 2014/DR/0151	22.12.2017	Petroleum Engineering	Dr. Vikas Mahto (Guide)	DEVELOPMENT OF DRILLING FLUID SYSTEM FOR GAS HYDRATE BEARING FORMATION

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
89	Himanshu Sharma 2014/DR/0099	22.12.2017	Electrical Engineering	Dr. Nitai Pal (Guide)	ENERGY MANAGEMENT AND CONTROL STRATEGIES OF OFF- GRID SOLAR-WIND HYBRID POWER GENERATION SYSTEM
90	Anamika Dey2011/DR/0114	12.01.2018	Environmental Science & Engineering	Prof. Gurdeep Singh (Guide) & Prof. Anil K. Gupta, NIF-India (External Guide)	COPING CREATIVELY WITH CLIMATIC RISKS: PEOPLE'S KNOWLEDGE, INSTITUTIONS AND RESOURCE MANAGEMENT STRATEGIES
91	Animesh Biswas2010/DR/0110	12.01.2018	Mechanical Engineering	Dr. Subrata Kumar Ghosh (Guide)	EXPERIMENTAL AND NUMERICAL ANALYSIS OF GM TYPE DOUBLE INLET PULSE TUBE REFRIGERATOR
92	Shalini2014/DR/0115	12.01.2018	Applied Mathematics	Dr. Anurag Jayswal (Guide)	SOME SOLUTION APPROACHES TO NONLINEAR OPTIMIZATION PROBLEMS
93	Abhrajyoti Tarafdar2013/DR/0229	12.01.2018	Environmental Science & Engineering	Dr. Alok Sinha (Guide)	ENVIRONMENTAL PROFILING AND ADVANCE BIODEGRADATION STUDIES OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)
94	Zeba Usmani2013/DR/0245	22.01.2018	Environmental Science & Engineering	Dr. Vipin Kumar (Guide)	STUDY ON ACCUMULATION OF HEAVY METALS FROM COAL FLY ASH THROUGH VERMICOMPOSTING USING INDIGENOUS EARTHWORM SPECIES
95	Jitendra Vaish2012/DR/0006	22.01.2018	Applied Geophysics	Dr. Sanjit Kumar Pal (Guide)	TIME-LAPSE STUDY OF COAL FIRE CHARACTERIZATION OVER PARTS OF JHARIA COALFIELD, INDIA
96	Ankita Ray2013/DR/0255	22.01.2018	Management Studies	Dr. Sandeep Mondal (Guide)	DEVELOPMENT OF PRICING POLICIES FOR REMANUFACTURED PRODUCTS IN CLOSED LOOP SUPPLY CHAIN
97	Upain Kumar Mandal2014/DR/0165	22.01.2018	Applied Mathematics	Dr. Akhilesh Prasad (Guide)	STUDY OF KONTOROVICH- LEBEDEV TRANSFORMS AND RELATED OPERATORS
98	Vanguri Ranjith Babu2013/DR/0173	22.01.2018	Mining Machinery Engineering	Dr. Tanmoy Maity (Guide)	DEVELOPMENT OF ELECTRICAL ENERGY-SAVING TECHNIQUES FOR VENTILATION FAN USED IN UNDERGROUND MINES
99	Prerna Mohit2013/DR/0068	22.01.2018	Computer Science and Engineering	Prof. G. P. Biswas (Guide)	DESIGN OF SOME AUTHENTICATION PROTOCOLS FOR CLOUD AND WSN APPLICATIONS
100	Anup Kumar2013/DR/0289	22.01.2018	Petroleum Engineering	Dr. Chandan Guria (Guide) & Prof. A. K. Pathak (Co- Guide)	CULTIVATION OF LIPID-ENRICHED MICROALGAE FOR BIO-FUEL FEEDSTOCK IN A PHOTO- BIOREACTOR AND CARBON DIOXIDE SEQUESTRATION
101	Aniruddha Pal2013/DR/0140	22.01.2018	Applied Chemistry	Dr. Sagar Pal (Guide)	DEVELOPMENT AND APPLICATIONS OF GRAFT AND BLOCK COPOLYMERS USING ATRP/RAFT TECHNIQUES

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
102	Pallavi Pandey 2013/DR/0154	22.01.2018	Management Studies	Prof. Pramod Pathak (Guide) & Dr. Saumya Singh (Co-Guide)	INTENTION TO QUIT AMONG FRONT-END EMPLOYEES: A STUDY IN THE INDIAN RETAIL INDUSTRY
103	Anuradha2013/DR/0201	22.01.2018	Applied Chemistry	Prof. D. D. Pathak (Guide)	CHITOSAN-SUPPORTED SCHIFF BASE COMPLEXES OF Cu(II), Zn(II) AND Pd(0) NANOPARTICLES: CATALYTIC APPLICATIONS IN C-C AND C-N BOND FORMATION REACTIONS
104	Bal Chand Nagar 2013/DR/0198	22.01.2018	Electronics Engineering	Prof. S. K. Paul (Guide)	DESIGN OF ANALOG SIGNAL PROCESSING AND GENERATING CIRCUITS USING OPERATIONAL TRANSRESISTANCE AMPLIFIER
105	Sridevi Jena 2014/DR/0014	22.01.2018	Environmental Science & Engineering	Prof. Gurdeep Singh (Guide)	AMBIENT AIR QUALITY ASSESSMENT WITH PARTICULAR REFERENCE TO POLYCYCLIC AROMATIC HYDROCARBONS AND HEAVY METALS IN AN INDUSTRIALIZED BELT OF DHANBAD, EASTERN INDIA
106	Abeg Kumar Jaiswal 2014/DR/0249	22.01.2018	Computer Science and Engineering	Dr. Haider Banka (Guide)	PATTERN RECOGNITION AND CLASSIFICATION OF EEG SIGNALS USING MACHINE LEARNING
107	Islavath Sreenivasa Rao 2014/DR/1076	15.02.2018	Mining Engineering	Dr. Hemant Kumar (Guide) & Prof. Debasis Deb, IIT Kharagpur (External Guide)	STABILITY OF LONGWALL FACE VIS-À-VIS PERFORMANCE AND STRUCTURAL ANALYSIS OF POWERED SUPPORT
108	Bhaskar Hajra 2013/DR/0288	15.02.2018	Petroleum Engineering	Dr. Chandan Guria (Guide) & Prof. A. K. Pathak (Co- Guide)	TRANSESTERIFICATION OF SAL OIL (SHOREA ROBUSTA) USING ION- EXCHANGE RESIN AND SELECTIVE OXIDATION OF SAL OIL BIODIESEL: AN ALTERNATIVE SOURCE OF PETROCHEMICAL PRODUCTS
109	Sudipta Datta 2011/DR/0139	15.02.2018	Fuel and Mineral Engineering	Prof. V. K. Saxena (Guide) & Dr. P. Sarkar, CSIR- CIMFR, Dhanbad (External Guide)	GASIFICATION STUDIES OF HIGH ASH INDIAN COAL & BIOMASS
110	Nabajyoti Mazumdar 2014/DR/0148	15.02.2018	Computer Science and Engineering	Dr. Hari Om (Guide)	ANALYSIS AND DEVELOPMENT OF EFFICIENT ROUTING ALGORITHMS FOR WIRELESS SENSOR NETWORKS
111	Amar Prakash Sinha 2009/DR/0101	15.02.2018	Electronics Engineering	Dr. Jitendra Kumar (Guide) & Prof. V. Kumar (Co- Guide)	ANALYSIS OF QUANTUM DOTS FOR QUANTUM COMPUTATION APPLICATIONS
112	Naushad Varish 2013/DR/0252	15.02.2018	Computer Science and Engineering	Dr. Arup Kumar Pal (Guide)	CONTENT-BASED IMAGE RETRIEVAL TECHNIQUES IN TRANSFORM DOMAIN
113	Brajesh Kumar 2013/DR/0204	15.02.2018	Electronics Engineering	Dr. Nirupama Mandal (Guide)	DESIGN AND DEVELOPMENT OF FLOW AND LEVEL TRANSDUCERS

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
114	Dibyajyoti Ghosh 2013/DR/0272	15.02.2018	Management Studies	Dr. Sandeep Mondal (Guide)	DEVELOPMENT OF INTEGRATED PRODUCTION-DISTRIBUTION PLANNING MODELS FOR SELECT INDIAN FOOD PROCESSING INDUSTRY
115	N. Mathan Kumar 2014/DR/1119	15.02.2018	Mining Machinery Engineering	Dr. L. A. Kumaraswamidhas (Guide) & Prof. S. Senthil Kumaran, RVS ETGI, Dindigul (External Guide)	AN INVESTIGATION OF WEAR BEHAVIOUR AND MATERIAL REMOVAL RATE OF AA 2618 MMC REINFORCED WITH Si ₃ N ₄ , AlN AND ZrB ₂ INSITU COMPOSITES
116	Sandeep Agrawal 2010/DR/0126	15.02.2018	Mechanical Engineering	Dr. K. K. Singh (Guide) & Prof. P. K. Sarkar (Co-Guide)	WEAR AND FRICTION CHARACTERIZATION OF FRP COMPOSITE LAMINATES UNDER DIFFERENT SLIDING CONDITIONS AND ENVIRONMENTS
117	Ashish Kumar Srivastava 2013/DR/1051	15.02.2018	Mechanical Engineering	Dr. Amit Rai Dixit (Guide) & Dr. Sandeep Tiwari , KEC, Ghaziabad (External Guide)	SYNTHESIS, CHARACTERIZATION AND MACHINABILITY OF HYBRID ALUMINIUM METAL MATRIX COMPOSITE
118	Ritu Ranjan Sinha 2013/DR/0044	15.02.2018	Environmental Science & Engineering	Dr. Prasoon Kumar Singh (Guide)	EVALUATION OF INFILTRATION BEHAVIOUR AND ASSESSMENT OF WATER POVERTY INDEX IN DHANBAD MUNICIPAL AREA, JHARKHAND, INDIA
119	Swati Priya 2014/DR/1077	15.02.2018	Humanities and Social Sciences	Dr. Rajni Singh (Guide)	PHONOLOGICAL AND MORPHOSYNTACTIC ANALYSIS OF KHORTHAN
120	Arijit Karati 2013/DR/0199	26.02.2018	Computer Science & Engineering	Prof. G. P. Biswas (Guide)	DESIGN OF SOME IDENTITY- AND ATTRIBUTE-BASED PUBLIC KEY CRYPTOSYSTEMS
121	Abhay Shankar Patra 2013/DR/1078	26.02.2018	Applied Chemistry	Dr. Sagar Pal (Guide) & Dr. Supriya Sarkar, Tata Steel Ltd., Jamshedpur (External Guide)	MULTIFUNCTIONAL GUAR GUM DERIVATIVES/SiO ₂ HYBRID NANOCOMPOSITES: SYNTHESIS, CHARACTERIZATION AND APPLICATION AS FLOCCULANTS AS WELL AS ADSORBENTS
122	Ramesh Prasad Sah 2013/DR/1034	26.02.2018	Mechanical Engineering	Prof. Randip K. Das (Guide) & Dr. Biplab Choudhury (External Guide)	COMPARATIVE STUDY OF PERFORMANCES OF ADSORPTION COOLING SYSTEM WITH SILICA GEL/WATER AND SILICA GEL/METHANOL AS ADSORBENT/ADSORBATE PAIRS
123	Avik Banerjee 2013/DR/0153	26.02.2018	Environmental Science & Engineering	Prof. S. K. Maiti (Guide) & Dr. Chandan Guria (Co-Guide)	MICROALGAE ASSISTED CARBON DIOXIDE SEQUESTRATION USING FLUE GAS IN A PHOTO BIO- REACTOR
124	Gagan Kumar Gupta 2014/DR/1031	26.02.2018	Mechanical Engineering	Dr. Somnath Chattopadhyaya (Guide)	CRITICAL RELIABILITY AND FAILURE ANALYSIS OF SUPERHEATER TUBES OF COAL- BASED BOILER

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
125	Sneh Lata 2013/DR/0073	26.02.2018	Environmental Science & Engineering	Dr. S. R. Samadder (Guide)	ASSESSMENT OF IRON IMPREGNATED BANANA PITH BIOCHAR ADSORBENT FOR As (V) REMOVAL FROM DRINKING WATER
126	Mukesh Kumar 2013/DR/0047	26.02.2018	Applied Chemistry	Dr. Rohith P. John (Guide)	INVESTIGATION OF COMPLEXATION BEHAVIOR OF SELECTED SCHIFF BASE COMPOUNDS: STRUCTURAL, PHOTOPHYSICAL AND THEORETICAL STUDIES
127	Veena Dhammanand Manwar 2014/DR/1107	26.02.2018	Environmental Science & Engineering	Prof. A. K. Pal (Guide) & Dr. Bibhuti Bhusan Mandal, NIMH, Nagpur (External Guide)	ASSESSMENT OF NOISE PROPAGATION AND DISTRIBUTION IN MECHANIZED SURFACE MINING COMPLEX AND NEARBY AREAS THROUGH NOISE MAPPING
128	Reena Sharma 2012/DR/1087	26.02.2018	Electronics Engineering	Dr. S. K. Raghuwanshi (Guide)	DESIGN AND DEVELOPMENT OF AN EFFICIENT COMPUTER MODEL FOR EDFA GAIN DYNAMICS WITH MULTIPLE FUNCTIONALITY OVER C TO L BAND USING NOVEL MULTI WAVELENGTH MATLAB SIMULINK TEST BED
129	Deepak Kumar Pandit 2013/DR/0133	26.02.2018	Applied Mathematics	Dr. Santimoy Kundu (Guide)	ANALYTICAL STUDY OF SEISMIC WAVES IN HETEROGENEOUS AND ANISOTROPIC LAYERED MEDIA
130	Shonam Sharma 2014/DR/0084	26.02.2018	Environmental Science & Engineering	Dr. Prasoon Kumar Singh (Guide)	ESTIMATION OF THE RELATIONSHIP BETWEEN TRENDS OF SEASONAL RAINFALL WITH AQUIFER RECHARGE IN MINING AREA AND THE DEVELOPMENT OF SPATIAL SEASONALITY INDEX
131	Satya Narayan Sethy 2012/DR/0002	26.02.2018	Applied Geology	Dr. T. H. Syed (Guide)	HYDROGEOLOGICAL AND GEOCHEMICAL CHARACTERIZATION OF GROUNDWATER IN RAJGIR- NALANDA AREA, NALANDA DISTRICT, BIHAR
132	Santosh Kumar Verma 2014/DR/0131	26.02.2018	Environmental Science & Engineering	Prof. S. K. Maiti (Guide) & Dr. L. C. Ram, CSIR-CIMFR, Dhanbad (External Guide)	IMPACT OF FLY ASH IN THE SURROUNDINGS OF THERMAL POWER PLANT WITH RESPECT TO HEAVY METALS AND POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) ON SOIL BIOLOGICAL ACTIVITIES AND ASSESSMENT OF TOXICITY RISK
133	Snigdha Kundu 2013/DR/0022	26.02.2018	Environmental Science & Engineering	Prof. A. K. Pal (Guide)	CHARACTERISATION AND EMISSION INVENTORY OF AIRBORNE DUST PARTICLES IN SELECTED OPEN PIT MINES OF JHARIA COALFIELD, INDIA

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
134	Anand Sharma 2014/DR/0254	26.02.2018	Electronics Engineering	Dr. Ravi Kumar Gangwar (Guide)	THEORETICAL AND EXPERIMENTAL INVESTIGATION ON WIDEBAND AND MULTIBAND DIELECTRIC RESONATOR ANTENNAS
135	Md. Aref Billaha 2012/DR/1030	26.02.2018	Electronics Engineering	Dr. Mukul Kumar Das (Guide)	DOPING DEPENDENT PERFORMANCE ANALYSIS OF III-V BASED QUANTUM WELL INFRARED PHOTODETECTORS
136	Sudhir Kumar 2015/DR/0015	26.02.2018	Petroleum Engineering	Dr. Ajay Mandal (Guide)	SYNTHESIS AND CHARACTERIZATION OF SURFACTANT AND POLYMERIC SURFACTANT FROM JATROPHA OIL FOR THEIR APPLICATION IN ENHANCED OIL RECOVERY
137	Pratik Ranjan 2013/DR/0169	26.02.2018	Computer Science and Engineering	Dr. Hari Om (Guide)	DESIGN AND ANALYSIS OF PASSWORD AUTHENTICATION TECHNIQUES
138	Manish Kumar 2014/DR/0110	26.02.2018	Computer Science and Engineering	Dr. Hari Om (Guide)	SOFT COMPUTING TECHNIQUES FOR STRUCTURAL AND BEHAVIORAL STUDIES OF BIOMOLECULES
139	Deepak Singh Panwar 2013/DR/0038	26.02.2018	Fuel and Mineral Engineering	Prof. V. K. Saxena (Guide) & Dr. Abha Rani (Co- Guide) & Dr. Ajay Kumar Singh, CSIR-CIMFR, Dhanbad (External Guide)	STUDY OF COAL MINE METHANE (CMM) RECOVERY AND UTILIZATION IN KULTI AND SITARAMPUR BLOCKS OF RANIGANJ COALFIELD
140	Soumitra Roy 2015/DR/1132	26.02.2018	Computer Science and Engineering	Dr. Arup Kumar Pal (Guide)	IRREVERSIBLE AND REVERSIBLE WATERMARKING SCHEMES OF DIGITAL IMAGES
141	Muhammad Ali 2014/DR/1008	26.02.2018	Applied Geophysics	Prof. Rima Chatterjee (Guide)	APPLICATION OF BOREHOLE IMAGE LOGS TO DELINEATE FRACTURES FOR OPTIMIZATION OF PRODUCTION FROM HYDROCARBON AND COAL BED METHANE RESERVOIR
142	Kriti Shukla 2014/DR/0189	26.02.2018	Environmental Science & Engineering	Dr. Anshumali (Guide)	STUDY ON BIOGEOCHEMISTRY OF SOME MICRONUTRIENTS IN AGRICULTURAL SOILS AROUND SIDHI DISTRICT, M.P., INDIA
143	Purushottam Kumar Singh 2013/DR/0237	26.02.2018	Mechanical Engineering	Dr. Alok Kumar Das (Guide)	PRODUCTION OF METAL OXIDE NANOPARTICLES THROUGH ELECTROCHEMICAL SPARK EROSION PROCESS, THEIR CHARACTERIZATION AND APPLICATIONS
144	Argha Mondal 2013/DR/0175	26.02.2018	Applied Mathematics	Prof. R. K. Upadhyay (Guide)	DYNAMICAL STUDIES OF VOLTAGE-GATED NEURON MODELS UNDER REALISTIC SITUATIONS: NONLINEAR RESPONSES AND SYNCHRONIZATION
145	Vidhika Tiwari 2012/DR/1049	12.03.2018	Mechanical Engineering	Dr. N. K. Singh (Guide)	DEVELOPMENT OF PROCESS CAPABILITY INDEX AND ITS INDUSTRIAL APPLICATION

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
146	Nagendra Shiwakoti 2012/DR/0166	12.03.2018	Applied Physics	Dr. Bobby Antony (Guide)	FABRICATION AND MODIFICATION OF SCHOTTKY DIODES
147	Chandan Kumar Shiva 2013/DR/0261	12.03.2018	Electrical Engineering	Dr. V. Mukherjee (Guide)	AUTOMATIC GENERATION CONTROL OF INTERCONNECTED POWER SYSTEMS USING EVOLUTIONARY OPTIMIZATION TECHNIQUE
148	Anukul Kishor Thakur 2014/DR/0032	12.03.2018	Applied Physics	Dr. R. B. Choudhary (Guide)	ORGANO-INORGANIC NANOHYBRID ELECTRODE MATERIALS FOR SUPERCAPACITOR APPLICATIONS
149	Sushil Kumar Ranjan 2013/DR/1116	12.03.2018	Applied Physics	Dr. Vineet Kumar Rai (Guide)	RARE EARTH DOPED Gd ₂ O ₃ NANOPHOSPHORS FOR PHOTONIC AND TEMPERATURE SENSING APPLICATIONS
150	Partha Sarathi Das 2013/DR/1017	12.03.2018	Mining Machinery Engineering	Dr. Tanmoy Maity (Guide)	FEASIBILITY STUDY OF WIRELESS SYSTEM FOR PROTECTION AND TRACKING IN UNDERGROUND MINES
151	Mamata Mahato 2013/DR/0114	12.03.2018	Applied Chemistry	Dr. Hari Pada Nayek (Guide)	METAL COMPLEXES OF SCHIFF BASE AND DITHIOCARBAMATE LIGANDS: SYNTHESIS AND APPLICATIONS
152	Anand Pratap Singh 2013/DR/0128	12.03.2018	Applied Mathematics	Dr. S. P. Tiwari (Guide)	ON THE STUDY OF LATTICE- VALUED F-TRANSFORMS
153	Sorokhaibam Khaba 2013/DR/0243	12.03.2018	Management Studies	Prof. Chandan Bhar (Guide)	APPLICATION OF LEAN PRODUCTION METHODOLOGIES FOR ENHANCING PERFORMANCE OF INDIAN COAL MINING INDUSTRY
154	Manas Mukhopadhyay 2015/DR/1083	12.03.2018	Mining Engineering	Prof. Phalguni Sen (Guide)	COMPUTER AIDED ANALYSIS OF CIRCULAR FAILURE FOR SLOPES MADE UP OF HOMOGENEOUS MATERIAL UNDER VARIOUS WATER TABLE CONDITIONS
155	Santosh Kumar 2012/DR/0020	12.03.2018	Applied Chemistry	Dr. Rohith P. John (Guide)	STRUCTURAL, THEORETICAL AND ANTIBACTERIAL STUDIES OF SELECTED TRANSITION METAL COMPLEXES OF N(4) SUBSTITUTED THIOSEMICARBAZONES
156	Souvik Pal 2012/DR/0179	12.03.2018	Applied Chemistry	Dr. Hari Pada Nayek (Guide)	SYNTHESIS AND APPLICATIONS OF INORGANIC-ORGANIC HYBRID FRAMEWORKS BASED ON POLYCARBOXYLATE AND ORGANO-PHOSPHORUS LIGANDS
157	Naga Suresh Enjamuri 2014/DR/0109	12.03.2018	Applied Chemistry	Prof. Biswajit Chowdhury (Guide)	OXIDANT FREE DEHYDROGENATION OF ALCOHOL OVER MIXED OXIDE SUPPORTED METAL NANOPARTICLE CATALYST
158	Santosh Kumar Mishra 2013/DR/0211	12.03.2018	Mining Machinery Engineering	Dr. Jayanta Das (Guide)	FAULT IDENTIFICATION AND CONTROL OF A POWER HYDRAULIC SYSTEM

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
159	Jay Prakash Srivastava 2013/DR/0101	12.03.2018	Mechanical Engineering	Prof. P. K. Sarkar (Guide) & Dr. Vinayak Ranjan (Co-Guide)	MODELLING AND SIMULATION OF RAIL MATERIAL RESPONSE UNDER ROLLING-SLIDING CONTACT
160	Barun Mandal 2014/DR/0166	12.03.2018	Applied Chemistry	Dr. Sagar Pal (Guide)	NANO FILLERS INCORPORATED CROSSLINKED CARBOXYMETHYL CELLULOSE: DEVELOPMENT AND APPLICATION IN SUSTAINED TRANSDERMAL DRUG DELIVERY
161	Abhishek Topno 2012/DR/0128	20.03.2018	Applied Geology	Dr. Sukanta Dey (Guide)	PETROLOGY, GEOCHEMISTRY AND TECTONIC SETTING OF GRANITOIDS ALONG PAL LAHARA-KEONJHARGARH-KARANJIA TRACT, ORISSA, SINGHBHUM CRATON
162	Gurindapalli Rajita 2013/DR/0213	20.03.2018	Electronics Engineering	Dr. Nirupama Mandal (Guide)	INVESTIGATION ON DEVELOPMENT OF PRESSURE, FLOW AND TEMPERATURE TRANSDUCERS
163	Prasanta Kumar Behera 2013/DR/0152	20.03.2018	Applied Geology	Dr. Kripamoy Sarkar (Guide) & Dr. Amit Kumar Verma (Co-Guide)	DUMP SLOPE STABILITY ANALYSIS OF OPEN CAST MINES IN TALCHER COAL FIELD, ANGUL DISTRICT, ODISHA
164	Dinesh Kumar 2009/DR/0004	20.03.2018	Mining Engineering	Prof. U. K. Singh (Guide)	DESIGN OF CEMENTED ROCK FILL FOR EXTRACTION OF WEAK AND FRAGILE ORE BODY BY UNDERHAND CUT AND FILL METHOD OF MINING
165	Krishnendu Banerjee 2012/DR/1021	20.03.2018	Environmental Science & Engineering	Dr. Manish Kumar Jain (Guide) & Dr. A. T. Jeyaseelan, Consultant, NRSC (External Guide)	GEOSPATIAL TECHNOLOGY FOR PORPHYRY COPPER MAPPING AND ENVIRONMENTAL ASSESSMENT IN SOME PART OF EAST SINGHBHUM DISTRICT, JHARKHAND
166	Bhupal Kumar 2013/DR/0018	20.03.2018	Mechanical Engineering	Dr. S. N. Singh (Guide)	THERMAL AND HYDRAULIC PERFORMANCE ANALYSIS OF A CHEVRON TYPE GASKETED PLATE HEAT EXCHANGER
167	Vikash Kumar 2013/DR/0205	20.03.2018	Electronics Engineering	Prof. Vishnu Priye (Guide)	STUDIES ON GUIDED WAVE SILICON OPTICAL INTERCONNECTS
168	Manowar Hussain 2014/DR/0125	20.03.2018	Mechanical Engineering	Dr. Alok Kumar Das (Guide)	FABRICATION OF METAL MATRIX COMPOSITES THROUGH DIRECT METAL LASER SINTERING PROCESS AND THEIR CHARACTERIZATION
169	Shweta Singh 2013/DR/0231	20.03.2018	Environmental Science & Engineering	Dr. Suresh Pandian Elumalai (Guide) & Prof. A. K. Pal (Co-Guide)	ASSESSMENT OF COAL MINE DERIVED PARTICULATE MATTER DEPOSITION ON NEARBY AREAS OF OPENCAST COAL MINES
170	Richa 2013/DR/0280	20.03.2018	Management Studies	Prof. Chandan Bhar (Guide)	DEVELOPMENT OF DECISION SUPPORT SYSTEM FOR INDIAN MICROFINANCE INSTITUTIONS - A SD BASED APPROACH

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
171	Ravi Roshan 2013/DR/0266	20.03.2018	Applied Geophysics	Dr. Upendra K. Singh (Guide)	MODELLING AND INVERSION OF GRAVITY ANOMALIES USING PARTICLE SWARM OPTIMIZATION AND ITS VARIANTS
172	Pramod Kumar Yadav 2014/DR/0183	20.03.2018	Applied Geophysics	Prof. Shalivahan (Guide)	GEOPHYSICAL INVESTIGATIONS FOR MINERAL PROSPECTING OVER DALMA VOLCANICS, LARGE IGNEOUS PROVINCE, EASTERN INDIA
173	Satya Narayan Bag 2014/DR/1011	20.03.2018	Environmental Science & Engineering	Prof. Asim Kumar Pal (Guide) & Dr. Uday Chand Kumar, NITTTR, Kolkata (External Guide)	ASSESSMENT OF SOCIO ECONOMIC ENVIRONMENT, INDUSTRIAL INJURY AND PROFITABILITY STATUS OF TWO JUTE MILLS OF WEST BENGAL, INDIA
174	Pankaj Kumar Jain 2013/DR/1118	20.03.2018	Fuel and Mineral Engineering	Prof. R. Venugopal (Guide)	PROCESSING STRATEGIES FOR RECOVERY OF IRON VALUES FROM LOW GRADE TAILINGS
175	Subhashree Mishra 2014/DR/1050	20.03.2018	Applied Geology	Prof. Atul Kumar Varma (Guide) & Dr. V. A. Mendhe, CSIR-CIMFR, Dhanbad (External Guide)	GAS RESERVOIR CHARACTERISTICS OF SHALE BEDS IN NORTHERN PART OF RANIGANJ COAL BASIN, WEST BENGAL, INDIA
176	Aveek Mangal 2015/DR/1010	20.03.2018	Mining Engineering	Dr. Partha Sarathi Paul (Guide)	AN INVESTIGATION OF MULTIVARIATE STATISTICAL MODELS TO ESTIMATE THE LIKELIHOOD, SEVERITY AND CAUSATION OF WORK INJURY IN UNDERGROUND COAL MINES.
177	Rohit Kumar Saini 2013/DR/0046	20.03.2018	Electronics Engineering	Dr. Santanu Dwari (Guide)	DESIGN AND CHARACTERIZATION OF HIGH PERFORMANCE CIRCULARLY POLARIZED PLANAR ANTENNAS FOR WIRELESS COMMUNICATION
178	Brajendra Nath Tripathi 2011/DR/0141	20.03.2018	Mechanical Engineering	Dr. N. K. Singh (Guide)	INVESTIGATION OF SURFACE INTEGRITY AND OPTIMIZATION OF PROCESS PARAMETERS OF CYLINDER LINER OF IC ENGINE BY HONING PROCESS USING RSM TECHNIQUE
179	Mahesh Kumar Dubey 2013/DR/0172	20.03.2018	Applied Mathematics	Dr. S. P. Tiwari (Guide)	STUDY OF ALGEBRAIC AND CATEGORICAL ASPECTS OF FUZZY AUTOMATA AND FUZZY LANGUAGES
180	Ashish Kumar 2012/DR/0141	20.03.2018	Applied Chemistry	Dr. Swapan Dey (Guide)	SYNTHESIS OF RHODAMINE, COUMARIN AND BODIPY BASED FLUORESCENT CHEMOSENSORS FOR THE RECOGNITION OF SELECTIVE METAL IONS WITH IN VITRO CELL IMAGING STUDIES

Sl.	Name of the Candidate	Date of Award	Department/ Discipline	Guide (s)	Title of the Thesis
181	Ravi Bhushan 2014/DR/0072	23.03.2018	Electrical Engineering	Dr. Kalyan Chatterjee (Guide)	MODELLING AND CONTROL OF A DOUBLY-FED INDUCTION GENERATOR FOR GRID- CONNECTED WIND ENERGY SYSTEM
182	Siba Mishra 2013/DR/0091	23.03.2018	Computer Science and Engineering	Prof. Chiranjeev Kumar (Guide)	EFFICIENT COST ESTIMATION AND TESTING APPROACHES FOR SOA SYSTEMS
183	Dharmendra Kumar Singh 2011/DR/0110	23.03.2018	Applied Chemistry	Dr. R. P. John (Guide) & Prof. G. Udayabhanu (Co-Guide)	STUDIES ON CORROSION INHIBITION PROPERTIES OF SELECTED NICOTINIC HYDRAZONE COMPOUNDS
184	Butchi Babu Bongu 2014/DR/1020	23.03.2018	Applied Geophysics	Prof. P. K. Khan (Guide) & Dr. P. C. Jha, NIRM, Bangalore (External Guide)	FOUNDATION STABILITY EVALUATION USING ENGINEERING GEOPHYSICAL TECHNIQUES

3.2 Research Publication in Web of Science, USA Database:

One of the major outcomes of research and a key parameter to project Institute's research activities is publications by faculty members in reputed journals that are globally acknowledged for Institute rankings. In the year 2017, total publications of the Institute in Web of Science, USA (SCIE/SSCI journals) database was 1147. The complete list of publications of IIT (ISM) in Web of Science database for the calendar year 2017 is presented below:

1. Addya, S., Dey, S. and Mandal, S. "Optical Ring Resonator Based Temperature Sensor," *SENSING AND IMAGING* (18), 2017.
2. Addya, S., Dey, S. and Mandal, S. "Designing Optical Square Resonator based Filter and Stability Analysis", in Sarkar, A. and Nandi, S., ed., 'PROCEEDINGS OF 2ND INTERNATIONAL CONFERENCE ON 2017 DEVICES FOR INTEGRATED CIRCUIT (DEVIC)', IEEE Kalyani Govt Engn Coll Student Branch Chapter; Kalyani Govt Engn Coll, Dept Elect Commun Engn; IEEE EDS Kolkata Chapter, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd International Conference on Devices for Integrated Circuit (DevIC), Kalyani, INDIA, MAR 23-24, 2017, 2017, pp. 531-535.
3. Adhikari, P. K., Yadav, P. K., Srivastava, S., Maurya, V. P., Singh, S., Tripathi, A., Singh, R. K. and Bage, A. K. "Near-surface high resolution imaging of a metallogenic zone in the northern fringe of Dalma volcanics in eastern India using electrical resistivity tomography," *EXPLORATION GEOPHYSICS* (48:4), 2017, pp. 394-400.
4. Agarwal, V., Bolch, T., Syed, T. H., Pieczonka, T., Strozzi, T. and Nagaich, R. "Area and mass changes of Siachen Glacier (East Karakoram)," *JOURNAL OF GLACIOLOGY* (63:237), 2017, pp. 148-163.
5. Aggarwal, S. K., Pasten, D. and Khan, P. K. "Multifractal analysis of 2001 Mw7.7 Bhuj earthquake sequence in Gujarat, Western India," *PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS* (488), 2017, pp. 177-186.
6. Agrahari, B., Layek, S., Kumari, S., Anuradha, Ganguly, R. and Pathak, D. D. "Synthesis, characterization and crystal structure of Cu(II) complex of trans-cyclohexane-1,2-diamine: Application in synthesis of symmetrical biaryls," *JOURNAL OF MOLECULAR STRUCTURE* (1134), 2017, pp. 85-90.
7. Agrawal, R., Jana, D., Upadhyay, R. K. and Rao, V. S. H. "Complex dynamics of sexually reproductive generalist predator and gestation delay in a food chain model: double Hopf-bifurcation to Chaos," *JOURNAL OF APPLIED MATHEMATICS AND COMPUTING* (55:1-2), 2017, pp. 513-547.
8. Ahirwal, J. and Maiti, S. K. "Assessment of carbon sequestration potential of revegetated coal mine overburden dumps: A chronosequence study from dry tropical climate," *JOURNAL OF ENVIRONMENTAL MANAGEMENT* (201), 2017, pp. 369-377.
9. Ahirwal, J., Maiti, S. K. and Reddy, M. S. "Development of carbon, nitrogen and phosphate stocks of reclaimed coal mine soil within 8 years after forestation with *Prosopis juliflora* (Sw.) Dc.," *CATENA* (156), 2017, pp. 42-50.

10. Ahirwal, J., Maiti, S. K. and Singh, A. K. "Changes in ecosystem carbon pool and soil CO₂ flux following post-mine reclamation in dry tropical environment, India," *SCIENCE OF THE TOTAL ENVIRONMENT* (583), 2017, pp. 153-162.
11. Ahmad, A. and Thyagaraj, K. S. "An empirical comparison of two brand personality scales: Evidence from India," *JOURNAL OF RETAILING AND CONSUMER SERVICES* (36), 2017, pp. 86-92.
12. Ahmad, E., Majee, K., Patel, J., Das, B. and Padhi, S. K. "Competent Electrocatalytic and Photocatalytic Proton Reduction by a Dechelated [Co(tpy)(2)](2+) Scaffold," *EUROPEAN JOURNAL OF INORGANIC CHEMISTRY* (:28), 2017, pp. 3409-3418.
13. Ahmad, I., Kummari, K., Singh, V. and Jayswal, A. "Optimality and Duality for Nonsmooth Minimax Programming Problems Using Convexifactor," *FILOMAT* (31:14), 2017, pp. 4555-4570.
14. Akhil, J. and Parvatha, S. K. A. "Dynamic Traffic Control System Based on SONARS" 2017 IEEE INTERNATIONAL CONFERENCE ON SMART TECHNOLOGIES AND MANAGEMENT FOR COMPUTING, COMMUNICATION, CONTROLS, ENERGY AND MATERIALS (ICSTM)', IEEE; IEEE Madras Sect; Veltech Dr RR and Dr SR Univ; Oklahoma State Univ, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE International Conference on Smart Technologies and Management for Computing, Communication, Controls, Energy and Materials (ICSTM), Chennai, INDIA, AUG 02-04, 2017, 2017, pp. 385-388.
15. Alam, P., Kundu, S. and Gupta, S. "Dispersion and attenuation of torsional wave in a viscoelastic layer bonded between a layer and a half-space of dry sandy media," *APPLIED MATHEMATICS AND MECHANICS-ENGLISH EDITION* (38:9), 2017, pp. 1313-1328.
16. Ali, M., Paul, S. and Chatterjee, R. "Cleat Orientation from Ground Mapping and Image Log Studies for In Situ Stress Analysis: Coal Bed Methane Exploration in South Karanpura Coalfield, India," *ENERGY & FUELS* (31:7), 2017, pp. 6812-6824.
17. Ali, R. and Pal, A. K. "A Secure and Robust Three-Factor Based Authentication Scheme Using RSA Cryptosystem," *International Journal of Business Data Communications and Networking* (13:1), 2017, pp. 74--84.
18. Ali, R. and Pal, A. K. "Three-Factor-Based Confidentiality-Preserving Remote User Authentication Scheme in Multi-server Environment," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:8), 2017, pp. 3655-3672.
19. Ali, S., Kumari, M., Gupta, S. K., Sinha, A. and Mishra, B. K. "Investigation and mapping of fluoride-endemic areas and associated health risk A case study of Agra, Uttar Pradesh, India," *Human and Ecological Risk Assessment* (23:3), 2017, pp. 590--604.
20. Ambast, A. K. and Sharma, S. K. "Calculation of Spectral Parameters for Doped/Codoped MWO₄ (M = Ba²⁺/Ca²⁺) Phosphors," *JOURNAL OF ELECTRONIC MATERIALS* (46:8), 2017, pp. 4883-4890.

21. Ambast, A. K. and Sharma, S. K. "Variation of trap depth by dopant/codopant and heating rate in CaWO₄ phosphors," *OPTICAL AND QUANTUM ELECTRONICS* (49:2), 2017.
22. Amgoth, T. and Jana, P. K. "Coverage hole detection and restoration algorithm for wireless sensor networks," *Peer-to-peer Networking and Applications* (10:1), 2017, pp. 66--78.
23. Amin, R., Islam, S. K. H., Obaidat, M. S., Biswas, G. P. and Hsiao, K.-F. "An anonymous and robust multi-server authentication protocol using multiple registration servers," *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS* (30:18), 2017.
24. Anand, V., Singh, P. K., Banerjee, C. and Shukla, P. "Proteomic approaches in microalgae: perspectives and applications," *3 BIOTECH* (7), 2017.
25. Ankur "Self-dual codes over the ring $GR(p(m), g)$ and Jacobi forms," *ASIAN-EUROPEAN JOURNAL OF MATHEMATICS* (10:3), 2017.
26. Antony, J., Mathuria, D. S., Chaudhary, A., Datta, T. S. and Maity, T. "Design details of Intelligent Instruments for PLC-free Cryogenic measurements, control and data acquisition", *26th International Cryogenic Engineering Conference & International Cryogenic Materials Conference 2016* 171, Iop Publishing Ltd, 2017, pp. UNSP 012125.
27. Anudeep, B. and Nayak, P. K. "A Passive Islanding Detection Technique for Distributed Generations" "2017 7TH INTERNATIONAL CONFERENCE ON POWER SYSTEMS (ICPS)", Coll Engn, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 7th International Conference on Power Systems (ICPS), Pune, INDIA, DEC 21-23, 2017, 2017, pp. 732-736.
28. Anuradha, Kumari, S., Layek, S. and Pathak, D. D. "Palladium nanoparticles immobilized on a magnetic chitosan-anchored Schiff base: applications in Suzuki-Miyaura and Heck-Mizoroki coupling reactions," *NEW JOURNAL OF CHEMISTRY* (41:13), 2017, pp. 5595-5604.
29. Anuradha, Kumari, S., Layek, S. and Pathak, D. D. "Chitosan supported Zn(II) mixed ligand complexes as heterogeneous catalysts for one-pot synthesis of amides from ketones via Beckmann rearrangement," *JOURNAL OF MOLECULAR STRUCTURE* (1130), 2017, pp. 368-373.
30. Anuradha, Layek, S., Agrahari, B. and Pathak, D. D. "Chitosan-Supported Copper(II) Schiff Base Complexes: Applications in Synthesis of 5-Substituted 1H-Tetrazoles and Oxidative Homo-Coupling of Terminal Alkynes," *CHEMISTRYSELECT* (2:23), 2017, pp. 6865-6876.
31. Aravind, A. and Rinku, M. A. R. "Beyond the Figure of the Husband: Television Serials and the Cultural Image of the Malayali," *FORUM FOR WORLD LITERATURE STUDIES* (9:2), 2017, pp. 317-332.
32. Arjun, K. S. and Kumar, R. "Performance Index in MHD Duct Nanofluid Flow Past a Bluff Body at High Re," *Strojniski Vestnik-journal of Mechanical Engineering* (63:4), 2017, pp. 235-247.
33. Arjun, K. S. and Kumar, R. "LBM Analysis of Micro-Convection in MHD Nanofluid Flow," *STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING* (63:7-8), 2017, pp. 426-438.

34. Arjun, K. S. and Rakesh, K. "Heat Transfer Enhancement Using Alumina Nanofluid in Circular Micro Channel," *Journal of Engineering Science and Technology* (12:1), 2017, pp. 265--279.
35. Arun, A. and Singh, K. K. "Friction and Wear Behaviour of Glass Fibre Reinforced Polymer Composite (GFRP) under Dry and Oil Lubricated Environmental Conditions," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 7285-7292.
36. Ashrit, S., Banerjee, P. K., Nair, U. G. and Rayasam, V. "Thermogravimetric analysis of LD slag waste fines in the range of 0-6mm and establishing the correlation between free lime and weight loss of LD slag fines," *METALLURGICAL RESEARCH & TECHNOLOGY* (114:3), 2017.
37. Askari, S. S. A., Kumar, M. and Das, M. K. "Performance Analysis of Perovskite on Si Tandem Solar Cell," *MATERIALS TODAY-PROCEEDINGS* (4:14), 2017, pp. 12647-12650.
38. Azad, M. L., Das, S., Sadhu, P. K., Satpati, B., Gupta, A. and Arvind, P. "P&O algorithm based MPPT technique for solar PV System under different weather conditions" *PROCEEDINGS OF 2017 IEEE INTERNATIONAL CONFERENCE ON CIRCUIT ,POWER AND COMPUTING TECHNOLOGIES (ICCPCT)*, Baselios Mathews II Coll Engn; IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE International Conference on Circuit ,Power and Computing Technologies (ICCPCT), Kollam, INDIA, APR 20-21, 2017, 2017.
39. Azam, M. and Rai, V. K. "Ho³⁺-Yb³⁺ codoped tellurite based glasses in visible lasers and optical devices: Judd-Ofelt analysis and frequency upconversion," *SOLID STATE SCIENCES* (66), 2017, pp. 7-15.
40. Azam, M., Rai, V. K. and Mohanty, D. K. "Spectroscopy and enhanced frequency upconversion in Nd³⁺-Yb³⁺ codoped TPO glasses: energy transfer and NIR to visible upconverter," *METHODS AND APPLICATIONS IN FLUORESCENCE* (5:3), 2017.
41. Azam, M. S., Ranjan, V. and Kumar, B. "Free Vibration Analysis of Rhombic Plate with Central Crack," *INTERNATIONAL JOURNAL OF ACOUSTICS AND VIBRATION* (22:4), 2017, pp. 481-492.
42. Azharuddin, M. and Jana, P. K. "PSO-based approach for energy-efficient and energy-balanced routing and clustering in wireless sensor networks," *SOFT COMPUTING* (21:22), 2017, pp. 6825-6839.
43. Babu, R. and Bhattacharyya, B. "Weak Bus-Oriented Installation of Phasor Measurement Unit for Power Network Observability," *INTERNATIONAL JOURNAL OF EMERGING ELECTRIC POWER SYSTEMS* (18:5), 2017.
44. Bagchi, S., Sengupta, S. and Mandal, S. "Development and Characterization of a Wireless Mouse-Based Spirometer," *IEEE SENSORS JOURNAL* (17:7), 2017, pp. 2065-2073.
45. Bagchi, S., Sengupta, S. and Mondal, S. "Development and Characterization of Carbonic Anhydrase-Based CO₂ Biosensor for Primary Diagnosis of Respiratory Health," *IEEE SENSORS JOURNAL* (17:5), 2017, pp. 1384-1390.

46. Bage, A. and Das, S. "A Compact Waveguide Bandpass Filter Using Hybrid Combination of CSRR and Koch Fractal," *WIRELESS PERSONAL COMMUNICATIONS* (97:2), 2017, pp. 2859-2869.
47. Bage, A. and Das, S. "Stopband Performance Improvement of CSRR-Loaded Waveguide Bandpass Filters Using Asymmetric Slot Structures," *IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS* (27:8), 2017, pp. 697-699.
48. Bage, A. and Das, S. "Three Pole Wideband Waveguide Bandpass Filter using Split Ring Resonator Integrated Circular Fractal Shape," *FREQUENZ* (71:7-8), 2017, pp. 317-322.
49. Bage, A. and Das, S. "Compact Triple-Band Waveguide Bandpass Filter Using Concentric Multiple Complementary Split Ring Resonators," *JOURNAL OF CIRCUITS SYSTEMS AND COMPUTERS* (26:6), 2017.
50. Bage, A. and Das, S. "A Frequency Reconfigurable Dual Pole Dual Band Bandpass Filter for X-Band Applications," *PROGRESS IN ELECTROMAGNETICS RESEARCH LETTERS* (66), 2017, pp. 53-58.
51. Baishya, N., Das, R. R. and Panigrahi, S. K. "Failure analysis of adhesively bonded tubular joints of laminated FRP composites subjected to combined internal pressure and torsional loading," *JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY* (31:19-20, SI), 2017, pp. 2139-2163.
52. Bandyopadhyay, A. and Singh, G. N. "Efficient Rotation Pattern in Two - Phase Sampling," *JOURNAL OF STATISTICAL THEORY AND APPLICATIONS* (16:2), 2017, pp. 261-268.
53. Banerjee, A., Maiti, S. K., Guria, C. and Banerjee, C. "Metabolic pathways for lipid synthesis under nitrogen stress in *Chlamydomonas* and *Nannochloropsis*," *Biotechnology Letters* (39:1), 2017, pp. 1--11.
54. Banerjee, C. M., Saurabh, Baral, A. and Chakravorti, S. "Influence of Insulation Model Parameters on Transfer Function Zero Evaluated for Diagnosis of Oil-paper Insulation" "2017 3RD INTERNATIONAL CONFERENCE ON CONDITION ASSESSMENT TECHNIQUES IN ELECTRICAL SYSTEMS (CATCON)", Indian Inst Technol Ropar; IEEE Dielectr and Electrl Insulat Soc; IEEE Kolkata Sect DEIS Chapter; IEEE Delhi Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 3rd International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), Indian Inst Technol Ropar, Rupnagar, INDIA, NOV 16-18, 2017, 2017, pp. 375-379.
55. Banerjee, S., Kumar, R., Akhtar, A., Bairagi, R., Mandal, A. and Naiya, T. K. "Effect of pour point depressant on wax deposition and drag reduction in horizontal pipelines," *Petroleum Science and Technology* (35:6), 2017, pp. 561--569.
56. Banerjee, S., Kumar, S., Mandal, A. and Naiya, T. K. "Design of novel chemical solvent for treatment of waxy crude," *INTERNATIONAL JOURNAL OF OIL GAS AND COAL TECHNOLOGY* (15:4), 2017, pp. 363-379.

57. Banerjee, S., Mondal, S., Madhuri, R. and Sharma, P. K. "Electrochemical Performance of Ag Nanoparticle Decorated Reduced Graphene Oxide in Determination of Anticancer Drug Flutamide", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
58. Bariha, N., Srivastava, V. C. and Mishra, I. M. "Theoretical and experimental studies on hazard analysis of LPG/LNG release: a review," *REVIEWS IN CHEMICAL ENGINEERING* (33:4), 2017, pp. 387-432.
59. Beck, A. R., Das, S. and Manam, J. "Temperature dependent photoluminescence of Dy³⁺ doped LiCaBO₃ phosphor," *JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS* (28:22), 2017, pp. 17168-17176.
60. Bera, A., Mandal, A., Belhaj, H. and Kumar, T. "Enhanced oil recovery by nonionic surfactants considering micellization, surface, and foaming properties," *PETROLEUM SCIENCE* (14:2), 2017, pp. 362-371.
61. Bhaduri, B., Shelton, R. L., Nolan, R. M., Hendren, L., Almasov, A., Labriola, L. T. and Boppart, S. A. "Ratiometric analysis of optical coherence tomography-measured in vivo retinal layer thicknesses for the detection of early diabetic retinopathy," *JOURNAL OF BIOPHOTONICS* (10:11, SI), 2017, pp. 1430-1441.
62. Bhakta, S. and Mukherjee, V. "Techno-economic viability analysis of fixed-tilt and two axis tracking stand-alone photovoltaic power system for Indian bio-climatic classification zones," *Journal of Renewable and Sustainable Energy* (9:1), 2017, pp. 015902.
63. Bhakta, S. and Mukherjee, V. "Performance indices evaluation and techno economic analysis of photovoltaic power plant for the application of isolated India's island," *SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS* (20), 2017, pp. 9-24.
64. Bhardwaj, V., Kishor, K. and Singh, V. K. "Experimental and Theoretical Analysis of Connector Offset Optical Fiber Refractive Index Sensor," *PLASMONICS* (12:6), 2017, pp. 1999-2004.
65. Bhardwaj, V., Pathak, A. K. and Singh, V. K. "No-core fiber-based highly sensitive optical fiber pH sensor," *JOURNAL OF BIOMEDICAL OPTICS* (22:5), 2017.
66. Bhardwaj, V. and Singh, V. K. "A novel use of etched multi-mode fibre as magnetic field sensor," *IET OPTOELECTRONICS* (11:6), 2017, pp. 248-252.
67. Bhardwaj, V. and Singh, V. K. "Optical fiber cone taper tip sensor for refractive index measurement," *INDIAN JOURNAL OF PURE & APPLIED PHYSICS* (55:5), 2017, pp. 345-348.
68. Bhardwaj, V. and Singh, V. K. "Study of liquid sealed no-core fiber interferometer for sensing applications," *SENSORS AND ACTUATORS A-PHYSICAL* (254), 2017, pp. 95-100.
69. Bhaskar, D. V., Vishwanathan, N., Maity, T. and Porpandiselvi, S. "Hybrid controlled dual frequency inverter for two load induction cooking application," *EPE JOURNAL* (27:2), 2017, pp. 60-73.

70. Bhattacharjee, A., Jose, J., Vishwakarma, G. K. and Kumar, R. "Joint modeling of missing and mismeasured measurements for computing radiotherapy margins," *CLINICAL EPIDEMIOLOGY AND GLOBAL HEALTH* (5:3), 2017, pp. 124-130.
71. Bhattacharjee, C., Saxena, V. K. and Dutta, S. "Watermelon juice concentration using ultrafiltration: Analysis of sugar and ascorbic acid," *FOOD SCIENCE AND TECHNOLOGY INTERNATIONAL* (23:7), 2017, pp. 637-645.
72. Bhattacharjee, C., Saxena, V. K. and Dutta, S. "Fruit juice processing using membrane technology: A review," *INNOVATIVE FOOD SCIENCE & EMERGING TECHNOLOGIES* (43), 2017, pp. 136-153.
73. Bhattacharjee, J., Harinath, A., Nayek, H. P., Sarkar, A. and Panda, T. K. "Highly Active and Iso-Selective Catalysts for the Ring-Opening Polymerization of Cyclic Esters using Group 2 Metal Initiators," *CHEMISTRY-A EUROPEAN JOURNAL* (23:39), 2017, pp. 9319-9331.
74. Bhattacharjee, S., Singh, Y. J. and Ray, D. "Comparative Performance Analysis of Machine Learning Classifiers on Ovarian Cancer Dataset", in Bhattacharyya, S., Pan, I., Piuri, V., Panigrahi, B. K., Gandhi, T., Maulik, U., Bhattacharjee, D., Mukherjee, A., Mondal, A., Das, A. and Bhaumik, H., ed., '2017 THIRD IEEE INTERNATIONAL CONFERENCE ON RESEARCH IN COMPUTATIONAL INTELLIGENCE AND COMMUNICATION NETWORKS (ICRCICN)', RCC Inst Informat Technol, Dept Informat Technol; Govt India, Minist Sci Technol, Dept Sci Technol; Sci Engn Res Board; IEEE; All India Council for Tech Educ, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 3rd International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), Kolkata, INDIA, NOV 03-05, 2017, 2017, pp. 213-218.
75. Bhattacharya, R., Kumar, S. and Biswas, S. "Resource optimization for emulation of behavioral models of mixed signal circuits on FPGA: a case study of DC-DC buck converter," *INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS* (45:11), 2017, pp. 1701-1741.
76. Bhattacharya, R., Ragamai, S. H. M. and Kumar, S. "SFG Based Fault Simulation of Linear Analog Circuits Using Fault Classification and Sensitivity Analysis", in Kaushik, B. K., Dasgupta, S. and Singh, V., ed., 'VLSI DESIGN AND TEST', Indian Inst Technol Roorkee, Dept Elect Commun Engr; Govt India, Minist Elect Informat Technol; VLSI Soc India; CSIR India; HP; Cadence; Springer; IEEE CAS SSC, Roorkee Chapter; IEEE UP Sect; Tektronix; ISRO; REDINGTON; Eigen; FOREVISION; IEEE Circuits Syst Soc; IEEE Elect Devices Soc; CCiS, SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, D-14197 BERLIN, GERMANY, 21st International Symposium on VLSI Design and Test (VDAT), Indian Inst Technol Roorkee, Roorkee, INDIA, JUN 29-JUL 02, 2017, 2017, pp. 179-190.
77. Bhattacharya, S., Jyoti, D., Sahu, L., Dey, S. and Singh, H. "Flotation of Low Volatile Coking Coal Fines," *TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS* (70:2), 2017, pp. 421-432.
78. Bhattacharyya, B. and Raj, S. "Differential Evolution Technique for the Optimization of Reactive Power Reserves," *JOURNAL OF CIRCUITS SYSTEMS AND COMPUTERS* (26:10), 2017.

79. Bhaumik, A. K., Kumar, S., Ray, S., Vishwakarma, G. K., Gupta, A. K., Kumar, P. and Sain, K. "Stable carbon and oxygen isotope study on benthic foraminifera: Implication for microhabitat preferences and interspecies correlation," *JOURNAL OF EARTH SYSTEM SCIENCE* (126:5), 2017.
80. Bhaumik, A. K., Paikray, J., Dutta, J., Mitra, A., Tiwari, D. and Patil, D. J. "Biostratigraphy and depositional environment of the Miocene limestone bed of Baripada, Mayurbhanj district, Odisha: Foraminiferal, sedimentological and bulk organic geochemical evidences," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:4), 2017, pp. 437-446.
81. Bhaumik, K., Datta, A. and Sadhu, P. K. "ANALYSIS OF LEAKAGE INDUCTANCE FOR MULTI-ZONE INDUCTION HEATER," *REVUE ROUMAINE DES SCIENCES TECHNIQUES-SERIE ELECTROTECHNIQUE ET ENERGETIQUE* (62:4), 2017, pp. 388-393.
82. Bhowmick, T., Nayak, B. and Varma, A. K. "Chemical and mineralogical composition of Kathara Coal, East Bokaro Coalfield, India," *FUEL* (208), 2017, pp. 91-100.
83. Bhushan, R. and Chatterjee, K. "Mathematical modeling and control of DFIG-based wind energy system by using optimized linear quadratic regulator weight matrices," *INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS* (27:11), 2017.
84. Bhushan, R. and Chatterjee, K. "Effects of parameter variation in DFIG-based grid connected system with a FACTS device for small-signal stability analysis," *IET GENERATION TRANSMISSION & DISTRIBUTION* (11:11), 2017, pp. 2762-2777.
85. Bhushan, S., Syed, T. H., Kulkarni, A. V., Gantayat, P. and Agarwal, V. "Quantifying Changes in the Gangotri Glacier of Central Himalaya: Evidence for Increasing Mass Loss and Decreasing Velocity," *IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING* (10:12, 1), 2017, pp. 5295-5306.
86. Bhuyan, R. K., Kumar, T. S. and Pamu, D. "Liquid phase effect of Bi₂O₃ additive on densification, microstructure and microwave dielectric properties of Mg₂TiO₄ ceramics," *FERROELECTRICS* (516:1), 2017, pp. 173-184.
87. Billaha, M. A., Das, M. K. and Kumar, S. "Doping dependent frequency response of MQW infrared photodetector," *SUPERLATTICES AND MICROSTRUCTURES* (104), 2017, pp. 128-139.
88. Biswal, S. P. and Das, S. "A Dual Band MIMO PIFA for WLAN Application" "2017 USNC-URSI RADIO SCIENCE MEETING (JOINT WITH AP-S SYMPOSIUM)", IEEE Antennas Propagat Soc; Inst Elect Elect Engineers; USNC; URSI, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Symposium of IEEE-Antennas-and-Propagation-Society / USNC/URSI National Radio Science Meeting, San Diego, CA, JUL 09-14, 2017, 2017, pp. 121-122.
89. Biswas, A., Pal, S. and Udayabhanu, G. "Effect of chemical modification of a natural polysaccharide on its inhibitory action on mild steel in 15% HCl solution," *JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY* (31:22), 2017, pp. 2468-2489.

90. Biswas, S., Jimenez, C., Khan, A., Forissier, S., Kar, A. K., Munoz-Rojas, D. and Deschanvres, J.-L. "Structural study of TiO₂ hierarchical microflowers grown by aerosol-assisted MOCVD," *CRYSTENGCOMM* (19:11), 2017, pp. 1535-1544.
91. Bokolia, R., Mondal, M., Rai, V. K. and Sreenivas, K. "Enhanced infrared-to-visible up-conversion emission and temperature sensitivity in (Er³⁺, Yb³⁺, and W⁶⁺) tri-doped Bi₄Ti₃O₁₂ ferroelectric oxide," *JOURNAL OF APPLIED PHYSICS* (121:8), 2017.
92. Butchibabu, B., Sandeep, N., Sivaram, Y. V., Jha, P. C. and Khan, P. K. "Bridge pier foundation evaluation using cross-hole seismic tomographic imaging," *JOURNAL OF APPLIED GEOPHYSICS* (144), 2017, pp. 104-114.
93. Catherine, J. K., Maheshwari, D. U., Gahalaut, V. K., Roy, P. N. S., Khan, P. K. and Puviarasan, N. "Ionospheric disturbances triggered by the 25 April, 2015 M7.8 Gorkha earthquake, Nepal: Constraints from GPS TEC measurements," *Journal of Asian Earth Sciences* (133), 2017, pp. 80--88.
94. Chack, D., Kumar, V., Raghuwanshi, S. K. and Singh, D. P. "Design and analysis of O-S-C triple band wavelength division demultiplexer using cascaded MMI couplers," *Optics Communications* (382), 2017, pp. 324--331.
95. Chaitanya, P., Joseph, P., Narayanan, S., Vanderwel, C., Turner, J., Kim, J. W. and Ganapathisubramani, B. "Performance and mechanism of sinusoidal leading edge serrations for the reduction of turbulence-aerofoil interaction noise," *JOURNAL OF FLUID MECHANICS* (818), 2017, pp. 435-464.
96. Chakrabarti, A., Chakraborty, A. and Sadhu, P. K. "A Fuzzy Self-Tuning PID Controller with a Derivative Filter for Power Control in Induction Heating Systems," *JOURNAL OF POWER ELECTRONICS* (17:6), 2017, pp. 1577-1586.
97. Chakraborty, A., Roy, D., Nag, T. K., Sadhu, P. K. and Pal, N. "Open Loop Power Control of a Two-output Induction Heater," *Revue Roumaine Des Sciences Techniques-serie Electrotechnique Et Energetique* (62:1), 2017, pp. 48--54.
98. Chakraborty, A., Royi, D., Sadhu, P. K., Ganguly, A. and Banerjee, A. "An Interference of High Frequency Series Resonant Inverter in Domestic Induction Heater Estimation in Emission Control Using FEM," *JOURNAL OF POWER TECHNOLOGIES* (97:4), 2017, pp. 283-288.
99. Chakraborty, D., Pramanik, R. and Bag, S. "A Novel Approach towards Segmentation of Connected Handwritten Numerals", in Gupta, P. K., Singh, A. K., Tyagi, V. and Ghrera, S. P., ed., '2017 FOURTH INTERNATIONAL CONFERENCE ON IMAGE INFORMATION PROCESSING (ICIIP)', IEEE JUIT STUDENT BRANCH; Govt India, Minist Home Affairs; IEEE Delhi Sect; JAYPEE GRP; Comp Soc India; IEEE; Govt India, Minist External Affairs; JAYPEE UNIV INFORMAT TECHNOL, Dept CSE IT, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 4th International Conference on Image Information Processing (ICIIP), JAYPEE UNIV INFORMAT TECHNOL, WAKNAGHAT, INDIA, DEC 21-23, 2017, 2017, pp. 340-344.

100. Chakraborty, K., Mondal, S. and Mukherjee, K. "Analysis of product design characteristics for remanufacturing using Fuzzy AHP and Axiomatic Design," *Journal of Engineering Design* (28:5), 2017, pp. 338--368.
101. Chakraborty, M. and Rai, V. K. "Theoretical study of diaquamalonatozinc(II) single crystal for applications in non-linear optical devices," *PRAMANA-JOURNAL OF PHYSICS* (89:6), 2017.
102. Chakraborty, S., Islam, M. R. I., Shaw, A., Ramachandra, L. S. and Reid, S. R. "A computational framework for modelling impact induced damage in ceramic and ceramic-metal composite structures," *COMPOSITE STRUCTURES* (164), 2017, pp. 263-276.
103. Chand, S., Paul, B. and Kumar, M. "Short-term leaching study of heavy metals from LD slag of important steel industries in Eastern India," *JOURNAL OF MATERIAL CYCLES AND WASTE MANAGEMENT* (19:2), 2017, pp. 851-862.
104. Chanda, K. and Maity, R. "Assessment of Trend in Global Drought Propensity in the Twenty-First Century Using Drought Management Index," *WATER RESOURCES MANAGEMENT* (31:4), 2017, pp. 1209-1225.
105. Chandanpurkar, H. A., Reager, J. T., Famiglietti, J. S. and Syed, T. H. "Satellite- and Reanalysis-Based Mass Balance Estimates of Global Continental Discharge (1993-2015)," *JOURNAL OF CLIMATE* (30:21), 2017, pp. 8481-8495.
106. Chandra, A., Agarwal, A., Shalivahan and Singh, R. K. "Grey wolf optimisation for inversion of layered earth geophysical datasets," *NEAR SURFACE GEOPHYSICS* (15:5), 2017, pp. 499-513.
107. Chandra, A. and Das, S. "Superstrate and CSRR Loaded Circularly Polarized Dual-Band Open-Ended Waveguide Antenna With Improved Radiation Characteristics and Polarization Reconfiguration Property," *IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION* (65:10), 2017, pp. 5559-5564.
108. Chandra, A. and Das, S. "Application of SRR to achieve performance improvement and multi-band characteristics in aperture antennas," *IET MICROWAVES ANTENNAS & PROPAGATION* (11:7), 2017, pp. 990-996.
109. Chandra, A. and Das, S. "Application of SRRs in conventional waveguide slot array to achieve performance improvement and dual-band characteristics," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:5), 2017, pp. 1085-1091.
110. Chandra, S., Chowdhuri, A. R., Mahto, T. K. and Sahu, S. K. "Nanostructured Fe₃O₄@Fe₂O₃/Carbon Dots Heterojunction for Efficient Photocatalyst Under Visible Light," *JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY* (17:2), 2017, pp. 1116-1124.
111. Chandra, S. and Maheshkar, S. "Static Signature Verification Based on Texture Analysis Using Support Vector Machine," *International Journal of Multimedia Data Engineering & Management* (8:2), 2017, pp. 22--32.

112. Chandra, S. and Maheshkar, S. "Verification of static signature pattern based on random subspace, REP tree and bagging," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:18), 2017, pp. 19139-19171.
113. Chandra, S., Mahto, T. K., Chowdhuri, A. R., Das, B. and Sahu, S. K. "One step synthesis of functionalized carbon dots for the ultrasensitive detection of Escherichia coli and iron (III)," *SENSORS AND ACTUATORS B-CHEMICAL* (245), 2017, pp. 835-844.
114. Chandrakar, P. and Om, H. "Cryptanalysis and Security Enhancement of Three-Factor Remote User Authentication Scheme for Multi-Server Environment," *International Journal of Business Data Communications and Networking* (13:1), 2017, pp. 85--101.
115. Chandrakar, P. and Om, H. "Cryptanalysis and improvement of a biometric-based remote user authentication protocol usable in a multiserver environment," *TRANSACTIONS ON EMERGING TELECOMMUNICATIONS TECHNOLOGIES* (28:12), 2017.
116. Chandrakar, P. and Om, H. "A secure and robust anonymous three-factor remote user authentication scheme for multi-server environment using ECC," *COMPUTER COMMUNICATIONS* (110), 2017, pp. 26-34.
117. Chandrakar, P. and Om, H. "Cryptanalysis and Extended Three-Factor Remote User Authentication Scheme in Multi-Server Environment," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:2), 2017, pp. 765-786.
118. Chandrashekar, V. D., Shetty, A., Singh, B. B. and Sharma, S. "Spatio-temporal precipitation variability over Western Ghats and Coastal region of Karnataka, envisaged using high resolution observed gridded data," *MODELING EARTH SYSTEMS AND ENVIRONMENT* (3:4), 2017, pp. 1611-1625.
119. Chandravanshi, M. L. and Mukhopadhyay, A. K. "Analysis of variations in vibration behavior of vibratory feeder due to change in stiffness of helical springs using FEM and EMA methods," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:9), 2017, pp. 3343-3362.
120. Chandravanshi, M. L. and Mukhopadhyay, A. K. "Modal Analysis of a Vertically Tapered Frame," *INTERNATIONAL JOURNAL OF STRUCTURAL STABILITY AND DYNAMICS* (17:3), 2017.
121. Chandravanshi, M. L. and Mukhopadhyay, A. K. "Dynamic analysis of vibratory feeder and their effect on feed particle speed on conveying surface," *MEASUREMENT* (101), 2017, pp. 145-156.
122. Chatterjee, A., Singh, G. N. and Bandyopadhyay, A. "A Class of Exponential Regression Type Estimators for Population Variance in Two-Phase Sampling," *JOURNAL OF STATISTICAL THEORY AND APPLICATIONS* (16:4), 2017, pp. 565-575.
123. Chatterjee, A., Singh, G. N., Bandyopadhyay, A. and Mukhopadhyay, P. "A general procedure for estimating population variance in successive sampling using fuzzy tools," *HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS* (46:4), 2017, pp. 695-712.

124. Chatterjee, D., Halder, T., Pathak, N. P., Paul, A., Rajkamal and Yadav, S. "DAIB/TEMPO mediated synthesis of anomeric lactones from anomeric hydroxides," *TETRAHEDRON LETTERS* (58:20), 2017, pp. 1943-1946.
125. Chatterjee, M. and Chattopadhyay, A. "Effect of moving load due to irregularity in ice sheet floating on water," *ACTA MECHANICA* (228:5), 2017, pp. 1749-1765.
126. Chatterjee, M., Chattopadhyay, A. and Dhua, S. "Shear wave propagation in viscoelastic heterogeneous layers lying over an initially stressed half-space," *MECHANICS OF ADVANCED MATERIALS AND STRUCTURES* (24:15), 2017, pp. 1247-1256.
127. Chatterjee, R., Gupta, S. D. and Mandal, P. P. "Fracture and Stress Orientation from Borehole Image Logs: A Case Study from Cambay Basin, India," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (89:5), 2017, pp. 573-580.
128. Chatterjee, R. S., Singh, N., Thapa, S., Sharma, D. and Kumar, D. "Retrieval of land surface temperature (LST) from landsat TM6 and TIRS data by single channel radiative transfer algorithm using satellite and ground-based inputs," *INTERNATIONAL JOURNAL OF APPLIED EARTH OBSERVATION AND GEOINFORMATION* (58), 2017, pp. 264-277.
129. Chatterjee, S., Chaudhuri, B., Bhar, C. and Shukla, A. "Estimation of Software Reliability and Development Cost Using Interval Type-2 Fuzzy AHP", in Khatri, S. K., Kapur, R. K., Rana, A., Singh, S. and Kapur, P. K., ed., '2017 INTERNATIONAL CONFERENCE ON INFOCOM TECHNOLOGIES AND UNMANNED SYSTEMS (TRENDS AND FUTURE DIRECTIONS) (ICTUS)', Amity Univ, Amity Directorate Engn Technol; IEEE UAE Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Infocom Technologies and Unmanned Systems (Trends and Future Directions) (ICTUS), Amity Univ, Dubai, U ARAB EMIRATES, DEC 18-20, 2017, 2017, pp. 682-688.
130. Chatterjee, S. and Mukherjee, V. "Comparative Performance Analysis of Classical Controllers for Automatic Voltage Regulator" "2017 7TH INTERNATIONAL CONFERENCE ON POWER SYSTEMS (ICPS)", Coll Engn, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 7th International Conference on Power Systems (ICPS), Pune, INDIA, DEC 21-23, 2017, 2017, pp. 296-301.
131. Chatterjee, S., Nigam, S. and Roy, A. "Software fault prediction using neuro-fuzzy network and evolutionary learning approach," *NEURAL COMPUTING & APPLICATIONS* (28:1), 2017, pp. S1221-S1231.
132. Chatterjee, S., Ramana, V. B., Vishwakarma, G. K. and Verma, A. "AN IMPROVED ALGORITHM FOR K-TERMINAL PROBABILISTIC NETWORK RELIABILITY ANALYSIS," *JOURNAL OF RELIABILITY AND STATISTICAL STUDIES* (10:1), 2017, pp. 15-26.

133. Chatterjee, S., Sarkar, S., Dey, N., Sen, S., Goto, T. and Debnath, N. G. "Water Quality Prediction: Multi Objective Genetic Algorithm coupled Artificial Neural Network based approach" 2017 IEEE 15TH INTERNATIONAL CONFERENCE ON INDUSTRIAL INFORMATICS (INDIN)', Inst Elect Elect Engineers; Inst fur Informatik Automatisierungstechnik Robotik; Inst Elect Elect Engineers Ind Elect Soc; Univ Nova Lisboa, Faculdade Ciencias Tecnologia, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 15th IEEE International Conference on Industrial Informatics (INDIN), Univ Appl Sci Emden Leer, Emden, GERMANY, JUL 24-26, 2017, 2017, pp. 963-968.
134. Chatterjee, S., Sarkar, S., Hore, S., Dey, N., Ashour, A. S., Shi, F. and Le, D.-N. "Structural failure classification for reinforced concrete buildings using trained neural network based multi-objective genetic algorithm," *STRUCTURAL ENGINEERING AND MECHANICS* (63:4), 2017, pp. 429-438.
135. Chatterjee, S. and Shukla, A. "An Ideal Software Release Policy for an Improved Software Reliability Growth Model Incorporating Imperfect Debugging with Fault Removal Efficiency and Change Point," *ASIA-PACIFIC JOURNAL OF OPERATIONAL RESEARCH* (34:3, SI), 2017.
136. Chaudhary, S. and Sahu, S. A. "Influence of Surface Waves in Magnetoelastic Half-Space with Gravity", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1014--1020.
137. Chaudhary, S., Sahu, S. A. and Singhal, A. "Analytic model for Rayleigh wave propagation in piezoelectric layer overlaid orthotropic substratum," *ACTA MECHANICA* (228:2), 2017, pp. 495-529.
138. Chaudhuri, H., Dash, S., Gupta, R., Pathak, D. D. and Sarkar, A. "Room-Temperature In-Situ Design and Use of Graphene Oxide-SBA-16 Composite for Water Remediation and Reusable Heterogeneous Catalysis," *CHEMISTRYSELECT* (2:5), 2017, pp. 1835-1842.
139. Chaudhuri, H., Dash, S. and Sarkar, A. "Single-Step Room-Temperature in Situ Syntheses of Sulfonic Acid Functionalized SBA-16 with Ordered Large Pores: Potential Applications in Dye Adsorption and Heterogeneous Catalysis," *INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH* (56:11), 2017, pp. 2943-2957.
140. Chauhan, G., Ojha, K. and Baruah, A. "EFFECTS OF NANOPARTICLES AND SURFACTANT CHARGE GROUPS ON THE PROPERTIES OF VES GEL," *BRAZILIAN JOURNAL OF CHEMICAL ENGINEERING* (34:1), 2017, pp. 241-251.
141. Chauhan, G., Pillai, P. and Ojha, K. "Rheological Studies of Gum Tragacanth as a Prospective Candidate for Hydraulic Fracturing," *MATERIALS TODAY-PROCEEDINGS* (4:9), 2017, pp. 9413-9417.
142. Chauhan, G., Verma, A., Hazarika, A. and Ojha, K. "Rheological, structural and morphological studies of Gum Tragacanth and its inorganic SiO₂ nanocomposite for fracturing fluid application," *JOURNAL OF THE TAIWAN INSTITUTE OF CHEMICAL ENGINEERS* (80), 2017, pp. 978-988.

143. Chaurasia, R. C. and Nikkam, S. "Optimization Studies on a Multi-Gravity Separator Treating Ultrafine Coal," *International Journal of Coal Preparation and Utilization* (37:4), 2017, pp. 195-212.
144. Chaurasia, R. C. and Nikkam, S. "Beneficiation of low-grade iron ore fines by multi-gravity separator (MGS) using optimization studies," *Particulate Science and Technology* (35:1), 2017, pp. 45--53.
145. Chaurasia, R. C. and Nikkam, S. "Application of artificial neural network to study the performance of multi-gravity separator (MGS) treating iron ore fines," *Particulate Science and Technology* (35:1), 2017, pp. 93--102.
146. Chawla, S., Chawla, A. and Pasupuleti, S. "A Feasible Approach for Landslide Susceptibility Map Using GIS"(284), in Huang, J., Fenton, G. A., Zhang, L. and Griffiths, D. V., ed., 'GEO-RISK 2017: IMPACT OF SPATIAL VARIABILITY, PROBABILISTIC SITE CHARACTERIZATION, AND GEOHAZARDS', Amer Soc Civil Engineers, Geo Inst; Amer Soc Civil Engineers, AMER SOC CIVIL ENGINEERS, UNITED ENGINEERING CENTER, 345 E 47TH ST, NEW YORK, NY 10017-2398 USA, Geo-Risk Conference, Denver, CO, JUN 04-07, 2017, 2017, pp. 101-110.
147. Cheruku, R., Edla, D. R., Kuppili, V. and Dharavath, R. "PSO-RBFNN: A PSO-Based Clustering Approach for RBFNN Design to Classify Disease Data", in Lintas, A., Rovetta, S., Verschure, P. F. M. J. and Villa, A. E. P., ed., 'ARTIFICIAL NEURAL NETWORKS AND MACHINE LEARNING, PT II', SPRINGER INTERNATIONAL PUBLISHING AG, GEWERBESTRASSE 11, CHAM, CH-6330, SWITZERLAND, 26th International Conference on Artificial Neural Networks (ICANN), Alghero, ITALY, SEP 11-14, 2017, 2017, pp. 411-419.
148. Cheruku, R., Edla, D. R., Kuppili, V., Dharavath, R. and Beechu, N. R. "Automatic disease diagnosis using optimised weightless neural networks for low-power wearable devices," *HEALTHCARE TECHNOLOGY LETTERS* (4:4), 2017, pp. 122-128.
149. Chingtham, P., Prajapati, S. K., Gahalaut, V. K., Chopra, S. and Roy, P. S. "Forecasting seismicity rate in the north-west Himalaya using rate and state dependent friction law," *GEOMATICS NATURAL HAZARDS & RISK* (8:2), 2017, pp. 1643-1661.
150. Choudhary, D. K. and Chaudhary, R. K. "A Compact Coplanar Waveguide (CPW)-Fed Zeroth-Order Resonant Filter for Bandpass Applications," *FREQUENZ* (71:7-8), 2017, pp. 305-310.
151. Choudhary, D. K. and Chaudhary, R. K. "A Compact SIW Based Filtering Power Divider with Improved Selectivity Using CSRR" "2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)", Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 1334-1337.

152. Choudhary, D. K., Mishra, N., Kumar, R. and Chaudhary, R. K. "Compact Two Pole Metamaterial Bandpass Filter Using Inverted IDC, Meander Line and Rectangular Stub for WiMAX Application" 2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 128-131.
153. Choudhary, D. K., Mishra, N., Kumar, R. and Chaudhary, R. K. "A Via-less Compact Bandpass Filter with Improved Selectivity using Metamaterial Structure", in Pasya, I. and Seman, F. C., ed., '2017 IEEE ASIA PACIFIC MICROWAVE CONFERENCE (APMC)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2017 IEEE Asia Pacific Microwave Conference (APMC), Kuala Lumpur, MALAYSIA, NOV 13-16, 2017, 2017, pp. 1321-1324.
154. Choudhary, R., Madhuri, R. and Sharma, P. K. "Detection of Hg²⁺ Ion Using Fluorescent Carbon Dots Derived from Elephant Foot Yum via Green-Chemistry", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLIDSTATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
155. Choudhary, R., Patra, S., Madhuri, R. and Sharma, P. K. "Cow Dung Derived PdNPs@WO₃ Porous Carbon Nanodiscs as Trifunctional Catalysts for Design of Zinc-Air Batteries and Overall Water Splitting," *ACS SUSTAINABLE CHEMISTRY & ENGINEERING* (5:11), 2017, pp. 9735-9748.
156. Choudhary, R., Patra, S., Madhuri, R. and Sharma, P. K. "Designing of carbon based fluorescent nanosea-urchin via green-synthesis approach for live cell detection of zinc oxide nanoparticle," *BIOSENSORS & BIOELECTRONICS* (91), 2017, pp. 472-481.
157. Chowdhuri, A. R., Das, B., Kumar, A., Tripathy, S., Roy, S. and Sahu, S. K. "One-pot synthesis of multifunctional nanoscale metal-organic frameworks as an effective antibacterial agent against multidrug-resistant *Staphylococcus aureus*," *NANOTECHNOLOGY* (28:9), 2017.
158. Chowdhuri, A. R., Laha, D., Chandra, S., Karmakar, P. and Sahu, S. K. "Synthesis of multifunctional upconversion NMOFs for targeted antitumor drug delivery and imaging in triple negative breast cancer cells," *CHEMICAL ENGINEERING JOURNAL* (319), 2017, pp. 200-211.
159. Chowdhury, A., Naz, A. and Maiti, S. K. "Health risk assessment of 'tiger prawn seed' collectors exposed to heavy metal pollution in the conserved mangrove forest of Indian Sundarbans: A socio-environmental perspective," *Human and Ecological Risk Assessment* (23:2), 2017, pp. 203--224.
160. Chowdhury, R. and Chaudhary, R. K. "CIRCULARLY POLARIZED RECTANGULAR DIELECTRIC RESONATOR ANTENNA FED WITH UNEQUAL PARALLEL MICROSTRIP LINES FOR WI-MAX APPLICATIONS," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:5), 2017, pp. 1182-1188.

161. Chowdhury, R., Mishra, N., Sani, M. M. and Chaudhary, R. K. "Analysis of a Wideband Circularly Polarized Cylindrical Dielectric Resonator Antenna With Broadside Radiation Coupled With Simple Microstrip Feeding," *IEEE ACCESS* (5), 2017, pp. 19478-19485.
162. Chowdhury, R., Sani, M. M. and Chaudhary, R. K. "A Broadside Circularly Polarized Semi-cylindrical Dielectric Resonator Antenna Excited with Unequal Pair of Vertical Microstrip Line""2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 1823-1826.
163. Daanish, A. R. and Naick, B. K. "Implementation of Charging Station Based Electric Vehicle Routing Problem Using Nearest Neighbour Search Algorithm""2017 2ND IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT TRANSPORTATION ENGINEERING (ICITE)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd IEEE International Conference on Intelligent Transportation Engineering (ICITE), Singapore, SINGAPORE, SEP 01-01, 2019, 2017, pp. 52-56.
164. Das, A., Maiti, S., Naidu, S. and Gupta, G. "Estimation of spatial variability of aquifer parameters from geophysical methods: a case study of Sindhudurg district, Maharashtra, India," *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT* (31:7, SI), 2017, pp. 1709-1726.
165. Das, A. K., Maity, B. K., Surendran, D., Tripathy, U. and Maiti, S. "Label-Free Ratiometric Imaging of Serotonin in Live Cells," *ACS CHEMICAL NEUROSCIENCE* (8:11), 2017, pp. 2369-2373.
166. Das, B. and Chatterjee, R. "Wellbore stability analysis and prediction of minimum mud weight for few wells in Krishna-Godavari Basin, India," *INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES* (93), 2017, pp. 30-37.
167. Das, B., Chatterjee, R., Singha, D. K. and Kumar, R. "Post-stack seismic inversion and attribute analysis in shallow offshore of Krishna-Godavari basin, India," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:1), 2017, pp. 32-40.
168. Das, D., Mukhopadhyay, S. and Praveen, S. R. S. "Multi-scale contrast enhancement of oriented features in 2D images using directional morphology," *Optics and Laser Technology* (87), 2017, pp. 51--63.
169. Das, D., Rameshbabu, A. P., Ghosh, P., Patra, P., Dhara, S. and Pal, S. "Biocompatible nanogel derived from functionalized dextrin for targeted delivery of doxorubicin hydrochloride to MG 63 cancer cells," *CARBOHYDRATE POLYMERS* (171), 2017, pp. 27-38.

170. Das, G., Sahu, N. K., Sharma, A. and Gangwar, R. K. "Wideband MIMO Hybrid Cylindrical Dielectric Resonator Antenna with Improved Diversity Performance" '2017 IEEE CONFERENCE ON ANTENNA MEASUREMENTS & APPLICATIONS (CAMA)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Conference on Antenna Measurements and Applications (CAMA), Tsukuba, JAPAN, DEC 04-06, 2017, 2017, pp. 217-220.
171. Das, G., Sharma, A. and Gangwar, R. K. "Dual port aperture coupled MIMO cylindrical dielectric resonator antenna with high isolation for WiMAX application," *INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING* (27:7), 2017.
172. Das, G., Sharma, A. and Gangwar, R. K. "A Single Cylindrical Dielectric Resonator Based MIMO Antenna System for WiMAX Applications" '2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - SPRING (PIERS)', Electromagnet Acad; St Petersburg State Univ; Tomsk Polytechn Univ; Univ Gavle; Swedish Inst; Inst Elec Elect Engineers; IEEE Geoscience Remote Sensing Soc; Zhejiang Univ, Coll Informat Sci Elect Engn; Sino Swedish Joint Res Ctr Photon; Zhejiang Univ, Electromagnet Acad, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Spring (PIERS), St Petersburg, RUSSIA, MAY 22-25, 2017, 2017, pp. 3707-3712.
173. Das, J., Mishra, S. K., Saha, R., Mookherjee, S. and Sanyal, D. "Nonlinear modeling and PID control through experimental characterization for an electrohydraulic actuation system: system characterization with validation," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:4), 2017, pp. 1177-1187.
174. Das, M., Biswas, A., Kundu, B. K., Mobin, S. M., Udayabhanu, G. and Mukhopadhyay, S. "Targeted synthesis of cadmium(II) Schiff base complexes towards corrosion inhibition on mild steel," *RSC ADVANCES* (7:77), 2017, pp. 48569-48585.
175. Das, M., Singh, R. K., Gupta, A. K. and Bhaumik, A. K. "Holocene strengthening of the Oxygen Minimum Zone in the northwestern Arabian Sea linked to changes in intermediate water circulation or Indian monsoon intensity?," *PALAEOGEOGRAPHY PALAEOCLIMATOLOGY PALAEOECOLOGY* (483:SI), 2017, pp. 125-135.
176. Das, P., Begam, S. and Singh, M. K. "Mathematical modeling of groundwater contamination with varying velocity field," *JOURNAL OF HYDROLOGY AND HYDROMECHANICS* (65:2), 2017, pp. 192-204.
177. Das, P., Pal, S. K., Mohanty, P. R., Priyam, P., Bharti, A. K. and Kumar, R. "Abandoned Mine Galleries Detection using Electrical Resistivity Tomography Method over Jharia Coal Field, India," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:2), 2017, pp. 169-174.
178. Das, R. and Shaw, K. "Uncertain supply chain network design considering carbon footprint and social factors using two-stage approach," *CLEAN TECHNOLOGIES AND ENVIRONMENTAL POLICY* (19:10), 2017, pp. 2491-2519.
179. Das, R. K. and Sharma, S. K. "Fuel characterization and performance parameters analysis of diesel engine using blends of palm biodiesel and tyre pyrolysis oil," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:5), 2017, pp. 1491-1497.

180. Das, S., Anga, S., Harinath, A., Nayek, H. P. and Panda, T. K. "Synthesis and Structure of Unprecedented Samarium Complex with Bulky Bis-iminopyrrolyl Ligand via Intramolecular C=N Bond Activation," *ZEITSCHRIFT FUR ANORGANISCHE UND ALLGEMEINE CHEMIE* (643:24), 2017, pp. 2144-2148.
181. Das, S., Manam, J. and Sharma, S. K. "Composites of BaAl₂O₄:Eu²⁺, Dy³⁺/organic dye encapsulated in mesoporous silica as multicolor long persistent phosphors based on radiative energy transfer," *NEW JOURNAL OF CHEMISTRY* (41:13), 2017, pp. 5934-5941.
182. Das, S., Manam, J. and Sharma, S. K. "An Approach to Tune the Color of Sr₂MgSi₂O₇: Eu²⁺, Dy³⁺ Long Persistent Phosphor Using Y₃Al₅O₁₂: Ce³⁺ Remote Phosphor," *ECS JOURNAL OF SOLID STATE SCIENCE AND TECHNOLOGY* (6:8), 2017, pp. R105-R109.
183. Das, S., Pal, A. and Manohar, M. "Adaptive Quadratic Interpolation for Loss Minimization of Direct Torque Controlled Induction Motor Driven Electric Vehicle" '2017 IEEE 15TH INTERNATIONAL CONFERENCE ON INDUSTRIAL INFORMATICS (INDIN)', Inst Elect Elect Engineers; Inst fur Informatik Automatisierungstechnik Robotik; Inst Elect Elect Engineers Ind Elect Soc; Univ Nova Lisboa, Faculdade Ciencias Tecnologia, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 15th IEEE International Conference on Industrial Informatics (INDIN), Univ Appl Sci Emden Leer, Emden, GERMANY, JUL 24-26, 2017, 2017, pp. 641-646.
184. Das, S., Sadhu, P. K., Satpati, B. and Shrivastav, A. K. "AN INNOVATIVE HARMONIC REDUCTION STRATEGY TO ASCERTAIN THE STABILITY OF A GRID-CONNECTED PHOTOVOLTAIC SYSTEM," *REVUE ROUMAINE DES SCIENCES TECHNIQUES-SERIE ELECTROTECHNIQUE ET ENERGETIQUE* (62:2), 2017, pp. 165-169.
185. Das, S., Sahu, S. K., Oraon, R., Routray, P. C., Baskey, H. and Nayak, G. C. "Reduced-graphene-oxide-and-strontium-titanate-based double-layered composite: an efficient microwave-absorbing material," *BULLETIN OF MATERIALS SCIENCE* (40:2), 2017, pp. 301-306.
186. Das, S. K. and Tripathi, S. "Energy efficient routing formation technique for hybrid ad hoc network using fusion of artificial intelligence techniques," *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS* (30:16), 2017.
187. Das, S. K., Yadav, A. K. and Tripathi, S. "IE2M: Design of intellectual energy efficient multicast routing protocol for ad-hoc network," *PEER-TO-PEER NETWORKING AND APPLICATIONS* (10:3, SI), 2017, pp. 670-687.
188. Das, T. R., Madhuri, R. and Sharma, P. K. "Electrocatalytic Activity of Silver Nanoparticles Decorated Reduced Graphene Oxide (AgNP@rGO) Nanocomposites", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
189. Dash, S., Chaudhuri, H., Gupta, R., Nair, U. G. and Sarkar, A. "Fabrication and Application of Low-Cost Thiol Functionalized Coal Fly Ash for Selective Adsorption of Heavy Toxic Metal Ions from Water," *INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH* (56:6), 2017, pp. 1461-1470.

190. Datta, S., Rameshbabu, A. P., Bankoti, K., Maity, P. P., Das, D., Pal, S., Roy, S., Sen, R. and Dhara, S. "Oleoyl-Chitosan-Based Nanofiber Mats Impregnated with Amniotic Membrane Derived Stem Cells for Accelerated Full -Thickness Excisional Wound Healing," *ACS BIOMATERIALS SCIENCE & ENGINEERING* (3:8, SI), 2017, pp. 1738-1749.
191. Datta, T. and Sen, M. "LED pumped micron-scale all-silicon Raman amplifier," *SUPERLATTICES AND MICROSTRUCTURES* (110), 2017, pp. 273-280.
192. Datta, T. and Sen, M. "Characterization of slotted photonic crystal waveguide and its application in nonlinear optics," *SUPERLATTICES AND MICROSTRUCTURES* (109), 2017, pp. 107-116.
193. De Adhikari, A., Oraon, R., Tiwari, S. K., Jena, N. K., Lee, J. H., Kim, N. H. and Nayak, G. C. "Polyaniline-Stabilized Intertwined Network-like Ferrocene/Graphene Nanoarchitecture for Supercapacitor Application," *CHEMISTRY-AN ASIAN JOURNAL* (12:8), 2017, pp. 900-909.
194. De Adhikari, A., Oraon, R., Tiwari, S. K., Lee, J. H., Kim, N. H. and Nayak, G. C. "A V2O5 nanorod decorated graphene/polypyrrole hybrid electrode: a potential candidate for supercapacitors," *NEW JOURNAL OF CHEMISTRY* (41:4), 2017, pp. 1704-1713.
195. De, M., Gangwar, R. K. and Singh, V. K. "Designing of highly birefringence, dispersion shifted decagonal photonic crystal fiber with low confinement loss," *PHOTONICS AND NANOSTRUCTURES-FUNDAMENTALS AND APPLICATIONS* (26), 2017, pp. 15-23.
196. Debata, S., Das, T. R., Madhuri, R. and Sharma, P. K. "Hydrothermally Synthesized Reduced Graphene Oxide/Nickel Hydroxide (rGO/Ni(OH)(2)) Nanocomposite: A Promising Material in Dye Removal", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
197. Deo, S. N. and Kushvah, B. S. "Yarkovsky effect and solar radiation pressure on the orbital dynamics of the asteroid (101955) Bennu," *ASTRONOMY AND COMPUTING* (20), 2017, pp. 97-104.
198. Devaraj, P. and Haribabu, E. "Culture of Science and Science Policy Making: A Qualitative Study of Solar Photovoltaic (SPV) Technology Development in India," *PERSPECTIVES ON GLOBAL DEVELOPMENT AND TECHNOLOGY* (16:6), 2017, pp. 615-644.
199. Dewangan, A. and Mallick, A. "Ultrasonic-assisted production of biodiesel from Manilkara Zapota (L.) seed oil," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:15), 2017, pp. 1594-1601.
200. Dewangan, N. and Sahu, S. A. "On phase velocity of Love type Waves in Heterogeneous Visco-elastic Medium", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1034--1041.
201. Dey, A., Gupta, A. and Singh, G. "Open Innovation at Different Levels for Higher Climate Risk Resilience," *SCIENCE TECHNOLOGY AND SOCIETY* (22:3, SI), 2017, pp. 388-406.

202. Dey, R. and Rai, V. K. "Er³⁺-Tm³⁺-Yb³⁺: CaMoO₄ phosphor as an outstanding upconversion-based optical temperature sensor and optical heater," *METHODS AND APPLICATIONS IN FLUORESCENCE* (5:1), 2017.
203. Dey, S., Topno, A., Liu, Y. and Zong, K. "Generation and evolution of Palaeoarchean continental crust in the central part of the Singhbhum craton, eastern India," *PRECAMBRIAN RESEARCH* (298), 2017, pp. 268-291.
204. Dey, T. and Ramachandra, L. S. "Non-linear vibration analysis of laminated composite circular cylindrical shells," *COMPOSITE STRUCTURES* (163), 2017, pp. 89-100.
205. Dhar, S., Dutta, B., Ghoshroy, D., Roy, D., Sadhu, P. K., Ganguly, A., Sanyal, A. N. and Das, S. "A new approach to working coil design for a high frequency full bridge series resonant inverter fitted contactless induction heater," *ADVANCES IN COMPUTATIONAL DESIGN* (2:4), 2017, pp. 283-291.
206. Dhara, P. and Singh, V. K. "Improved mesostructure by incorporating surfactant on thin film to develop an advanced optical fiber pH sensor with a temperature cross sensitivity feature," *LASER PHYSICS* (27:3), 2017.
207. Dharavath, R. and Raj, S. "Quantitative Analysis of Frequent Itemsets Using Apriori Algorithm on Apache Spark Framework", in Behera, H. S. and Mohapatra, D. P., ed., 'COMPUTATIONAL INTELLIGENCE IN DATA MINING, CIDM 2016', Kalinga Inst Ind Technol, SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, D-14197 BERLIN, GERMANY, 3rd International Conference on Computational Intelligence in Data Mining (ICCIDM), Bhubaneswar, INDIA, DEC 10-11, 2016, 2017, pp. 261-272.
208. Dhawane, S. H., Bora, A. P., Kumar, T. and Halder, G. "Parametric optimization of biodiesel synthesis from rubber seed oil using iron doped carbon catalyst by Taguchi approach," *RENEWABLE ENERGY* (105), 2017, pp. 616-624.
209. Dhua, S., Chatterjee, M. and Chattopadhyay, A. "Effects of Anisotropy, Initial Stress, Heterogeneity, and Gravity on Torsional Wave Propagation," *INTERNATIONAL JOURNAL OF GEOMECHANICS* (17:3), 2017.
210. Drake, M. and Dutta, S. "Characterisation and assessment of Municipal Solid Waste (MSW) in Dhanbad City, India," *WASTE MANAGEMENT* (63:SI), 2017, pp. I-II.
211. Dubey, A., Soni, A. K., Kumari, A., Dey, R. and Rai, V. K. "Enhanced green upconversion emission in NaYF₄:Er³⁺/Yb³⁺/Li⁺ phosphors for optical thermometry," *JOURNAL OF ALLOYS AND COMPOUNDS* (693), 2017, pp. 194-200.
212. Dubey, R. K. and Dar, J. A. "Geotechnical Attributes of Active Sediments and its Prospective in Hazards Susceptibility and Mitigation Measures: A Study on Soils from Leh Valley, Ladakh Himalaya, India," *NATIONAL ACADEMY SCIENCE LETTERS-INDIA* (40:4), 2017, pp. 279-284.
213. Dubey, R. K., Dar, J. A. and Kothiyari, G. C. "Evaluation of relative tectonic perturbations of the Kashmir Basin, Northwest Himalaya, India: An integrated morphological approach," *JOURNAL OF ASIAN EARTH SCIENCES* (148), 2017, pp. 153-172.

214. Dubey, R. K. and Shankar, R. "Characterization of Fluid Inclusions Encaged in Quartz Veins of Parsoi Formation, Central India," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:2), 2017, pp. 217-225.
215. Dutta, R., Bardhan, S., Paul, S. and Mondal, S. "The taxonomic status of the genus Hubertoceras Spath: A new light on sexual dimorphism from the Callovian ammonites of Kutch, India," *PALAEONTOLOGIA ELECTRONICA* (20:2), 2017.
216. Dutta, R. K., Khatri, V. N. and Panwar, V. "Strength characteristics of fly ash stabilized with lime and modified with phosphogypsum," *JOURNAL OF BUILDING ENGINEERING* (14), 2017, pp. 32-40.
217. Dutta, S., Baral, A., Pradhan, A. K. and Chakravorti, S. "Effect of measurement temperature on power transformer insulation diagnosis using frequency-domain spectroscopy," *IET SCIENCE MEASUREMENT & TECHNOLOGY* (11:6), 2017, pp. 773-779.
218. Dutta, S., Som, S., Kunti, A. K., Kumar, V., Sharma, S. K., Swart, H. C. and Visser, H. G. "Structural and luminescence responses of CaMoO₄ nano phosphors synthesized by hydrothermal route to swift heavy ion irradiation: Elemental and spectral stability," *ACTA MATERIALIA* (124), 2017, pp. 109-119.
219. Dutta, S. C., Das, P. K. and Sengupta, P. "Seismic Behaviour of Irregular Structures," *STRUCTURAL ENGINEERING INTERNATIONAL* (27:4), 2017, pp. 526-545.
220. Dwivedi, S. and Mishra, P. "Density functional theory of freezing of a system of highly elongated ellipsoidal oligomer solutions," *Phase Transitions* (90:5), 2017, pp. 509--523.
221. Dwivedi, V. K., Dubey, R. K., Thockhom, S., Pancholi, V., Chopra, S. and Rastogi, B. K. "Assessment of Liquefaction potential of soil in Ahmedabad Region, Western India," *JOURNAL OF INDIAN GEOPHYSICAL UNION* (21:2), 2017, pp. 116-123.
222. Evans, A. A., Bhaduri, B., Popescu, G. and Levine, A. J. "Geometric localization of thermal fluctuations in red blood cells," *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA* (114:11), 2017, pp. 2865-2870.
223. Ganguly, S., Mahto, T. and Mukherjee, V. "Integrated frequency and power control of an isolated hybrid power system considering scaling factor based fuzzy classical controller," *SWARM AND EVOLUTIONARY COMPUTATION* (32), 2017, pp. 184-201.
224. Gangwar, D., Das, S. and Yadava, R. L. "Gain Enhancement of Microstrip Patch Antenna Loaded with Split Ring Resonator Based Relative Permeability Near Zero as Superstrate," *WIRELESS PERSONAL COMMUNICATIONS* (96:2), 2017, pp. 2389-2399.
225. Gangwar, D., Das, S., Yadava, R. L. and Kanaujia, B. K. "Frequency Selective Surface as Superstrate on Wideband Dielectric Resonator Antenna for Circular Polarization and Gain Enhancement," *WIRELESS PERSONAL COMMUNICATIONS* (97:2), 2017, pp. 3149-3163.
226. Gangwar, R. K., Pathak, A. K., Priyadarshani, P. and Singh, V. K. "Effect of ethanol infiltration on the zero dispersion wavelength of solid core photonic crystal fiber," *OPTIK* (147), 2017, pp. 197-203.

227. Gangwar, R. K., Ranjan, P. and Aigal, A. "Wideband four-element two-segment triangular dielectric resonator antenna with monopole-like radiation," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:2), 2017, pp. 411-418.
228. Gangwar, R. K., Ranjan, P. and Aigal, A. "Four element triangular dielectric resonator antenna for wireless application," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:1), 2017, pp. 113-119.
229. Gautam, A., Ajit, K. P. and Sarkar, P. K. "Fatigue Damage estimation through Continuum Damage Mechanics", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1567--1574.
230. Gautam, S. "Assessment of Low-Volatile Poor Caking Indian Coal for Coke Making," *International Journal of Coal Preparation and Utilization* (37:1), 2017, pp. 33--43.
231. Gautam, S. "Effect of washing and stamping on coke making of a low-grade Indian coal: correlation between various properties," *IRONMAKING & STEELMAKING* (44:7), 2017, pp. 505-512.
232. Gautam, S. K. and Om, H. "Comparative Analysis of Classification Techniques in Network Based Intrusion Detection Systems", *Proceedings of the First International Conference on Intelligent Computing and Communication* 458, Springer-verlag Singapore Pte Ltd, 2017, pp. 591--601.
233. Ghatak, U. and Mukherjee, V. "A fast and efficient load flow technique for unbalanced distribution system," *International Journal of Electrical Power & Energy Systems* (84), 2017, pp. 99--110.
234. Ghatak, U. and Mukherjee, V. "An improved load flow technique based on load current injection for modern distribution system," *International Journal of Electrical Power & Energy Systems* (84), 2017, pp. 168--181.
235. Ghosh, A. and Nirala, A. K. "Design and fabrication of different types of holographic lenses, with analysis of their imagery and aberration," *MEASUREMENT SCIENCE AND TECHNOLOGY* (28:12), 2017.
236. Ghosh, A. and Nirala, A. K. "Formation of high quality interference fringes from both sides of a suitably designed hololens in the laser Doppler anemometer measurement volume," *QUANTUM ELECTRONICS* (47:10), 2017, pp. 960-966.
237. Ghosh, A. and Thangavel, R. "Electronic structure and optical properties of iron based chalcogenide FeX_2 ($\text{X} = \text{S}, \text{Se}, \text{Te}$) for photovoltaic applications: a first principle study," *INDIAN JOURNAL OF PHYSICS* (91:11), 2017, pp. 1339-1344.
238. Ghosh, A., Thangavel, R. and Gupta, A. "Solution-processed Cd free kesterite $\text{Cu}_2\text{ZnSnS}_4$ thin film solar cells with vertically aligned ZnO nanorod arrays," *JOURNAL OF ALLOYS AND COMPOUNDS* (694), 2017, pp. 394-400.

239. Ghosh, P. C., Sadhu, P. K. and Das, S. "A HIGH-PERFORMANCE Z-SOURCE RESONANT INVERTER FOR CONTACTLESS POWER TRANSFER," *REVUE ROUMAINE DES SCIENCES TECHNIQUES-SERIE ELECTROTECHNIQUE ET ENERGETIQUE* (62:3), 2017, pp. 282-287.
240. Ghosh, P. C., Sadhu, P. K., Ghosh, A. and Pal, N. "A new circuit topology using Z-source resonant inverter for high power contactless power transfer applications," *ARCHIVES OF ELECTRICAL ENGINEERING* (66:4), 2017, pp. 843-854.
241. Ghosh, S., Yadav, V. K., Mukherjee, V. and Yadav, P. "Evaluation of relative impact of aerosols on photovoltaic cells through combined Shannon's entropy and Data Envelopment Analysis (DEA)," *RENEWABLE ENERGY* (105), 2017, pp. 344-353.
242. Ghosh, S. M. and Singh, R. "Representing and Resisting Rape: Re-appropriation of the Female Body in Usha Ganguly's Hum Mukhtara," *JOURNAL OF LANGUAGE LITERATURE AND CULTURE* (64:3), 2017, pp. 195-212.
243. Ghosh, S. M. and Singh, R. "Violated Bodies and the Reclamation of Female Subjectivity in Usha Ganguli's Ham Mukhtara and Maya Krishna Rao's Walk," *ARCHIV ORIENTALNI* (85:2), 2017, pp. 219+.
244. Goel, A. K. and Singh, S. N. "Thermal Performance of Solar Air Heater using Jet Impingement Technique with Longitudinal Fins," *JOURNAL OF SCIENTIFIC & INDUSTRIAL RESEARCH* (76:12), 2017, pp. 780-784.
245. Goel, R., Verma, H. C., Baral, A. and Chakravorti, S. "A Novel Method to Predict Moisture in Cellulosic Insulation of Power Transformer with Improved Accuracy Using Time Domain Spectroscopy Data" 2017 6TH INTERNATIONAL CONFERENCE ON COMPUTER APPLICATIONS IN ELECTRICAL ENGINEERING - RECENT ADVANCES (CERA)', IEEE; Powergrid; Dept Sci Technol; CSIR; ISRO; Sci Technol Electro Opt Informat Secur Control Lab; Cent Power Res Inst; Nayak Power Syst, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 6th International Conference on Computer Applications In Electrical Engineering-Recent Advances (CERA), Indian Inst Technol Roorkee, Roorkee, INDIA, OCT 05-07, 2017, 2017, pp. 205-208.
246. Gokarn, S. and Kuthambalayan, T. S. "Analysis of challenges inhibiting the reduction of waste in food supply chain," *JOURNAL OF CLEANER PRODUCTION* (168), 2017, pp. 595-604.
247. Gondia, N. K., Priya, J. and Sharma, S. K. "Synthesis and physico-chemical characterization of a Schiff base and its zinc complex," *RESEARCH ON CHEMICAL INTERMEDIATES* (43:2), 2017, pp. 1165-1178.
248. Gondia, N. K. and Sharma, S. K. "Quantum yield and photometric parameters of some transition metal ion schiff base complexes," *OPTICAL AND QUANTUM ELECTRONICS* (49:9), 2017.
249. Goswami, B., Antony, B. and Fritzsche, S. "Electron impact scattering and calculated ionization cross sections for SF_x (x=1-5) radicals," *INTERNATIONAL JOURNAL OF MASS SPECTROMETRY* (417), 2017, pp. 8-15.

250. Goswami, D., Akkiraju, V. V., Singh, S. K., Shalivahan and Roy, S. "Rock Strength and Elastic Properties of Basement Granitoids from Koyna Region, Deccan Volcanic Province, India," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:6, SI), 2017, pp. 783-787.
251. Gudala, M., Banerjee, S., Kumar, A., Rao, R. M. T., Mandal, A. and Naiya, T. K. "Rheological modeling and drag reduction studies of Indian heavy crude oil in presence of novel surfactant," *PETROLEUM SCIENCE AND TECHNOLOGY* (35:24), 2017, pp. 2287-2295.
252. Gupta, A. and Chaudhary, R. K. "A compact CPW-fed wideband metamaterial-inspired antenna for GSM, WLAN/Wi-Fi, and WiMAX applications," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:3), 2017, pp. 567-571.
253. Gupta, A. and Chaudhary, R. K. "A miniaturized dual-band ZOR antenna using epsilon negative transmission line loading," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:8, SI), 2017, pp. 1735-1739.
254. Gupta, A. and Chaudhary, R. K. "A Compact Pentagonal Ring CPW-Fed Zeroth Order Resonating Antenna with Gain Enhancement," *FREQUENZ* (71:5-6), 2017, pp. 261-266.
255. Gupta, A., Dutta, R. K., Shrivastava, R. and Khatri, V. N. "Ultimate Bearing Capacity of Square/Rectangular Footing on Layered Soil," *INDIAN GEOTECHNICAL JOURNAL* (47:3), 2017, pp. 303-313.
256. Gupta, A. and Gangwar, R. K. "Theoretical and Experimental Investigations on Rectangular Dielectric Resonator Antenna Array for Radar and Satellite Application," *Electromagnetics* (37:1), 2017, pp. 27--39.
257. Gupta, A. K., Kundu, S., Patra, P. and Mukhopadhyay, A. K. "Effect of gravity and initial stresses on torsional surface waves in dry sandy medium under rigid layer", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1042--1047.
258. Gupta, A. K. and Paul, B. "Comparative analysis of different materials to be used for backfilling in underground mine voids with a particular reference to hydraulic stowing," *INTERNATIONAL JOURNAL OF OIL GAS AND COAL TECHNOLOGY* (15:4), 2017, pp. 425-434.
259. Gupta, D., Choi, H., Kwon, D.-C., Yoon, J.-S., Antony, B. and Song, M.-Y. "Cross sections for electron collision with difluoroacetylene," *JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS* (50:8), 2017.
260. Gupta, D. S. and Biswas, G. P. "An ECC-based authenticated group key exchange protocol in IBE framework," *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS* (30:18), 2017.
261. Gupta, D. S. and Biswas, G. P. "On Securing Bi- and Tri-partite Session Key Agreement Protocol Using IBE Framework," *WIRELESS PERSONAL COMMUNICATIONS* (96:3), 2017, pp. 4505-4524.
262. Gupta, D. S. and Biswas, G. P. "A Secure Cloud Storage using ECC-Based Homomorphic Encryption," *INTERNATIONAL JOURNAL OF INFORMATION SECURITY AND PRIVACY* (11:3, SI), 2017, pp. 54-62.

263. Gupta, G. K. and Chattopadhyaya, S. "Critical Failure Analysis of Superheater Tubes of Coal-Based Boiler," *STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING* (63:5), 2017, pp. 287-299.
264. Gupta, H. and Singh, S. "SUSTAINABLE PRACTICES THROUGH GREEN GUERRILLA MARKETING - AN INNOVATIVE APPROACH," *RISUS-JOURNAL ON INNOVATION AND SUSTAINABILITY* (8:2), 2017, pp. 61-78.
265. Gupta, H., Singh, S. and Sinha, P. "Multimedia tool as a predictor for social media advertising-a YouTube way," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:18), 2017, pp. 18557-18568.
266. Gupta, P. and Kumar, V. "Value added phytoremediation of metal stressed soils using phosphate solubilizing microbial consortium," *World Journal of Microbiology & Biotechnology* (33:1), 2017, pp. 9.
267. Gupta, R., Aman, K., Shiva, N. and Singh, Y. "An Improved Fatigue Detection System Based on Behavioral Characteristics of Driver" "2017 2ND IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT TRANSPORTATION ENGINEERING (ICITE)", IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd IEEE International Conference on Intelligent Transportation Engineering (ICITE), Singapore, SINGAPORE, SEP 01-01, 2019, 2017, pp. 227-230.
268. Gupta, R. R., Kumar, V. and Chand, S. "Flow behavior in weakly permeable micro-tube with varying viscosity near the wall," *POLISH JOURNAL OF CHEMICAL TECHNOLOGY* (19:4), 2017, pp. 16-21.
269. Gupta, S. and Ahmed, M. "On Rayleigh waves in self-reinforced layer embedded over an incompressible half-space with varying rigidity and density", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1021--1028.
270. Gupta, S. and Ahmed, M. "Influence of prestress and periodic corrugated boundary surfaces on Rayleigh waves in an orthotropic medium over a transversely isotropic dissipative semi-infinite substrate," *EUROPEAN PHYSICAL JOURNAL PLUS* (132:1), 2017.
271. Gupta, S. and Ahmed, M. "On Propagation of Love waves in dry sandy medium sandwiched between fiber-reinforced layer and prestressed porous half-space," *EARTHQUAKES AND STRUCTURES* (12:6), 2017, pp. 619-628.
272. Gupta, S. and Ahmed, M. "Shear Waves in an Inhomogeneous Viscoelastic Layer Resting over a Prestressed Orthotropic Substrate," *INTERNATIONAL JOURNAL OF GEOMECHANICS* (17:6), 2017.
273. Gupta, S., Ahmed, M. and Pramanik, A. "Shear waves in elastic medium with void pores welded between vertically inhomogeneous and anisotropic magnetoelastic semi-infinite media," *ACTA GEOPHYSICA* (65:1), 2017, pp. 139-149.

274. Gupta, S. and Bhengra, N. "Effects of irregularity, porosity, reinforcement and initial stress on the propagation of SH-wave in a self-reinforced layer lying over an initially stressed porous half-space", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1154--1161.
275. Gupta, S. and Bhengra, N. "Implementation of finite difference approximation on the SH-wave propagation in a multilayered magnetoelastic orthotropic composite medium," *ACTA MECHANICA* (228:10), 2017, pp. 3421-3444.
276. Gupta, S. and Bhengra, N. "DISPERSION STUDY OF PROPAGATION OF TORSIONAL SURFACE WAVE IN A LAYERED STRUCTURE," *JOURNAL OF MECHANICS* (33:3), 2017, pp. 303-315.
277. Gupta, S., Pramanik, S. and Smita "Influence of Rigid Boundary on Propagation of G-type Wave in Self Reinforced Media", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1983--1991.
278. Gupta, S. and Smita "THE EFFECT OF VISCOSITY AND HETEROGENEITY ON PROPAGATION OF G-TYPE WAVES," *INTERNATIONAL JOURNAL OF APPLIED MATHEMATICS AND COMPUTER SCIENCE* (27:2), 2017, pp. 253-260.
279. Gupta, S., Smita and Pramanik, S. "Reflection and Refraction of SH- Waves in an Orthotropic Layer Sandwiched Between two Distinct Dry Sandy Half Space", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1146--1153.
280. Gupta, S., Smita and Pramanik, S. "SH-wave in a multilayered orthotropic crust under initial stress: A finite difference approach," *Cogent Mathematics* (4), 2017, pp. 1284294.
281. Gupta, S. and Sultana, R. "Generation of SH-type waves in a poroelastic layer sandwiched between prestressed orthotropic and nonhomogeneous mantles," *Mechanics of Advanced Materials and Structures* (24:1), 2017, pp. 64--72.
282. Gupta, S. D. and Gupta, R. "Importance of coloured inversion technique for thin hydrocarbon sand reservoir detection - A case in mid Cambay basin," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:4), 2017, pp. 485-494.
283. Gupta, S. K. and Elumalai, S. P. "Size-segregated particulate matter and its association with respiratory deposition doses among outdoor exercisers in Dhanbad City, India," *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION* (67:10), 2017, pp. 1137-1145.
284. Gupta, S. K., Kuila, P. and Jana, P. K. "GA Based Energy Efficient and Balanced Routing in k-Connected Wireless Sensor Networks", *Proceedings of the First International Conference on Intelligent Computing and Communication* 458, Springer-verlag Singapore Pte Ltd, 2017, pp. 679--686.
285. Gupta, V. K. "Effect of size distribution of the particulate material on the specific breakage rate of particles in dry ball milling," *Powder Technology* (305), 2017, pp. 714--722.
286. Gupta, V. K. and Hussain, M. "Estimation of the Specific Energy Requirement for Size Reduction of Solids in Ball Mills," *TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS* (70:2), 2017, pp. 303-311.

287. Hajra, B., Sultana, N., Guria, C., Pathak, A. K. and Saxena, V. K. "Liquid Phase Selective Catalytic Oxidation of Oleic Acid to Azelaic Acid Using Air and Transition Metal Acetate Bromide Complex," *JOURNAL OF THE AMERICAN OIL CHEMISTS SOCIETY* (94:12), 2017, pp. 1463-1480.
288. Hansda, A., Kumar, V. and Anshumali "Cu-resistant *Kocuria* sp CRB15: a potential PGPR isolated from the dry tailing of Rakha copper mine," *3 BIOTECH* (7), 2017.
289. Hansda, A., Kumar, V. and Anshumali "Influence of Cu fractions on soil microbial activities and risk assessment along Cu contamination gradient," *CATENA* (151), 2017, pp. 26-33.
290. Hansdah, P., Kumar, S. and Mandre, N. R. "Dewatering performance of coal fines refuse slurry and development of the water recovery index," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:14), 2017, pp. 1565-1571.
291. Hasan, M. E., Dasgupta, K. and Ghoshal, S. "Comparison of the efficiency of the high speed low torque hydrostatic drives using bent axis motor: An experimental study," *PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART E-JOURNAL OF PROCESS MECHANICAL ENGINEERING* (231:4), 2017, pp. 650-666.
292. Hasan, M. E., Ghoshal, S. K., Dasgupta, K. and Kumar, N. "Dynamic analysis and estimator design of a hydraulic drive system," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:4), 2017, pp. 1097-1108.
293. Hatui, G., Nayak, G. C., Udayabhanu, G., Mishra, Y. K. and Pathak, D. D. "Template-free single pot synthesis of SnS₂@Cu₂O/reduced graphene oxide (rGO) nanoflowers for high performance supercapacitors," *NEW JOURNAL OF CHEMISTRY* (41:7), 2017, pp. 2702-2716.
294. Hemant, K., Debasis, D. and Chakravarty, D. "Design of crown pillar thickness using finite element method and multivariate regression analysis," *INTERNATIONAL JOURNAL OF MINING SCIENCE AND TECHNOLOGY* (27:6), 2017, pp. 955-964.
295. Hossain, S. M. D. and Singh, R. "Problematics of Multiculturalism: Exploring the Dynamics of Cultural Proximity in Hanif Kureishi's Trilogy: The Buddha of Suburbia, The Black Album, and My Son the Fanatic," *FORUM FOR WORLD LITERATURE STUDIES* (9:2), 2017, pp. 302-316.
296. Huczko, A., Kurcz, M., Dabrowska, A., Fronczak, M., Bystrzejewski, M., Drozdowski, M., Subedi, D. P., Kafle, B. P., Kafle, B. K., Lamichhane, P., Saren, P. and Tiwari, S. K. "Synthesis of 3-D Graphene via Combustion Synthesis of Magnesium and Calcium/Magnesium Oxalates," *Ecs Journal of Solid State Science and Technology* (6:6), 2017, pp. M3090--M3096.
297. Hussain, M., Kumar, V., Mandal, V., Singh, P. K., Kumar, P. and Das, A. K. "Development of cBN reinforced Ti6Al4V MMCs through laser sintering and process optimization," *MATERIALS AND MANUFACTURING PROCESSES* (32:14), 2017, pp. 1667-1677.
298. Hussain, M., Mandal, V., Kumar, V., Das, A. K. and Ghosh, S. K. "Development of TiN particulates reinforced SS316 based metal matrix composite by direct metal laser sintering technique and its characterization," *OPTICS AND LASER TECHNOLOGY* (97), 2017, pp. 46-59.

299. Hussain, M., Mandal, V., Singh, P. K., Kumar, P., Kumar, V. and Das, A. K. "Experimental study of microstructure, mechanical and tribological properties of cBN particulates SS316 alloy based MMCs fabricated by DMLS technique," *JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY* (31:6), 2017, pp. 2729-2737.
300. Hussain, S. M., Jain, J., Seth, G. S. and Rashidi, M. M. "Free convective heat transfer with hall effects, heat absorption and chemical reaction over an accelerated moving plate in a rotating system," *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS* (422), 2017, pp. 112-123.
301. Hussain, S. M., Sharma, R., Mishra, M. K. and Seth, G. S. "Radiative Magneto-Nanofluid Over an Accelerated Moving Ramped Temperature Plate with Hall Effects," *JOURNAL OF NANOFUIDS* (6:5), 2017, pp. 840-851.
302. Irfan, M. and Shaw, K. "Modeling the effects of energy consumption and urbanization on environmental pollution in South Asian countries: a nonparametric panel approach," *Quality & Quantity* (51:1), 2017, pp. 65--78.
303. Ishwar, S. G. and Kumar, D. "Application of DInSAR in mine surface subsidence monitoring and prediction," *CURRENT SCIENCE* (112:1), 2017, pp. 46-51.
304. Ishwar, S. G., Kumar, D. and Malik, K. K. "Mine surface subsidence monitoring due to impacts of underground mining using persistent scatterer interferometry," *Imaging Science Journal* (65:3), 2017, pp. 151--161.
305. Islam, M. R. I., Chakraborty, S., Shaw, A. and Reid, S. "A computational model for failure of ductile material under impact," *INTERNATIONAL JOURNAL OF IMPACT ENGINEERING* (108:SI), 2017, pp. 334-347.
306. Islam, S. K. H., Amin, R., Biswas, G. P., Farash, M. S., Li, X. and Kumari, S. "An improved three party authenticated key exchange protocol using hash function and elliptic curve cryptography for mobile-commerce environments," *JOURNAL OF KING SAUD UNIVERSITY-COMPUTER AND INFORMATION SCIENCES* (29:3), 2017, pp. 311-324.
307. Islam, S. K. H. and Biswas, G. P. "A pairing-free identity-based two-party authenticated key agreement protocol for secure and efficient communication," *JOURNAL OF KING SAUD UNIVERSITY-COMPUTER AND INFORMATION SCIENCES* (29:1), 2017, pp. 63-73.
308. Islam, S. K. H., Farash, M. S., Biswas, G. P., Khan, M. K. and Obaidat, M. S. "A pairing-free certificateless digital multisignature scheme using elliptic curve cryptography," *International Journal of Computer Mathematics* (94:1), 2017, pp. 39--55.
309. Jain, P. K. and Rayasam, V. "An analytical approach to explain the generation of secondary circulation in spiral concentrators," *POWDER TECHNOLOGY* (308), 2017, pp. 165-177.
310. Jain, R. and Mahto, V. "Formulation of a water based drilling fluid system with synthesized graft copolymer for troublesome shale formations," *JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING* (38), 2017, pp. 171-181.

311. Jaiswal, A. K. and Banka, H. "Epileptic seizure detection in EEG signal with GModPCA and support vector machine," *Bio-medical Materials and Engineering* (28:2), 2017, pp. 141--157.
312. Jaiswal, A. K. and Banka, H. "Local pattern transformation based feature extraction techniques for classification of epileptic EEG signals," *BIOMEDICAL SIGNAL PROCESSING AND CONTROL* (34), 2017, pp. 81-92.
313. Jaiswal, P. and Tripathi, S. "An authenticated group key transfer protocol using elliptic curve cryptography," *PEER-TO-PEER NETWORKING AND APPLICATIONS* (10:4), 2017, pp. 857-864.
314. Jana, P. "Elastic-plastic Behavior of an Ellipsoidal Inclusion Embedded in an Elastic Matrix", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1116--1121.
315. Jana, S., Ojha, M., Sain, K. and Srivastava, S. "An approach to estimate gas hydrate saturation from 3-D heterogeneous resistivity model: A study from Krishna-Godavari basin, Eastern Indian offshore," *Marine and Petroleum Geology* (79), 2017, pp. 99--107.
316. Jannu, S. and Jana, P. K. "Maximizing Network Lifetime of Wireless Sensor Networks: An Energy Harvesting Approach", *Proceedings of the International Conference on Signal, Networks, Computing, and Systems (icsncs 2016)*, Vol 1 395, Springer India, 2017, pp. 331--339.
317. Jayswal, A. and Choudhury, S. "On vector variational-like inequalities and vector optimization problems with (G, α) -invexity," *APPLIED MATHEMATICS-A JOURNAL OF CHINESE UNIVERSITIES SERIES B* (32:3), 2017, pp. 323-338.
318. Jayswal, A. and Jha, S. "Well-posedness for generalized mixed vector variational-like inequality problems in Banach space," *MATHEMATICAL COMMUNICATIONS* (22:2), 2017, pp. 287-302.
319. Jayswal, A., Kummari, K. and Singh, V. "Duality for a Class of Nonsmooth Multiobjective Programming Problems Using Convexificators," *Filomat* (31:2), 2017, pp. 489--498.
320. Jayswal, A. and Singh, S. "Multiobjective Variational Problems and Generalized Vector Variational-type Inequalities," *Rairo-operations Research* (51:1), 2017, pp. 211--225.
321. Jayswal, A., Singh, V. and Kummari, K. "Duality for nondifferentiable minimax fractional programming problem involving higher order (C, α, ρ, d) -convexity," *OPSEARCH* (54:3), 2017, pp. 598-617.
322. Jena, M. S., Mohanty, J. K., Sahu, P., Venugopal, R. and Mandre, N. R. "Characterization and Pre-concentration of Low Grade PGE Ores of Boula Area, Odisha using Gravity Concentration Methods," *TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS* (70:2), 2017, pp. 287-302.
323. Jena, S. and Singh, G. "Human health risk assessment of airborne trace elements in Dhanbad, India," *ATMOSPHERIC POLLUTION RESEARCH* (8:3), 2017, pp. 490-502.
324. Jha, G. and Soren, S. "Study on applicability of biomass in iron ore sintering process," *RENEWABLE & SUSTAINABLE ENERGY REVIEWS* (80), 2017, pp. 399-407.

325. Jha, M. K., Verma, A. K., Gautam, P. K. and Negi, A. "Study of Mechanical Properties of Vindhayan Shaly Rocks at Elevated temperature," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:3), 2017, pp. 267-272.
326. Jindal, S. K., Mahajan, A. and Raghuwanshi, S. K. "Reliable before-fabrication forecasting of normal and touch mode MEMS capacitive pressure sensor: modeling and simulation," *JOURNAL OF MICRO-NANOLITHOGRAPHY MEMS AND MOEMS* (16:4), 2017.
327. Jindal, S. K. and Raghuwanshi, S. K. "Capacitance and sensitivity calculation of double touch mode capacitive pressure sensor: theoretical modelling and simulation," *Microsystem Technologies-micro-and Nanosystems-information Storage and Processing Systems* (23:1), 2017, pp. 135--142.
328. Jyothi, V., Sain, K., Pandey, V. and Bhaumik, A. K. "Seismic Attenuation for Characterization of Gas Hydrate Reservoir in Krishna-Godavari Basin, Eastern Indian Margin," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:3), 2017, pp. 261-266.
329. Kachhap, B. M. and Aravind, A. "Narration of the Displaced: A Study of Female Characters in the Novel Island of a Thousand Mirrors," *FORUM FOR WORLD LITERATURE STUDIES* (9:1), 2017, pp. 164-177.
330. Kaligatla, R. B., Manisha and Sahoo, T. "Wave Trapping by Dual Porous Barriers Near a Wall in the Presence of Bottom Undulation," *JOURNAL OF MARINE SCIENCE AND APPLICATION* (16:3), 2017, pp. 286-297.
331. Kalyan, N. V. S., Rajak, D. K. and Kumaraswamidhas, L. A. "INFLUENCE OF AERODYNAMIC ADD-ON DEVICES ON AERODYNAMIC PERFORMANCE OF AN AUTOMOBILE: A NUMERICAL STUDY," *INGINERIA AUTOMOBILULUI* (:44), 2017, pp. 13-19.
332. Kanapala, A., Pal, S. and Pamula, R. "Design of a Meta Search System for Legal Domain" 2017 4TH INTERNATIONAL CONFERENCE ON ADVANCED COMPUTING AND COMMUNICATION SYSTEMS (ICACCS)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 4th International Conference on Advanced Computing and Communication Systems (ICACCS), Coimbatore, INDIA, JAN 06-07, 2017, 2017.
333. Kandulna, R. and Choudhary, R. B. "Robust electron transport properties of PANI/PPY/ZnO polymeric nanocomposites for OLED applications," *OPTIK* (144), 2017, pp. 40-48.
334. Kandulna, R., Choudhary, R. B. and Maji, P. "Ag-doped ZnO Reinforced Polymeric Ag:ZnO/PMMA Nanocomposites as Electron Transporting Layer for OLED Application," *JOURNAL OF INORGANIC AND ORGANOMETALLIC POLYMERS AND MATERIALS* (27:6), 2017, pp. 1760-1769.
335. Kang, Y. L., Pichiah, S. and Ibrahim, S. "Facile reconstruction of microbial fuel cell (MFC) anode with enhanced exoelectrogens selection for intensified electricity generation," *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY* (42:3, SI), 2017, pp. 1661-1671.

336. Kapse, G., Patoliya, P. and Samadder, S. R. "Characterisation of coal washery effluent and optimisation of coagulation behaviour of *Moringa oleifera* seed as a coagulant," *ENVIRONMENTAL MONITORING AND ASSESSMENT* (189:3), 2017.
337. Kar, P. and Pal, N. "Power control of off-grid wind energy conversion system through DC-link voltage control" "2017 IEEE CALCUTTA CONFERENCE (CALCON)', IEEE; IEEE Kolkata Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Calcutta Conference (CALCON), Kolkata, INDIA, DEC 02-03, 2017, 2017, pp. 140-143.
338. Karan, S. K., Kumar, A. and Samadder, S. R. "Evaluation of geotechnical properties of overburden dump for better reclamation success in mining areas," *ENVIRONMENTAL EARTH SCIENCES* (76:22), 2017.
339. Karfa, P., Madhuri, R. and Sharma, P. K. "Multifunctional fluorescent chalcogenide hybrid nanodots (MoSe₂:CdS and WSe₂:CdS) as electro catalyst (for oxygen reduction/oxygen evolution reactions) and sensing probe for lead," *JOURNAL OF MATERIALS CHEMISTRY A* (5:4), 2017, pp. 1495-1508.
340. Karfa, P., Madhuri, R. and Sharma, P. K. "Development of Carbon Dots Modified Fluorescent Molecular Imprinted Polymer@Ag/AgCl Nanoparticle For Hepatocellular Carcinoma Marker", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
341. Karfa, P., Madhuri, R., Sharma, P. K. and Tiwari, A. "Designing of transition metal dichalcogenides based different shaped trifunctional electrocatalyst through "adjourn-reaction" scheme," *NANO ENERGY* (33), 2017, pp. 98-109.
342. Kaswan, A., Azharuddin, M. and Jana, P. K. "A delay efficient path selection strategy for mobile sink in wireless sensor networks" "2017 INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTING, COMMUNICATIONS AND INFORMATICS (ICACCI)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Advances in Computing, Communications and Informatics (ICACCI), Manipal, INDIA, SEP 13-16, 2017, 2017, pp. 168-173.
343. Kaswan, A., Nitesh, K. and Jana, P. K. "Energy efficient path selection for mobile sink and data gathering in wireless sensor networks," *Aeu-international Journal of Electronics and Communications* (73), 2017, pp. 110--118.
344. Kaur, T., Sharma, S. K. and Singh, A. K. "Shear wave propagation in vertically heterogeneous viscoelastic layer over amipropolar elastic half-space," *Mechanics of Advanced Materials and Structures* (24:2), 2017, pp. 149--156.
345. Kedia, R. K. and Naick, B. K. "Review of Vehicle Route Optimisation" "2017 2ND IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT TRANSPORTATION ENGINEERING (ICITE)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd IEEE International Conference on Intelligent Transportation Engineering (ICITE), Singapore, SINGAPORE, SEP 01-01, 2019, 2017, pp. 57-61.

346. Keil, J. M., Mitchell, J. S. B., Pradhan, D. and Vatschelle, M. "An algorithm for the maximum weight independent set problem on outerstring graphs," *Computational Geometry-theory and Applications* (60), 2017, pp. 19--25.
347. Keshari, J. P., Kanaujia, B. K., Khandelwal, M. K., Bakariya, P. S. and Mehra, R. M. "Omnidirectional multi-band stacked microstrip patch antenna with wide impedance bandwidth and suppressed cross-polarization," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:3), 2017, pp. 629-638.
348. Kewat, P. K. and Kumari, P. "Cyclic codes from the second class two-prime Whiteman's generalized cyclotomic sequence with order 6," *CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES* (9:4), 2017, pp. 475-499.
349. Khaba, S. and Bhar, C. "Quantifying SWOT analysis for the Indian coal mining industry using Fuzzy DEMATEL," *Benchmarking-an International Journal* (24:4), 2017, pp. 882--902.
350. Khaba, S. and Bhar, C. "Modeling the key barriers to lean construction using interpretive structural modeling," *JOURNAL OF MODELLING IN MANAGEMENT* (12:4, SI), 2017, pp. 652-670.
351. Khan, P. K., Ansari, M. A. and Singh, D. "Insights into the great Mw 7.9 Nepal earthquake of 25 April 2015," *CURRENT SCIENCE* (113:10), 2017, pp. 2014-2020.
352. Khan, P. K., Shamim, S., Mohanty, M., Kumar, P. and Banerjee, J. "Myanmar-Andaman-Sumatra Subduction Margin Revisited: Insights of Arc-Specific Deformations," *JOURNAL OF EARTH SCIENCE* (28:4), 2017, pp. 683-694.
353. Khandelwal, M. K., Kanaujia, B. K., Kumar, S. and Gautam, A. K. "MINIATURIZATION OF DNG METAMATERIAL," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:4), 2017, pp. 862-865.
354. Khanum, R., Moirangthem, R. S. and Das, N. M. "Observation of defect-assisted enhanced visible whispering gallery modes in ytterbium-doped ZnO microsphere," *JOURNAL OF APPLIED PHYSICS* (121:21), 2017.
355. Khatri, V. N., Debbarma, S. P., Dutta, R. K. and Mohanty, B. "Pressure-settlement behavior of square and rectangular skirted footings resting on sand," *GEOMECHANICS AND ENGINEERING* (12:4), 2017, pp. 689-705.
356. Khatri, V. N., Kumar, J. and Akhtar, S. "Bearing Capacity of Foundations with Inclusion of Dense Sand Layer over Loose Sand Strata," *INTERNATIONAL JOURNAL OF GEOMECHANICS* (17:10), 2017.
357. Khatua, R., Sahoo, S. R. and Sahu, S. "A Comparative Study of Charge Transport Properties of Halogenated (-Cl, F) Triphenylene Molecules", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1N01, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.

358. Kishor, J., Kanaujia, B. K., Dwari, S. and Ashwani, K. "Narrow-Band Bandpass Filter for Wireless Communication System," *FREQUENZ* (71:7-8), 2017, pp. 335-340.
359. Kishor, J., Kanaujia, B. K., Dwari, S. and Kumar, A. "Design of differential-mode bandpass filter with common-mode suppression using ring dielectric resonator," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:5), 2017, pp. 1029-1035.
360. Kishor, R. and Kushvah, B. S. "Normalization of Hamiltonian and nonlinear stability of the triangular equilibrium points in non-resonance case with perturbations," *ASTROPHYSICS AND SPACE SCIENCE* (362:9), 2017.
361. Kisku, N., Joshi, H., Ansari, M., Panda, S. K., Nayak, S. and Dutta, S. C. "A critical review and assessment for usage of recycled aggregate as sustainable construction material," *CONSTRUCTION AND BUILDING MATERIALS* (131), 2017, pp. 721-740.
362. Koley, S. and Mitra, D. "A frequency-reconfigurable elliptical monopole antenna for cognitive radio networks," *TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES* (25:3), 2017, pp. 2535-2546.
363. Kotia, A., Borkakoti, S., Deval, P. and Ghosh, S. K. "Review of interfacial layer's effect on thermal conductivity in nanofluid," *HEAT AND MASS TRANSFER* (53:6), 2017, pp. 2199-2209.
364. Kotia, A. and Ghosh, S. K. "Heat Transfer Analysis of Nanofluid Considering the Interfacial Nanolayer," *Heat Transfer Research* (48:6), 2017, pp. 549--556.
365. Kotia, A. and Ghosh, S. K. "CFD analysis on natural convective heat transfer of Al₂O₃- gear oil nanolubricant used in HEMM," *INDUSTRIAL LUBRICATION AND TRIBOLOGY* (69:5), 2017, pp. 673-677.
366. Kotia, A., Haldar, A., Kumar, R., Deval, P. and Ghosh, S. K. "Effect of copper oxide nanoparticles on thermophysical properties of hydraulic oil-based nanolubricants," *Journal of the Brazilian Society of Mechanical Sciences and Engineering* (39:1), 2017, pp. 259--266.
367. Kotresh, S., Ravikiran, Y. T., Tiwari, S. K. and Kumari, S. C. V. "Polyaniline-Cadmium Ferrite Nanostructured Composite for Room-Temperature Liquefied Petroleum Gas Sensing," *JOURNAL OF ELECTRONIC MATERIALS* (46:8), 2017, pp. 5240-5247.
368. Kuang, Y., Singh, R., Singh, S. and Singh, P. "A novel macroeconomic forecasting model based on revised multimedia assisted BP neural network model and ant Colony algorithm," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:18), 2017, pp. 18749-18770.
369. Kuila, A., Surib, N. A., Mishra, N. S., Nawaz, A., Leong, K. H., Sim, L. C., Saravanan, P. and Ibrahim, S. "Metal Organic Frameworks: A New Generation Coordination Polymers for Visible Light Photocatalysis," *CHEMISTRYSELECT* (2:21), 2017, pp. 6163-6177.
370. Kujur, F. and Singh, S. "Engaging customers through online participation in social networking sites," *ASIA PACIFIC MANAGEMENT REVIEW* (22:1), 2017, pp. 16-24.

371. Kujur, M. S., Mallick, A., Manakari, V., Parande, G., Tun, K. S. and Gupta, M. "Significantly Enhancing the Ignition/Compression/Damping Response of Monolithic Magnesium by Addition of Sm₂O₃ Nanoparticles," *METALS* (7:9), 2017.
372. Kukreja, J., Choudhary, D. K. and Chaudhary, R. K. "CPW fed miniaturized dual-band short-ended metamaterial antenna using modified split-ring resonator for wireless application," *INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING* (27:8), 2017.
373. Kumar, A., Choudhary, D. K. and Chaudhary, R. K. "A Compact Via-free Composite Right/Left Handed Low-pass Filter with Improved Selectivity," *FREQUENZ* (71:7-8), 2017, pp. 357-361.
374. Kumar, A., Choudhary, D. K. and Chaudhary, R. K. "Metamaterial Tri-Band Bandpass Filter using Meander-Line with Rectangular-Stub," *PROGRESS IN ELECTROMAGNETICS RESEARCH LETTERS* (66), 2017, pp. 121-126.
375. Kumar, A., Chowdhuri, A. R., Laha, D., Mahto, T. K., Karmakar, P. and Sahu, S. K. "Green synthesis of carbon dots from *Ocimum sanctum* for effective fluorescent sensing of Pb²⁺ ions and live cell imaging," *SENSORS AND ACTUATORS B-CHEMICAL* (242), 2017, pp. 679-686.
376. Kumar, A., Dasgupta, K. and Das, J. "Analysis of decay characteristics of an accumulator in an open-circuit hydrostatic system with pump loading," *PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING* (231:4), 2017, pp. 312-326.
377. Kumar, A., Guria, C. and Pathak, A. K. "Potential CO₂ fixation and optimal *Dunaliella tertiolecta* cultivation: Influence of fertilizer, wavelength of light-emitting diodes, salinity and carbon supply strategy," *JOURNAL OF CO₂ UTILIZATION* (22), 2017, pp. 164-177.
378. Kumar, A., Kumar, S., Mandal, B. K. and Mishra, P. "Fluid-triangular solid phase transitions in a system of two-dimensional nematic quadrupoles," *MOLECULAR PHYSICS* (115:23), 2017, pp. 3011-3023.
379. Kumar, A., Kumari, C., Sain, D., Hira, S. K., Manna, P. P. and Dey, S. "Synthesis of Rhodamine-Based Chemosensor for Fe³⁺ Selective Detection with off-on Mechanism and its Biological Application in DL-Tumor Cells," *CHEMISTRYSELECT* (2:10), 2017, pp. 2969-2974.
380. Kumar, A., Maiti, S. K., Tripti, Prasad, M. N. V. and Singh, R. S. "Grasses and legumes facilitate phytoremediation of metalliferous soils in the vicinity of an abandoned chromite-asbestos mine," *JOURNAL OF SOILS AND SEDIMENTS* (17:5), 2017, pp. 1358-1368.
381. Kumar, A. and Mandal, A. "Synthesis and physiochemical characterization of zwitterionic surfactant for application in enhanced oil recovery," *JOURNAL OF MOLECULAR LIQUIDS* (243), 2017, pp. 61-71.
382. Kumar, A., Mandal, B. K., Kumar, S. and Mishra, P. "Freezing transitions in a system of two-dimensional octupolar multipoles," *EUROPEAN PHYSICAL JOURNAL E* (40:9), 2017.

383. Kumar, A., Pattapu, U., Das, A. C. and Das, S. "A 2.45 GHz Harmonic Rejection Antenna for Wireless Power Transfer Applications" *PROCEEDINGS OF THE 2017 IEEE-APS TOPICAL CONFERENCE ON ANTENNAS AND PROPAGATION IN WIRELESS COMMUNICATIONS (APWC)*, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Verona, ITALY, SEP 11-15, 2017, 2017, pp. 81-84.
384. Kumar, A. and Paul, S. K. "Current mode first order universal filter and multiphase sinusoidal oscillator," *AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS* (81), 2017, pp. 37-49.
385. Kumar, A. and Rathee, R. "Monitoring and evaluating of slope stability for setting out of critical limit at slope stability radar," *INTERNATIONAL JOURNAL OF GEO-ENGINEERING* (8:1), 2017.
386. Kumar, A., Sadhu, M., Das, N., Sadhu, P. K., Roy, D. and Ganguly, A. "A Survey on High-Frequency Inverter and Their Power Control Techniques for Induction Heating Applications," *JOURNAL OF POWER TECHNOLOGIES* (97:3), 2017, pp. 201-213.
387. Kumar, A., Sain, D., Kumari, C. and Dey, S. "Detection of Hg²⁺ and Cs⁺ with a Rhodamine-based Sensor and Ethoxy-substituted Dihydroimidazole Ring Formation Associated with the Reduction of Hg²⁺ to Hg," *Chemistryselect* (2:3), 2017, pp. 1106--1110.
388. Kumar, A. and Samadder, S. R. "An empirical model for prediction of household solid waste generation rate - A case study of Dhanbad, India," *WASTE MANAGEMENT* (68), 2017, pp. 3-15.
389. Kumar, A. and Samadder, S. R. "A review on technological options of waste to energy for effective management of municipal solid waste," *WASTE MANAGEMENT* (69), 2017, pp. 407-422.
390. Kumar, A., Venkatesh, A. S., Kumar, P., Rai, A. K. and Parihar, P. S. "Geochemistry of Archean Radioactive Quartz Pebble Conglomerates and Quartzites from western margin of Singhbhum-Orissa Craton, eastern India: Implications on Paleo-weathering, provenance and tectonic setting," *ORE GEOLOGY REVIEWS* (89), 2017, pp. 390-406.
391. Kumar, B. and Singh, S. N. "Study of pressure drop in single pass U-type plate heat exchanger," *EXPERIMENTAL THERMAL AND FLUID SCIENCE* (87), 2017, pp. 40-49.
392. Kumar, D. and Chatterjee, K. "Design and analysis of artificial bee-colony-based MPPT algorithm for DFIG-based wind energy conversion systems," *International Journal of Green Energy* (14:4), 2017, pp. 416--429.
393. Kumar, D., Mishra, A. and Chatterjee, K. "Power and Frequency Control of a Wind Energy Power System using Artificial Bee Colony Algorithm" *2017 THIRD INTERNATIONAL CONFERENCE ON SCIENCE TECHNOLOGY ENGINEERING & MANAGEMENT (ICONSTEM)*, Jeppiaar Engn Coll; IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 3rd IEEE International Conference on Science Technology Engineering Management (ICONSTEM), Chennai, INDIA, MAR 23-24, 2017, 2017, pp. 561-565.

394. Kumar, D. and Sarkar, S. "Modeling of flow-induced stress on helical Savonius hydrokinetic turbine with the effect of augmentation technique at different operating conditions," *RENEWABLE ENERGY* (111), 2017, pp. 740-748.
395. Kumar, D. and Singh, K. K. "Experimental analysis of Delamination, Thrust Force and Surface roughness on Drilling of Glass Fibre Reinforced Polymer Composites Material Using Different Drills," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 7618-7627.
396. Kumar, H. and Singh, N. K. "Performance of activated TIG welding in 304 austenitic stainless steel welds," *MATERIALS TODAY-PROCEEDINGS* (4:9), 2017, pp. 9914-9918.
397. Kumar, K. and Dwari, S. "Substrate Integrated Waveguide Cavity-Backed Self-Triplexing Slot Antenna," *IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS* (16), 2017, pp. 3249-3252.
398. Kumar, K., Dwari, S. and Mandal, M. K. "Broadband Dual Circularly Polarized Substrate Integrated Waveguide Antenna," *IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS* (16), 2017, pp. 2971-2974.
399. Kumar, M. and Guria, C. "The elitist non-dominated sorting genetic algorithm with inheritance (i-NSGA-II) and its jumping gene adaptations for multi-objective optimization," *INFORMATION SCIENCES* (382), 2017, pp. 15-37.
400. Kumar, M., Kumar, A., Singh, M. K., Sahu, S. K. and John, R. P. "A novel benzidine based Schiff base "turn-on" fluorescent chemosensor for selective recognition of Zn²⁺," *SENSORS AND ACTUATORS B-CHEMICAL* (241), 2017, pp. 1218-1223.
401. Kumar, M., Raghuwanshi, S. K. and Pareek, P. "High sensitive pressure sensor based on plasmonic Mach-Zehnder interferometer", in Witzigmann, B., Osinski, M. and Arakawa, Y., ed., 'PHYSICS AND SIMULATION OF OPTOELECTRONIC DEVICES XXV', SPIE, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, Conference on Physics and Simulation of Optoelectronic Devices XXV, San Francisco, CA, JAN 30-FEB 02, 2017, 2017.
402. Kumar, M., Roy, S., Faizi, M. S. H., Kumar, S., Singh, M. K., Kishor, S., Peter, S. C. and John, R. P. "Synthesis, crystal structure and luminescence properties of acenaphthene benzohydrazide based ligand and its zinc(II) complex," *JOURNAL OF MOLECULAR STRUCTURE* (1128), 2017, pp. 195-204.
403. Kumar, M. and Vishwakarma, G. K. "Estimation of Mean in Double Sampling Using Exponential Technique on Multi-auxiliary Variates," *COMMUNICATIONS IN MATHEMATICS AND STATISTICS* (5:4), 2017, pp. 429-445.
404. Kumar, M. S., Gupta, I. and Jana, P. K. "Delay-Based Workflow Scheduling for Cost Optimization in Heterogeneous Cloud System", in Aluru, S., Kalyanaraman, A., Ucar, B., Kothapalli, K., Halappanavar, M., Madduri, K., Govindaraju, M., Xia, Y., Prasad, S., Barnas, M., Sureka, A., Patel, P., Saxena, V. and Goel, S., ed., '2017 TENTH INTERNATIONAL CONFERENCE ON CONTEMPORARY COMPUTING (IC3)', Univ Florida Engrn; IEEE; IEEE Comp Soc; IEEE Comp Soc Tech Comm Parallel Proc, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 10th International Conference on Contemporary Computing (IC3), Jaypee Inst Informat Technol, Noida, INDIA, AUG 10-12, 2017, 2017, pp. 223-228.

405. Kumar, M. S., Gupta, I., Panda, S. K. and Jana, P. K. "Granularity-based workflow scheduling algorithm for cloud computing," *JOURNAL OF SUPERCOMPUTING* (73:12), 2017, pp. 5440-5464.
406. Kumar, N., Gaur, T. and Mandal, A. "Characterization of SPN Pickering emulsions for application in enhanced oil recovery," *JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY* (54), 2017, pp. 304-315.
407. Kumar, P., Chattopadhyay, A. and Singh, A. K. "Shear wave propagation due to a point source", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1544--1551.
408. Kumar, P., Dwari, S. and Bakariya, P. S. "Tripple-Band Microstrip Antenna for Wireless Application," *WIRELESS PERSONAL COMMUNICATIONS* (96:1), 2017, pp. 1029-1037.
409. Kumar, P., Kujur, M. S., Mallick, A., Tun, K. S. and Gupta, M. "PROCESSING AND CHARACTERIZATION OF Mg-3 % Al / GRAPHENE NANOCOMPOSITE" METAL 2017: 26TH INTERNATIONAL CONFERENCE ON METALLURGY AND MATERIALS', Tanger; Tech Univ Ostrava; Czech Soc New Mat Technologies; Engn Acad Czech Republic; Czech Metallurg Soc; Mat Res Soc Serbia; Soc Portuguesa Materiais; Austrian Soc Metallurgy Mat; Norsk Materialteknisk Selskap; Assoc Italiana Metallurgia; Soc Francaise Metallurgie Materiaux; Thermo Calc Software; BVD; COMTES FHT; CSNMT; Linde; PECION s r o; Reg Mat Sci Technol Ctr; ZEISS; OLYMPUS, TANGER LTD, KELITICKOVA 62, SLEZSKA, OSTRAVA 710 00, CZECH REPUBLIC, 26th International Conference on Metallurgy and Materials (METAL), Brno, CZECH REPUBLIC, MAY 24-26, 2017, 2017, pp. 1513-1518.
410. Kumar, P., Mishra, D. P., Panigrahi, D. C. and Sahu, P. "Numerical studies of ventilation effect on methane layering behaviour in underground coal mines," *CURRENT SCIENCE* (112:9), 2017, pp. 1873-1881.
411. Kumar, P., Pandey, N. and Paul, S. K. "Operational Simulation of LC Ladder Filter Using VDTA," *Active and Passive Electronic Components* (), 2017, pp. 1836727.
412. Kumar, P., Rohan, Kumar, V. and Roy, J. S. "Dodecagonal photonic crystal fibers with negative dispersion and low confinement loss," *OPTIK* (144), 2017, pp. 363-369.
413. Kumar, P., Saw, K., Kumar, U., Kumar, R., Chattopadhyaya, S. and Hloch, S. "Effect of laser power and welding speed on microstructure and mechanical properties of fibre laser-welded Inconel 617 thin sheet," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:11), 2017, pp. 4579-4588.
414. Kumar, P., Singh, P. K., Kumar, D., Prakash, V., Hussain, M. and Das, A. K. "A novel application of micro-EDM process for the generation of nickel nanoparticles with different shapes," *Materials and Manufacturing Processes* (32:5), 2017, pp. 564--572.
415. Kumar, P., Srivastava, V. C., Glaeser, R., With, P. and Mishra, I. M. "Active ceria-calcium oxide catalysts for dimethyl carbonate synthesis by conversion of CO₂," *POWDER TECHNOLOGY* (309), 2017, pp. 13-21.

416. Kumar, P., Srivastava, V. C. and Mishra, I. M. "Synthesis of dimethyl carbonate by transesterification reaction using ceria-zinc oxide catalysts prepared with different chelating agents," *APPLIED CLAY SCIENCE* (150), 2017, pp. 275-281.
417. Kumar, P., With, P., Srivastava, V. C., Glaeser, R. and Mishra, I. M. "Efficient ceria-zirconium oxide catalyst for carbon dioxide conversions: Characterization, catalytic activity and thermodynamic study," *JOURNAL OF ALLOYS AND COMPOUNDS* (696), 2017, pp. 718-726.
418. Kumar, R. "Hyperelliptic Curves and its Applications", in Chamola, B. P. and Kumari, P., ed., 'ADVANCEMENT IN MATHEMATICAL SCIENCES', AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 2nd International Conference on Recent Advances in Mathematical Sciences and its Applications (RAMSA), Jaypee Inst Informat Technol, Noida, INDIA, DEC 12-14, 2017, 2017.
419. Kumar, R., Azam, M. S. and Ghosh, S. K. "Effect of temperature on Rough EHL in Slider Bearing", in Agarwal, P. K. and Gupta, M., ed., '2017 INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL, INDUSTRIAL, AUTOMATION AND MANAGEMENT SYSTEMS (AMIAMS) - PROCEEDINGS', IEEE; Motilal Nehru Natl Inst Technol, Dept Mech Engn; IEEE Uttar Pradesh Sect; IEEE Robot Automat Soc, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS), Allahabad, INDIA, FEB 03-05, 2017, 2017, pp. 156-163.
420. Kumar, R., Azam, M. S., Ghosh, S. K. and Khan, H. "Effect of surface roughness and deformation on Rayleigh step bearing under thin film lubrication," *INDUSTRIAL LUBRICATION AND TRIBOLOGY* (69:6), 2017, pp. 1016-1032.
421. Kumar, R., Banerjee, S., Banik, A., Bandyopadhyay, T. K. and Naiya, T. K. "Simulation of single phase non-Newtonian flow characteristics of heavy crude oil through horizontal pipelines," *Petroleum Science and Technology* (35:6), 2017, pp. 615--624.
422. Kumar, R., Banerjee, S., Mandal, A. and Naiya, T. K. "Flow improvement of heavy crude oil through pipelines using surfactant extracted from soapnuts," *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING* (152), 2017, pp. 353-360.
423. Kumar, R., Banerjee, S., Mandal, A. and Naiya, T. K. "Investigation of novel extracted surfactant on rheological properties of heavy crude oil," *International Journal of Oil Gas and Coal Technology* (14:4), 2017, pp. 354--368.
424. Kumar, R. and Bhaduri, B. "Optical image encryption using Kronecker product and hybrid phase masks," *OPTICS AND LASER TECHNOLOGY* (95), 2017, pp. 51-55.
425. Kumar, R. and Bhaduri, B. "Optical image encryption in Fresnel domain using spiral phase transform," *JOURNAL OF OPTICS* (19:9), 2017.
426. Kumar, R. and Bhaduri, B. "Double image encryption in Fresnel domain using wavelet transform, gyrator transform and spiral phase masks", in Asundi, A. K., ed., 'FIFTH INTERNATIONAL CONFERENCE ON OPTICAL AND PHOTONICS ENGINEERING', LUX Photon Consortium; Nanyang Technol Univ; Int Commiss Opt, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, 5th International Conference on Optical and Photonics Engineering, Singapore, SINGAPORE, APR 04-07, 2017, 2017.

427. Kumar, R., Bhaduri, B. and Quan, C. "Asymmetric optical image encryption using Kolmogorov phase screens and equal modulus decomposition," *OPTICAL ENGINEERING* (56:11), 2017.
428. Kumar, R., Bhanodai, G. and Pamula, R. "Social Book Search: Reranking based on Document and query expansion with keyword Filtering" 2017 4TH INTERNATIONAL CONFERENCE ON ADVANCED COMPUTING AND COMMUNICATION SYSTEMS (ICACCS)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 4th International Conference on Advanced Computing and Communication Systems (ICACCS), Coimbatore, INDIA, JAN 06-07, 2017, 2017.
429. Kumar, R., Chattopadhyaya, S., Dixit, A. R., Bora, B., Zelenak, M., Foldyna, J., Hloch, S., Hlavacek, P., Scucka, J., Klich, J., Sitek, L. and Vilaca, P. "Surface integrity analysis of abrasive water jet-cut surfaces of friction stir welded joints," *INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY* (88:5-8), 2017, pp. 1687-1701.
430. Kumar, R., Chattopadhyaya, S., Ghosh, A., Krolczyk, G. M., Vilaca, P., Kumar, R., Srivastava, M., Shariq, M. and Tripathi, R. "CHARACTERIZATION OF FRICTION SURFACED COATINGS OF AISI 316 TOOL OVER HIGH-SPEED-STEEL SUBSTRATE," *TRANSACTIONS OF FAMENA* (41:2), 2017, pp. 61-76.
431. Kumar, R. and Chaudhary, R. K. "Wideband circularly polarized dielectric resonator antenna coupled with meandered-line inductor for ISM/WLAN applications," *INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING* (27:7), 2017.
432. Kumar, R. and Chaudhary, R. K. "A new modified CPW-fed wideband circularly polarized half-split cylindrical dielectric resonator antenna with different permittivity of two layers in radial direction," *INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING* (27:3), 2017.
433. Kumar, R., Choudhary, D. K., Singh, R. and Chaudhary, R. K. "A Wideband Circularly Polarized DRA Excited with Meandered-line Inductor for Wi-MAX/LTE2500 Applications" 2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 1514-1519.
434. Kumar, R., Chowdhury, R. and Chaudhary, R. K. "A new dual-mode wideband circularly polarized rectangular dielectric resonator antenna coupled with stubs and asymmetric ground plane for WiMAX applications," *INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING* (27:9), 2017.
435. Kumar, R. and Das, S. "MRAS-based speed estimation of grid-connected doubly fed induction machine drive," *IET POWER ELECTRONICS* (10:7), 2017.

436. Kumar, R. and Mandre, N. R. "Selective flocculation of low grade iron ore slimes using different types of polymers," *INDIAN JOURNAL OF CHEMICAL TECHNOLOGY* (24:4), 2017, pp. 411-416.
437. Kumar, R. and Mandre, N. R. "Recovery of iron from iron ore slimes by selective flocculation," *JOURNAL OF THE SOUTHERN AFRICAN INSTITUTE OF MINING AND METALLURGY* (117:4), 2017, pp. 397-400.
438. Kumar, R. and Raghuwanshi, S. K. "A photonic scheme for the generation of dual linear chirp microwave waveform based on the external modulation technique and its airborne application," *OPTICAL AND QUANTUM ELECTRONICS* (49:11), 2017.
439. Kumar, R., Singh, R., Choudhary, D. K. and Chaudhary, R. K. "A Compact CPW-fed Dual-band Open-ended ZOR Antenna Based on CRLH TL for Wireless Applications" '2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 1494-1497.
440. Kumar, R. and Sinha, A. "Biphasic reduction model for predicting the impacts of dye-bath constituents on the reduction of tris-azo dye Direct Green-1 by zero valent iron (Fe⁰)," *JOURNAL OF ENVIRONMENTAL SCIENCES* (52), 2017, pp. 160-169.
441. Kumar, R. R., Mishra, S. and Kumar, C. "Prioritizing the solution of cloud service selection using integrated MCDM methods under Fuzzy environment," *JOURNAL OF SUPERCOMPUTING* (73:11), 2017, pp. 4652-4682.
442. Kumar, S., Hansda, A., Chandra, A., Kumar, A., Kumar, M., Sithambaresan, M., Faizi, M. S. H., Kumar, V. and John, R. P. "Co(II), Ni(II), Cu(II) and Zn(II) complexes of acenaphthoquinone 3-(4-benzylpiperidyl)thiosemicarbazone: Synthesis, structural, electrochemical and antibacterial studies," *POLYHEDRON* (134), 2017, pp. 11-21.
443. Kumar, S., Kanaujia, B. K., Dwari, S., Pandey, G. P. and Singh, D. K. "11-17 GHz Reconfigurable Stacked Power Amplifier Using Matched Slant Microstrip Line for Ku Band Application," *WIRELESS PERSONAL COMMUNICATIONS* (92:4), 2017, pp. 1771-1785.
444. Kumar, S., Kanaujia, B. K., Dwari, S., Pandey, G. P., Singh, D. K. and Gautam, A. K. "Design and Analysis of Low Noise Optimization Amplifier Using Reconfigurable Slotted Patch Antenna," *WIRELESS PERSONAL COMMUNICATIONS* (97:4), 2017, pp. 5185-5200.
445. Kumar, S., Kumar, A. and Mandal, A. "Characterizations of surfactant synthesized from Jatropha oil and its application in enhanced oil recovery," *AICHE JOURNAL* (63:7), 2017, pp. 2731-2741.
446. Kumar, S., Kumari, A. and Das, M. K. "Modeling gate-all-around Si/SiGe MOSFETs and circuits for digital applications," *JOURNAL OF COMPUTATIONAL ELECTRONICS* (16:1), 2017, pp. 47-60.

447. Kumar, S., Madhuri, R. and Sharma, P. K. "Super paramagnetic iron oxide nanoparticle modified mancozeb imprinted polymer", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
448. Kumar, S. and Mahto, V. "Emulsification of Indian heavy crude oil using a novel surfactant for pipeline transportation," *PETROLEUM SCIENCE* (14:2), 2017, pp. 372-382.
449. Kumar, S. and Mahto, V. "Use of a Novel Surfactant To Prepare Oil-in-Water Emulsion of an Indian Heavy Crude Oil for Pipeline Transportation," *ENERGY & FUELS* (31:11), 2017, pp. 12010-12020.
450. Kumar, S. and Mandal, A. "Thermodynamics of Micellization, Interfacial Behavior and Wettability Alteration of Aqueous Solution of Nonionic Surfactants," *TENSIDE SURFACTANTS DETERGENTS* (54:5), 2017, pp. 427-436.
451. Kumar, S. and Mandal, A. "A comprehensive review on chemically enhanced water alternating gas/CO₂ (CEWAG) injection for enhanced oil recovery," *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING* (157), 2017, pp. 696-715.
452. Kumar, S. and Mandal, A. "Rheological properties and performance evaluation of synthesized anionic polymeric surfactant for its application in enhanced oil recovery," *POLYMER* (120), 2017, pp. 30-42.
453. Kumar, S. and Mandal, A. "Investigation on stabilization of CO₂ foam by ionic and nonionic surfactants in presence of different additives for application in enhanced oil recovery," *APPLIED SURFACE SCIENCE* (420), 2017, pp. 9-20.
454. Kumar, S., Mishra, P. K. and Kumar, J. "Synergistic Use of Artificial Neural Network for the Detection of Underground Coal Fires," *Combustion Science and Technology* (189:9), 2017, pp. 1527--1539.
455. Kumar, S., Nandi, B. K., Guria, C. and Mandal, A. "OIL REMOVAL FROM PRODUCED WATER BY ULTRAFILTRATION USING POLYSULFONE MEMBRANE," *BRAZILIAN JOURNAL OF CHEMICAL ENGINEERING* (34:2), 2017, pp. 583-596.
456. Kumar, S., Ojha, K., Bastia, R., Garg, K., Das, S. and Mohanty, D. "Evaluation of Eocene source rock for potential shale oil and gas generation in north Cambay Basin, India," *MARINE AND PETROLEUM GEOLOGY* (88), 2017, pp. 141-154.
457. Kumar, S., Pal, P. C. and Majhi, S. "Reflection and transmission of SH-waves at a corrugated interface between two semi-infinite anisotropic magnetoelastic half-spaces," *Waves in Random and Complex Media* (27:2), 2017, pp. 339--358.

458. Kumar, S., Patra, S., Madhuri, R. and Sharma, P. K. "Dual doped graphene oxide for electrochemical sensing of europium ion", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1N01, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
459. Kumar, S., Rajpal, S., Sharma, S. K., Roy, D. and Kumar, S. R. "EFFECT OF Zn CONCENTRATION ON THE STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF TERNARY ZnCdS NANOCRYSTALLINE THIN FILMS," *DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES* (12:2), 2017, pp. 339-347.
460. Kumar, S., Rajpal, S., Sharma, S. K., Roy, D. and Kumar, S. R. "EFFECT OF ANNEALING ON THE SURFACE AND OPTICAL PROPERTIES OF ZnCdS NANOCRYSTALLINE THIN FILMS," *Chalcogenide Letters* (14:1), 2017, pp. 17--23.
461. Kumar, S., Singh, L. and Raghuwanshi, S. K. "Design of plasmonic half-adder and half-subtractor circuits employing nonlinear effect in Mach-Zehnder interferometer," *JOURNAL OF COMPUTATIONAL ELECTRONICS* (16:1), 2017, pp. 139-147.
462. Kumar, S., Singh, L., Raghuwanshi, S. K. and Chen, N.-K. "Design of Full-Adder and Full-Subtractor Using Metal-Insulator-Metal Plasmonic Waveguides," *PLASMONICS* (12:4), 2017, pp. 987-997.
463. Kumar, S. and Thangavel, R. "Gd doping effect on structural, electrical and magnetic properties of ZnO thin films synthesized by sol-gel spin coating technique," *ELECTRONIC MATERIALS LETTERS* (13:2), 2017, pp. 129-135.
464. Kumar, V., Chandra, S. and Singh, J. K. "Electronic, elastic and optical properties of divalent (R+2X) and trivalent (R+3X) rare earth monochalcogenides," *INDIAN JOURNAL OF PHYSICS* (91:8), 2017, pp. 875-881.
465. Kumar, V., Hussain, M., Raza, M. S., Das, A. K. and Singh, N. K. "Fiber Laser Welding of Thin Nickel Sheets in Air and Water Medium," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:5), 2017, pp. 1765-1773.
466. Kumar, V. and Priye, V. "Analytical prediction of coupling losses in bend silicon subwavelength optical interconnect," *Optical and Quantum Electronics* (49:1), 2017, pp. 10.
467. Kumar, V., Santosh, R. and Chandra, S. "First-principle calculations of structural, electronic, optical and thermal properties of hydrogenated graphene," *MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS* (226), 2017, pp. 64-71.
468. Kumar, V., Singh, B. P. and Chandra, S. "Optical, elastic and thermal properties of ZB-AlN semiconductor from first-principle calculations," *INDIAN JOURNAL OF PHYSICS* (91:4), 2017, pp. 445-451.
469. Kumar, V., Tiwari, A. K. and Ghosh, S. K. "Characterization and performance of nanofluids in plate heat exchanger," *MATERIALS TODAY-PROCEEDINGS* (4:2, A), 2017, pp. 4070-4078.

470. Kumari, A. and Kundu, S. "Effect of Heterogeneity on Edge Wave Propagation in an Initially Stressed Dry Sandy Plate", in Chamola, B. P. and Kumari, P., ed., 'MATHEMATICAL SCIENCES AND ITS APPLICATIONS', AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, International Conference on Recent Advances in Mathematical Sciences and its Applications (RAMSA), Jaypee Inst Informat Technol, Noida, INDIA, DEC 08-10, 2016, 2017.
471. Kumari, A., Soni, A. K. and Rai, V. K. "Near infrared to blue upconverting $\text{Tm}^{3+}/\text{Yb}^{3+}/\text{Li}^{+}:\text{Gd}_2(\text{MoO}_4)_3$ phosphors for light emitting display devices," *INFRARED PHYSICS & TECHNOLOGY* (81), 2017, pp. 313-319.
472. Kumari, A., Verma, H. C., Baral, A. and Chakravorti, S. "Comparison of Different Methods Available for Evaluating Remaining Life of OIP Insulation Used in Power Transformers" 2017 6TH INTERNATIONAL CONFERENCE ON COMPUTER APPLICATIONS IN ELECTRICAL ENGINEERING - RECENT ADVANCES (CERA)', IEEE; Powergrid; Dept Sci Technol; CSIR; ISRO; Sci Technol Electro Opt Informat Secur Control Lab; Cent Power Res Inst; Nayak Power Syst, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 6th International Conference on Computer Applications In Electrical Engineering-Recent Advances (CERA), Indian Inst Technol Roorkee, Roorkee, INDIA, OCT 05-07, 2017, 2017, pp. 209-214.
473. Kumari, C., Sain, D., Kumar, A., Debnath, S., Saha, P. and Dey, S. "Intracellular detection of hazardous Cd^{2+} through a fluorescence imaging technique by using a nontoxic coumarin based sensor," *DALTON TRANSACTIONS* (46:8), 2017, pp. 2524-2531.
474. Kumari, C., Sain, D., Kumar, A., Nayek, H. P., Debnath, S., Saha, P. and Dey, S. "A Non-Perilous Coumarin-Based Ratiometric Probe for 'In Vitro' Detection of Cu through Cell Imaging Technique," *CHEMISTRYSELECT* (2:27), 2017, pp. 8270-8277.
475. Kumari, C., Sain, D., Kumar, A., Nayek, H. P., Debnath, S., Saha, P. and Dey, S. "A bis-hydrazone derivative of 2,5-furandicarboxaldehyde with perfect hetero-atomic cavity for selective sensing of $\text{Hg}(\text{II})$ and its intracellular detection in living HeLa S3 cell," *SENSORS AND ACTUATORS B-CHEMICAL* (243), 2017, pp. 1181-1190.
476. Kumari, J. and Paul, B. "Geochemical and environmental risk assessment of hazardous elements in river sediment," *ENVIRONMENTAL EARTH SCIENCES* (76:21), 2017.
477. Kumari, K., Mishra, N. and Chaudhary, R. K. "An ultra-thin compact polarization insensitive dual band absorber based on metamaterial for X-band applications," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:10), 2017, pp. 2664-2669.
478. Kumari, L., Madhuri, R. and Sharma, P. K. "Study of Structural, Optical and Electrical Properties of Hydrothermally Synthesised Cu- doped ZnO Nanorods", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
479. Kumari, M., Mondal, S., Madhuri, R. and Sharma, P. K. "Synthesis of single phase $\text{Fe}_x\text{Sn}_{1-x}\text{O}_2$ nanoparticles with enhanced structural, optical and magnetic properties," *JOURNAL OF ALLOYS AND COMPOUNDS* (717), 2017, pp. 260-270.

480. Kumari, N., Chattopadhyay, A., Kumar, S. and Singh, A. K. "Propagation of SH-waves in two anisotropic layers bonded to an isotropic half-space under gravity," *Waves in Random and Complex Media* (27:2), 2017, pp. 195--212.
481. Kumari, N., Chattopadhyay, A., Singh, A. K. and Sahu, S. A. "Magnetoelastic shear wave propagation in pre-stressed anisotropic media under gravity," *ACTA GEOPHYSICA* (65:1), 2017, pp. 189-205.
482. Kumari, N., Paul, P. K., Gope, L. and Yadav, M. "Studies on anticorrosive action of synthesized indolines on mild steel in 15% HCl solution," *Journal of Adhesion Science and Technology* (31:14), 2017, pp. 1524--1544.
483. Kumari, R. and Gangwar, R. K. "Circularly polarized cylindrical dielectric resonator antenna excited by square ring slot with a T-shaped microstrip line," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:10), 2017, pp. 2507-2514.
484. Kumari, R. and Gangwar, R. K. "CIRCULARLY POLARIZED CYLINDRICAL DIELECTRIC RESONATOR ANTENNA EXCITED BY DUAL CONFORMAL STRIPS ALONG WITH MODIFIED WILKINSON POWER DIVIDER FOR HIGH GAIN APPLICATION," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:4), 2017, pp. 908-913.
485. Kumari, R. and Gangwar, R. K. "Dual Conformal Strip fed Cylindrical Dielectric Resonator Antenna for Circular Polarization" 2017 IEEE CONFERENCE ON ANTENNA MEASUREMENTS & APPLICATIONS (CAMA)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Conference on Antenna Measurements and Applications (CAMA), Tsukuba, JAPAN, DEC 04-06, 2017, 2017, pp. 221-224.
486. Kumari, S., Mahato, A. K., Maurya, A., Singh, V. K., Kesharwani, N., Kachhap, P., Koshevoy, I. O. and Haldar, C. "Syntheses and characterization of monobasic tridentate Cu(II) Schiff-base complexes for efficient oxidation of 3,5-di-tert-butylcatechol and oxidative bromination of organic substrates," *NEW JOURNAL OF CHEMISTRY* (41:22), 2017, pp. 13625-13646.
487. Kumari, S., Mohapatra, S. and Moirangthem, R. S. "Development of flexible plasmonic plastic sensor using nanograting textured laminating film," *MATERIALS RESEARCH EXPRESS* (4:2), 2017.
488. Kumari, S. and Om, H. "Cryptanalysis and Improvement of an Anonymous Multi-server Authenticated Key Agreement Scheme," *WIRELESS PERSONAL COMMUNICATIONS* (96:2), 2017, pp. 2513-2537.
489. Kundu, J., Sarkar, K. and Singh, T. N. "Static and Dynamic Analysis of Rock Slope - a Case Study", in Konicek, P., Soucek, K. and Konecny, P., ed., 'ISRM EUROPEAN ROCK MECHANICS SYMPOSIUM EUROCK 2017', Int Soc Rock Mech; ASCR, Inst Geon, ELSEVIER SCIENCE BV, SARA BURGERHARTSTRAAT 25, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS, ISRM European Rock Mechanics Symposium (EUROCK), Ostrava, CZECH REPUBLIC, JUN 20-22, 2017, 2017, pp. 744-749.

490. Kundu, J., Sarkar, K., Tripathy, A. and Singh, T. N. "Qualitative stability assessment of cut slopes along the National Highway-05 around Jhakri area, Himachal Pradesh, India," *JOURNAL OF EARTH SYSTEM SCIENCE* (126:8), 2017.
491. Kundu, S., Alam, P., Gupta, S. and Pandit, D. K. "IMPACTS ON THE PROPAGATION OF SH-WAVES IN A HETEROGENEOUS VISCOELASTIC LAYER SANDWICHED BETWEEN AN ANISOTROPIC POROUS LAYER AND AN INITIALLY STRESSED ISOTROPIC HALF SPACE," *JOURNAL OF MECHANICS* (33:1), 2017, pp. 13-22.
492. Kundu, S. and Kumari, A. "Torsional wave propagation in an initially stressed anisotropic heterogeneous crustal layer lying over a viscoelastic half-space", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 980--987.
493. Kundu, S., Kumari, A., Pandit, D. K. and Gupta, S. "Love wave propagation in heterogeneous micropolar media," *MECHANICS RESEARCH COMMUNICATIONS* (83), 2017, pp. 6-11.
494. Kundu, S. and Maity, M. "Edge wave propagation in an initially stressed dry sandy plate", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1029--1033.
495. Kunti, A. K., Chowdhury, M., Sharma, S. K., Gupta, M. and Chaudhary, R. J. "Influence of O₂ pressure on structural, morphological and optical properties of TiO₂-SiO₂ composite thin films prepared by pulsed laser deposition," *THIN SOLID FILMS* (629), 2017, pp. 79-89.
496. Kunti, A. K., Sekhar, K. C., Pereira, M., Gomes, M. J. M. and Sharma, S. K. "Oxygen partial pressure induced effects on the microstructure and the luminescence properties of pulsed laser deposited TiO₂ thin films," *Aip Advances* (7:1), 2017, pp. 015021.
497. Kunti, A. K. and Sharma, S. K. "Structural and spectral properties of red light emitting Eu³⁺ activated TiO₂ nanophosphor for white LED application," *CERAMICS INTERNATIONAL* (43:13), 2017, pp. 9838-9845.
498. Kushwaha, A. K. "First Order Multifunction Filters based on CCDDCCTA", in Sarkar, A. and Nandi, S., ed., 'PROCEEDINGS OF 2ND INTERNATIONAL CONFERENCE ON 2017 DEVICES FOR INTEGRATED CIRCUIT (DEVIC)', IEEE Kalyani Govt Engn Coll Student Branch Chapter; Kalyani Govt Engn Coll, Dept Elect Commun Engn; IEEE EDS Kolkata Chapter, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd International Conference on Devices for Integrated Circuit (DevIC), Kalyani, INDIA, MAR 23-24, 2017, 2017, pp. 71-75.
499. Lakra, A. V. and Rahman, M. M. "Vitality and Endangerment of Contemporary Kurukh," *RUPKATHA JOURNAL ON INTERDISCIPLINARY STUDIES IN HUMANITIES* (9:2), 2017, pp. 350-368.
500. Lakra, S. and Mandal, S. "Design and realization of vertically coupled quadruple micro optical ring resonators (VCQMORR) in Z-domain," *Optik* (135), 2017, pp. 373--382.
501. Lakra, S. and Mandal, S. "Analytical approach for modeling and performance analysis of microring resonators as optical filters with multiple output bus waveguides," *OPTICAL ENGINEERING* (56:6), 2017.

502. Lalwani, P., Banka, H. and Kumar, C. "CRWO: Clustering and routing in wireless sensor networks using optics inspired optimization," *PEER-TO-PEER NETWORKING AND APPLICATIONS* (10:3, SI), 2017, pp. 453-471.
503. Lata, K., Misra, A. K. and Upadhyay, R. K. "A mathematical model for the conservation of forestry resources with two discrete time delays," *MODELING EARTH SYSTEMS AND ENVIRONMENT* (3:3), 2017, pp. 1008-1024.
504. Layek, S., Agrahari, B., Tarafdar, A., Kumari, C., Anuradha, Ganguly, R. and Pathak, D. D. "Synthesis, spectroscopic and single crystal X-ray studies on three new mononuclear Ni(II) pincer type complexes: DFT calculations and their antimicrobial activities," *JOURNAL OF MOLECULAR STRUCTURE* (1141), 2017, pp. 428-435.
505. Layek, S., Anuradha, Agrahari, B. and Pathak, D. D. "Synthesis and characterization of a new Pd(II)-Schiff base complex [Pd(APD)(2)]: An efficient and recyclable catalyst for Heck-Mizoroki and Suzuki-Miyaura reactions," *JOURNAL OF ORGANOMETALLIC CHEMISTRY* (846), 2017, pp. 105-112.
506. Leong, K. H., Abd Aziz, A., Kang, Y. L., Goh, S. W., Singh, K. V., Sim, L. C. and Saravanan, P. "Synergized mechanistic and solar photocatalysis features of N-TiO₂ functionalised activated carbon," *AIMS MATERIALS SCIENCE* (4:3), 2017, pp. 800-813.
507. Leong, K. H., Tan, Z. Z., Sim, L. C., Saravanan, P., Bahnemann, D. and Jang, M. "Symbiotic Interaction of Amalgamated Photocatalysts with Improved Day Light Utilisation and Charge Separation," *CHEMISTRYSELECT* (2:1), 2017, pp. 84-89.
508. Lothe, A. G. and Sinha, A. "Development of model for prediction of Leachate Pollution Index (LPI) in absence of leachate parameters," *WASTE MANAGEMENT* (63:SI), 2017, pp. 327-336.
509. Mahanty, M., Chattopadhyay, A., Dhua, S. and Chatterjee, M. "Propagation of shear waves in homogeneous and inhomogeneous fibre-reinforced media on a cylindrical Earth model," *APPLIED MATHEMATICAL MODELLING* (52), 2017, pp. 493-511.
510. Mahanty, M., Chattopadhyay, A. and Singh, A. K. "Shear wave propagation in a cylindrical Earth model", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1959--1966.
511. Mahato, A. C., Ghoshal, S. K. and Samantaray, A. K. "Energy saving of a hydrostatic drive system by incorporating soft switch," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:6), 2017, pp. 1929-1945.
512. Mahato, A. C., Ghoshal, S. K. and Samantaray, A. K. "Influence of locking and passive soft switching on hydraulic circuit efficiency," *SIMULATION-TRANSACTIONS OF THE SOCIETY FOR MODELING AND SIMULATION INTERNATIONAL* (93:3), 2017, pp. 237-249.
513. Mahato, B., Raushan, R. and Jana, K. C. "Modulation and control of multilevel inverter for an open-end winding induction motor with constant voltage levels and harmonics," *IET POWER ELECTRONICS* (10:1), 2017, pp. 71-79.
514. Mahato, M., Mukherji, S., Van Hecke, K., Harms, K., Ghosh, A. and Nayek, H. P. "Mononuclear homoleptic organotin(IV) dithiocarbamates: Syntheses, structures and antimicrobial activities," *JOURNAL OF ORGANOMETALLIC CHEMISTRY* (853), 2017, pp. 27-34.

515. Mahato, M. K., Singh, G., Singh, P. K., Singh, A. K. and Tiwari, A. K. "Assessment of Mine Water Quality Using Heavy Metal Pollution Index in a Coal Mining Area of Damodar River Basin, India," *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY* (99:1), 2017, pp. 54-61.
516. Mahato, S., Dixit, A. R. and Agrawal, R. "Application of Lean Six Sigma for cost-optimised solution of a field quality problem: A case study," *PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART B-JOURNAL OF ENGINEERING MANUFACTURE* (231:4), 2017, pp. 713-729.
517. Mahato, S., Gerling, L. G., Voz, C., Alcubilla, R. and Puigdollers, J. "High efficiency ITO-free hybrid solar cell using highly conductive PEDOT:PSS with co-solvent and surfactant treatments," *Materials Letters* (186), 2017, pp. 165--167.
518. Mahato, S. and Kar, A. K. "The effect of annealing on structural, optical and photosensitive properties of electrodeposited cadmium selenide thin films," *JOURNAL OF SCIENCE-ADVANCED MATERIALS AND DEVICES* (2:2), 2017, pp. 165-171.
519. Maheshkar, S., Mathur, B., Roushan, R. and Mallick, A. K. "Automatic Hadoop cluster deployment and Management tool", in Bhattacharyya, S., Pan, I., Piuri, V., Panigrahi, B. K., Gandhi, T., Maulik, U., Bhattacharjee, D., Mukherjee, A., Mondal, A., Das, A. and Bhaumik, H., ed., '2017 THIRD IEEE INTERNATIONAL CONFERENCE ON RESEARCH IN COMPUTATIONAL INTELLIGENCE AND COMMUNICATION NETWORKS (ICRCICN)', RCC Inst Informat Technol, Dept Informat Technol; Govt India, Minist Sci Technol, Dept Sci Technol; Sci Engn Res Board; IEEE; All India Council for Tech Educ, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 3rd International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), Kolkata, INDIA, NOV 03-05, 2017, 2017, pp. 163-168.
520. Mahto, T. and Mukherjee, V. "Fractional order fuzzy PID controller for wind energy-based hybrid power system using quasi-oppositional harmony search algorithm," *IET GENERATION TRANSMISSION & DISTRIBUTION* (11:13), 2017, pp. 3299-3309.
521. Mahto, T. and Mukherjee, V. "A novel scaling factor based fuzzy logic controller for frequency control of an isolated hybrid power system," *ENERGY* (130), 2017, pp. 339-350.
522. Maiti, P. and Mitra, D. "Explore TV White Space for indoor small cells deployment and practical pathloss measurement" '2017 INTERNATIONAL CONFERENCE ON INNOVATIONS IN ELECTRONICS, SIGNAL PROCESSING AND COMMUNICATION (IESC)', IEEE KOLKATA SECT; CSIR; Natl Inst Technol Meghalaya, Dept Elect Commun Engn; KEYSIGHT TECHNOLOGIES; ELMAX Projects Serv Pvt Ltd, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Innovations in Electronics, Signal Processing and Communication (IESC), Shillong, INDIA, APR 06-07, 2017, 2017, pp. 79-84.
523. Maiti, S., Das, A., Shah, R. and Gupta, G. "Application of automatic relevance determination model for groundwater quality index prediction by combining hydro-geochemical and geo-electrical," *MODELING EARTH SYSTEMS AND ENVIRONMENT* (3:4), 2017, pp. 1371-1382.

524. Maiti, S. K. and Rana, V. "Assessment of Heavy Metals Contamination in Reclaimed Mine Soil and their Accumulation and Distribution in Eucalyptus Hybrid," *Bulletin of Environmental Contamination and Toxicology* (98:1), 2017, pp. 97--104.
525. Maity, M. and Kundu, S. "Love Wave Propagation in a Heterogeneous Orthotropic Layer under Initial Stress Lying over an Inhomogeneous Half-space", in Chamola, B. P. and Kumari, P., ed., 'MATHEMATICAL SCIENCES AND ITS APPLICATIONS', AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, International Conference on Recent Advances in Mathematical Sciences and its Applications (RAMSA), Jaypee Inst Informat Technol, Noida, INDIA, DEC 08-10, 2016, 2017.
526. Maity, T. and Prasad, H. "Real-time performance evaluation of Quasi Z-Source Inverter for Induction Motor Drives" 2017 IEEE 26TH INTERNATIONAL SYMPOSIUM ON INDUSTRIAL ELECTRONICS (ISIE)', Inst Elect Elect Engineers; IEEE Ind Elect Soc; Anglia Ruskin Univ, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 26th IEEE International Symposium on Industrial Electronics (ISIE), Edinburgh, SCOTLAND, JUN 18-21, 2017, 2017, pp. 844-849.
527. Majee, K., Patel, J., Das, B. and Padhi, S. K. " μ -Pyridine-bridged copper complex with robust proton-reducing ability," *DALTON TRANSACTIONS* (46:43), 2017, pp. 14869-14879.
528. Majhi, M., Choudhary, R. B. and Maji, P. "HCl protonated polymeric PANI-ZnS nanocomposites and measurement of their robust dielectric, optical and thermal performance," *Optik* (136), 2017, pp. 181--191.
529. Majhi, M., Choudhary, R. B. and Maji, P. "TiO₂ reinforced polymeric nanocomposites of HCl-doped polyaniline and their properties," *POLYMER COMPOSITES* (38:1, SI), 2017, pp. E108-E117.
530. Majhi, S., Pal, P. C. and Kumar, S. "Reflection and transmission of plane SH-waves in an initially stressed inhomogeneous anisotropic magnetoelastic medium," *Journal of Seismology* (21:1), 2017, pp. 155--163.
531. Maji, P. and Choudhary, R. B. "Facile synthesis, dielectric properties and electrocatalytic activities of PMMA-NiFe₂O₄ nanocomposite," *MATERIALS CHEMISTRY AND PHYSICS* (193), 2017, pp. 391-400.
532. Maji, P., Choudhary, R. B. and Majhi, M. "Structural, electrical and optical properties of silane-modified ZnO reinforced PMMA matrix and its catalytic activities," *JOURNAL OF NON-CRYSTALLINE SOLIDS* (456), 2017, pp. 40-48.
533. Maji, P., Choudhary, R. B. and Majhi, M. "Effect Of Y₂O₃ On Polyindole For High Frequency Capacitor Application", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
534. Maji, R., Singh, G. N. and Bandyopadhyay, A. "Effective Estimation Strategy of Finite Population Variance Using Multi-Auxiliary Variables in Double Sampling," *JOURNAL OF MODERN APPLIED STATISTICAL METHODS* (16:1), 2017, pp. 158-178.

535. Majumder, M., Choudhary, R. B., Koiry, S. P., Thakur, A. K. and Kumar, U. "Gravimetric and volumetric capacitive performance of polyindole/carbon black/MoS₂ hybrid electrode material for supercapacitor applications," *ELECTROCHIMICA ACTA* (248), 2017, pp. 98-111.
536. Majumder, M., Choudhary, R. B., Thakur, A. K. and Karbhal, I. "Impact of rare-earth metal oxide (Eu₂O₃) on the electrochemical properties of a polypyrrole/CuO polymeric composite for supercapacitor applications," *Rsc Advances* (7:32), 2017, pp. 20037--20048.
537. Majumder, M., Choudhary, R. B., Thakur, A. K. and Kumar, U. "Augmented gravimetric and volumetric capacitive performance of rare earth metal oxide (Eu₂O₃) incorporated polypyrrole for supercapacitor applications," *JOURNAL OF ELECTROANALYTICAL CHEMISTRY* (804), 2017, pp. 42-52.
538. Mallick, A. and Ranjan, R. "THERMO-MECHANICAL ANALYSIS OF A FUNCTIONALLY GRADED ANNULAR FIN" *ENGINEERING MECHANICS 2017*, Brno Univ Technol, Inst Solid Mech, Fac Mech Engn; Acad Sci Czech Repub, v v i Branch Brno, Inst Thermomechan; Assoc Eng Mech; Acad Sci Czech Republ v v i, Inst Theoret Appl Mech; ZDAS, a s Zdar nad Sazavon; Czech Soc Mech; IFToMM Member Comm Czech Republ, ACAD SCI CZECH REPUBLIC, INST THERMOMECHANICS, DOLEJSKOVA 5, PRAGUE 8, 182 00, CZECH REPUBLIC, 23rd International Conference on Engineering Mechanics, Svratka, CZECH REPUBLIC, MAY 15-18, 2017, 2017, pp. 614-617.
539. Mallick, S., Bardhan, S., Paul, S., Goswami, P. and Das, S. S. "Record of Naticid Predation on Scaphopods (Mollusca) from the Latest Maastrichtian of Rajahmundry, India," *Ichnos-an International Journal for Plant and Animal Traces* (24:1), 2017, pp. 37--50.
540. Malviya, M., Verrna, H. C., Baral, A. and Chakravorti, S. "Development of a Low Cost Portable Frequency Domain Spectroscopy Data Measurement Module for Oil-paper Insulation" *2017 7TH INTERNATIONAL CONFERENCE ON POWER SYSTEMS (ICPS)*, Coll Engn, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 7th International Conference on Power Systems (ICPS), Pune, INDIA, DEC 21-23, 2017, 2017, pp. 627-633.
541. Malviya, N. and Priye, V. "Efficient design of silicon slot waveguide optical modulator," *OPTO-ELECTRONICS REVIEW* (25:4), 2017, pp. 285-289.
542. Malwe, S. R., Taneja, N. and Biswas, G. P. "Enhancement of DSR and AODV Protocols Using Link Availability Prediction," *WIRELESS PERSONAL COMMUNICATIONS* (97:3), 2017, pp. 4451-4466.
543. Mandal, A., Dixit, A. R., Chattopadhyaya, S., Paramanik, A., Hloch, S. and Krolczyk, G. "Improvement of surface integrity of Nimonic C 263 super alloy produced by WEDM through various post-processing techniques," *INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY* (93:1-4), 2017, pp. 433-443.
544. Mandal, B., Rameshbabu, A. P., Dhara, S. and Pal, S. "Nanocomposite hydrogel derived from poly (methacrylic acid)/carboxymethyl cellulose/AuNPs: A potential transdermal drugs carrier," *POLYMER* (120), 2017, pp. 9-19.

545. Mandal, B., Rameshbabu, A. P., Soni, S. R., Ghosh, A., Dhara, S. and Pal, S. "Y In Situ Silver Nanowire Deposited Cross-Linked Carboxymethyl Cellulose: A Potential Transdermal Anticancer Drug Carrier," *ACS APPLIED MATERIALS & INTERFACES* (9:42), 2017, pp. 36583-36595.
546. Mandal, N. and Rajita, G. "An accurate technique of measurement of flow rate using rotameter as a primary sensor and an improved op-amp based network," *FLOW MEASUREMENT AND INSTRUMENTATION* (58), 2017, pp. 38-45.
547. Mandal, V., Hussain, M., Kumar, V., Das, A. K. and Singh, N. K. "Development of reinforced TiN-SS316 metal matrix composite (MMC) using direct Metal laser sintering (DMLS) and its characterization," *MATERIALS TODAY-PROCEEDINGS* (4:9), 2017, pp. 9982-9986.
548. Manohar, M. and Das, S. "Current Sensor Fault-Tolerant Control for Direct Torque Control of Induction Motor Drive Using Flux-Linkage Observer," *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS* (13:6), 2017, pp. 2824-2833.
549. Manohar, M., Das, S. and Kumar, R. "A Robust Current Sensor Fault Detection Scheme for Sensorless Induction Motor Drive""2017 IEEE PES ASIA-PACIFIC POWER AND ENERGY ENGINEERING CONFERENCE (APPEEC)', IEEE; IEEE Power Energy Soc Bangalore Chapter, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), Bangalore, INDIA, NOV 08-10, 2017, 2017.
550. Mardi, K. B., Dixit, A. R. and Mallick, A. "Studies on Non-traditional Machining of Metal Matrix Composites," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 8226-8239.
551. Mardi, K. B., Dixit, A. R., Mallick, A., Pramanik, A., Ballokova, B., Hvizdos, P., Foldyna, J., Scucka, J., Hlavacek, P. and Zelenak, M. "Surface integrity of Mg-based nanocomposite produced by Abrasive Water Jet Machining (AWJM)," *MATERIALS AND MANUFACTURING PROCESSES* (32:15), 2017, pp. 1707-1714.
552. Maurya, N. K., Kushwaha, P. and Mandal, A. "Studies on interfacial and rheological properties of water soluble polymer grafted nanoparticle for application in enhanced oil recovery," *Journal of the Taiwan Institute of Chemical Engineers* (70), 2017, pp. 319--330.
553. Maurya, P., Singh, N. and Mandal, N. "A novel technique on MZI based electro-optic type pressure transmitter using modified bourdon tube," *OPTIK* (144), 2017, pp. 573-585.
554. Mazumdar, K., Kumar, S. and Ghosal, A. "Advanced pioneer approach to various properties and significant parameters in special semiconductor arrangement", in Sarkar, A. and Nandi, S., ed., 'PROCEEDINGS OF 2ND INTERNATIONAL CONFERENCE ON 2017 DEVICES FOR INTEGRATED CIRCUIT (DEVIC)', IEEE Kalyani Govt Engn Coll Student Branch Chapter; Kalyani Govt Engn Coll, Dept Elect Commun Engn; IEEE EDS Kolkata Chapter, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd International Conference on Devices for Integrated Circuit (DevIC), Kalyani, INDIA, MAR 23-24, 2017, 2017, pp. 410-413.
555. Mazumdar, K., Ranjan, R. K., Shankar, R., Priyadarshini, B. and Ghosal, A. "Modern comparative approach for carrier transport in InAlN/AlN superlattice device with characteristics and modelling using nitride (N-14,N-15) isotopes," *SUPERLATTICES AND MICROSTRUCTURES* (103), 2017, pp. 190-194.

556. Mazumdar, K., Shankar, R. and Ghosal, A. "Design and investigation of InAlN/(Al_{0.1}N_{0.9})-N-14-N-15 superlattice MOSFET," *SUPERLATTICES AND MICROSTRUCTURES* (109), 2017, pp. 54-57.
557. Mazumdar, N. and Om, H. "DUCR: Distributed unequal cluster-based routing algorithm for heterogeneous wireless sensor networks," *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS* (30:18), 2017.
558. Mazumdar, N. and Om, H. "Distributed fuzzy logic based energy-aware and coverage preserving unequal clustering algorithm for wireless sensor networks," *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS* (30:13), 2017.
559. Mazumdar, N. and Om, H. "A Distributed Fault-Tolerant Multi-objective Clustering Algorithm for Wireless Sensor Networks", in Nath, V., ed., 'PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON NANO-ELECTRONICS, CIRCUITS & COMMUNICATION SYSTEMS', Indian Soc VLSI Educ; Adv Reg Telecom Training Ctr, Inst Elect Telecommunicat Engineers, SPRINGER-VERLAG SINGAPORE PTE LTD, SINGAPORE, SINGAPORE, 1st International Conference on Nano-Electronics, Circuits and Communication Systems (NCCS), Ranchi, INDIA, MAY 09-10, 2015, 2017, pp. 125-137.
560. Mboowa, D., Quereshi, S., Bhattacharjee, C., Tonny, K. and Dutta, S. "Qualitative determination of energy potential and methane generation from municipal solid waste (MSW) in Dhanbad (India)," *ENERGY* (123), 2017, pp. 386-391.
561. Mech, B. C. and Kumar, J. "Effect of high-k dielectric on the performance of Si, InAs and CNT FET," *MICRO & NANO LETTERS* (12:9), 2017, pp. 624-629.
562. Mech, B. C., Saha, S., Hussain, S. and Kumar, J. "A three-dimensional numerical study of transport characteristics of Silicene nanoribbon TFETs in comparison to GNR TFETs" 2017 IEEE 17TH INTERNATIONAL CONFERENCE ON NANOTECHNOLOGY (IEEE-NANO)', IEEE; IEEE Nanotechnol Council; W Virginia Univ, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 17th IEEE International Conference on Nanotechnology (IEEE NANO), Pittsburgh, PA, JUL 25-28, 2017, 2017, pp. 928-931.
563. Mendhe, V. A., Bannerjee, M., Varma, A. K., Kamble, A. D., Mishra, S. and Singh, B. D. "Fractal and pore dispositions of coal seams with significance to coalbed methane plays of East Bokaro, Jharkhand, India," *JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING* (38), 2017, pp. 412-433.
564. Mendhe, V. A., Mishra, S., Khangar, R. G., Kamble, A. D., Kumar, D., Varma, A. K., Singh, H., Kumar, S. and Bannerjee, M. "Organo-petrographic and pore facets of Permian shale beds of Jharia Basin with implications to shale gas reservoir," *JOURNAL OF EARTH SCIENCE* (28:5), 2017, pp. 897-916.
565. Mendhe, V. A., Mishra, S., Varma, A. K., Kamble, A. D., Bannerjee, M. and Sutay, T. "Gas reservoir characteristics of the Lower Gondwana Shales in Raniganj Basin of Eastern India," *Journal of Petroleum Science and Engineering* (149), 2017, pp. 649--664.

566. Mishra, A., Rout, M., Singh, D. R. and Jana, S. "Influence of density of emulsion explosives on its velocity of detonation and fragmentation of blasted muckpile," *CURRENT SCIENCE* (112:3), 2017, pp. 602-608.
567. Mishra, A. K., Nigam, Y. K. and Singh, D. R. "Controlled Blasting in a Limestone Mine using Electronic Detonators: A Case Study," *Journal of the Geological Society of India* (89:1), 2017, pp. 87--90.
568. Mishra, D., Baral, A., Pradhan, A. K., Haque, N. and Chakravorti, S. "Effect of Interfacial charge on Parameters Considered for Insulation Diagnosis of Power Transformer" 2017 IEEE CALCUTTA CONFERENCE (CALCON)', IEEE; IEEE Kolkata Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Calcutta Conference (CALCON), Kolkata, INDIA, DEC 02-03, 2017, 2017, pp. 120-124.
569. Mishra, D., Haque, N., Baral, A. and Chakravorti, S. "Assessment of Interfacial Charge Accumulation in Oil-Paper Interface in Transformer Insulation from Polarization-Depolarization Current Measurements," *IEEE TRANSACTIONS ON DIELECTRICS AND ELECTRICAL INSULATION* (24:3), 2017, pp. 1665-1673.
570. Mishra, D., Pradhan, A. K., Baral, A., Haque, N. and Chakravorti, S. "Effect of Charge Accumulated at Oil-Paper Interface on Zero of Transfer Function Formulated Using Classical Debye Model Parameters" 2017 3RD INTERNATIONAL CONFERENCE ON CONDITION ASSESSMENT TECHNIQUES IN ELECTRICAL SYSTEMS (CATCON)', Indian Inst Technol Ropar; IEEE Dielectr and Electrl Insulat Soc; IEEE Kolkata Sect DEIS Chapter; IEEE Delhi Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 3rd International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), Indian Inst Technol Ropar, Rupnagar, INDIA, NOV 16-18, 2017, 2017, pp. 393-397.
571. Mishra, D. C., Sharma, R. K., Suman, S. and Prasad, A. "Multi-layer security of color image based on chaotic system combined with RP2DFRFT and Arnold Transform," *JOURNAL OF INFORMATION SECURITY AND APPLICATIONS* (37), 2017, pp. 65-90.
572. Mishra, M. K. and Jha, K. "Graph-based loop extraction for automatic analysis of a water pipe distribution network and comparison with EPANET," *SIMULATION-TRANSACTIONS OF THE SOCIETY FOR MODELING AND SIMULATION INTERNATIONAL* (93:11), 2017, pp. 921-933.
573. Mishra, N. and Chaudhary, R. K. "A Compact Wideband Short-Ended Metamaterial Antenna for Wireless Applications," *PROGRESS IN ELECTROMAGNETICS RESEARCH LETTERS* (66), 2017, pp. 93-98.
574. Mishra, N. and Chaudhary, R. K. "A Compact CPW Fed CRR Loaded Four Element Metamaterial Array Antenna for Wireless Application," *PROGRESS IN ELECTROMAGNETICS RESEARCH-PIER* (159), 2017, pp. 15-26.

575. Mishra, N., Choudhary, D. K. and Chaudhary, R. K. "Study of a Compact Dual-band Ultrathin Polarization Independent Metamaterial Absorber for C- and X-band Applications"2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 924-928.
576. Mishra, N., Choudhary, D. K., Chowdhury, R., Kumari, K. and Chaudhary, R. K. "An Investigation on Compact Ultra-Thin Triple Band Polarization Independent Metamaterial Absorber for Microwave Frequency Applications," *IEEE ACCESS* (5), 2017, pp. 4370-4376.
577. Mishra, S. and Kumar, C. "Improving the trust of end users in enterprise SOA using combinatorial group testing methods"2017 TWELFTH INTERNATIONAL CONFERENCE ON DIGITAL INFORMATION MANAGEMENT (ICDIM)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 12th International Conference on Digital Information Management (ICDIM), Kyushu Univ, Fukuoka, JAPAN, SEP 12-14, 2017, 2017, pp. 144-149.
578. Mishra, T. K. and Tripathi, S. "Design of Per-Flow Fairness Protocol with Dynamic Priority for Ad Hoc Networks," *WIRELESS PERSONAL COMMUNICATIONS* (96:3), 2017, pp. 4485-4503.
579. Misra, P., Badoga, S., Chenna, A., Dalai, A. K. and Adjaye, J. "Denitrogenation and desulfurization of model diesel fuel using functionalized polymer: Charge transfer complex formation and adsorption isotherm study," *CHEMICAL ENGINEERING JOURNAL* (325), 2017, pp. 176-187.
580. Mistri, K. C., Singh, A. K., Yadav, R. P. and Chattopadhyay, A. "Stresses due to moving load on the surface of an irregular magneto-elastic monoclinic half-space under hydrostatic initial stress," *MECHANICS OF ADVANCED MATERIALS AND STRUCTURES* (24:13), 2017, pp. 1094-1108.
581. Modak, C. D. and Bhaumik, S. K. "Creeping flow dynamics over superhydrophobic ball: Slip effects and drag reduction," *COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS* (529), 2017, pp. 998-1008.
582. Modak, P. and Antony, B. "Absolute cross sections for silver clusters (Ag-n, n=1-4) by electron impact", in Bray, A., Hodgman, S., Machacek, J. and Kheifets, A., ed.,'XXX INTERNATIONAL CONFERENCE ON PHOTONIC, ELECTRONIC, AND ATOMIC COLLISIONS (ICPEAC2017)', Australian Natl Univ; Curtin Univ; Griffith Univ; Tourism Events Queensland; Int Union Pure Appl Phys, IOP PUBLISHING LTD, DIRAC HOUSE, TEMPLE BACK, BRISTOL BS1 6BE, ENGLAND, 30th International Conference on Photonic, Electronic, and Atomic Collisions (ICPEAC), Cairns, AUSTRALIA, JUL 26-AUG 01, 2017, 2017.
583. Modak, P., Kaur, J. and Antony, B. "Study of BenW (n=1-12) clusters: An electron collision perspective," *PHYSICS OF PLASMAS* (24:8), 2017.

584. Mohanty, B. and Nayak, J. "Parameters dependent studies of structural, optical and electrical properties of CeO₂ nanoparticles prepared via facile one-pot hydrothermal technique," *MATERIALS RESEARCH EXPRESS* (4:11), 2017.
585. Mohanty, B. and Nayak, J. "Effects Of Synthesis Parameters On Morphology, Structure And Optical Properties Of CeO₂ Nanoparticles", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1N01, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
586. Mohanty, P., Dutta, S. C. and Bhattacharya, S. "Proposed mechanism for mid-span failure of pile supported river bridges during seismic liquefaction," *SOIL DYNAMICS AND EARTHQUAKE ENGINEERING* (102), 2017, pp. 41-45.
587. Mohapatra, S., Kumari, S. and Moirangthem, R. S. "Fabrication of a cost-effective polymer nanograting as a disposable plasmonic biosensor using nanoimprint lithography," *MATERIALS RESEARCH EXPRESS* (4:7), 2017.
588. Mohit, P., Amin, R. and Biswas, G. P. "Design of authentication protocol for wireless sensor network-based smart vehicular system," *VEHICULAR COMMUNICATIONS* (9), 2017, pp. 64-71.
589. Mohit, P., Amin, R., Karati, A., Biswas, G. P. and Khan, M. K. "A Standard Mutual Authentication Protocol for Cloud Computing Based Health Care System," *JOURNAL OF MEDICAL SYSTEMS* (41:4), 2017.
590. Mohit, P. and Biswas, G. P. "Modification of Traditional RSA into Symmetric-RSA Cryptosystems," *International Journal of Business Data Communications and Networking* (13:1), 2017, pp. 66--73.
591. Mojumder, S., Sikdar, S. and Ghosh, S. K. "Experimental study of wear for implant materials under dry sliding conditions," *INDUSTRIAL LUBRICATION AND TRIBOLOGY* (69:6), 2017, pp. 828-832.
592. Mondal, A. and Manam, J. "Structural and Luminescent Properties of Si⁴⁺ Co-Doped MgGa₂O₄:Cr³⁺ Near Infra-Red Long Lasting Phosphor," *ECS JOURNAL OF SOLID STATE SCIENCE AND TECHNOLOGY* (6:7), 2017, pp. R88-R95.
593. Mondal, A. and Upadhyay, R. K. "Dynamics of a modified Hindmarsh-Rose neural model with random perturbations: Moment analysis and firing activities," *PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS* (486), 2017, pp. 144-160.
594. Mondal, D., Roy, P. N. S. and Behera, P. K. "Use of Correlation Fractal Dimension signatures for understanding the Overlying Strata Dynamics in Longwall Coal Mines," *International Journal of Rock Mechanics and Mining Sciences* (91), 2017, pp. 210--221.
595. Mondal, H., De, P., Chatterjee, S., Sibanda, P. and Roy, P. K. "MHD Three-Dimensional Nanofluid Flow on a Vertical Stretching Surface with Heat Generation/Absorption and Thermal Radiation," *JOURNAL OF NANOFLOIDS* (6:1), 2017, pp. 189-195.

596. Mondal, K. and Manam, J. "Optical properties of novel Sm³⁺ activated disrtrontium magnesium disilicate phosphor," *JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS* (28:12), 2017, pp. 8793-8802.
597. Mondal, M., Rai, V. K. and Srivastava, C. "Influence of silica surface coating on optical properties of Er³⁺-Yb³⁺: YMoO₄ upconverting nanoparticles," *CHEMICAL ENGINEERING JOURNAL* (327), 2017, pp. 838-848.
598. Mondal, S. and Bag, S. "Face Recognition Using PCA and Minimum Distance Classifier", in Satapathy, S. C., Bhateja, V., Udgata, S. K. and Pattnaik, P. K., ed., 'PROCEEDINGS OF THE 5TH INTERNATIONAL CONFERENCE ON FRONTIERS IN INTELLIGENT COMPUTING: THEORY AND APPLICATIONS, FICTA 2016, VOL 1', SPRINGER-VERLAG SINGAPORE PTE LTD, SINGAPORE, SINGAPORE, 5th International Conference on Frontiers in Intelligent Computing - Theory and Applications (FICTA), KIIT Univ, Sch Comp Engn, Bhubaneswar, INDIA, SEP 16-17, 2016, 2017, pp. 397-405.
599. Mondal, S., Kumari, M., Madhuri, R. and Sharma, P. K. "Acetaminophen and acetone sensing capabilities of nickel ferrite nanostructures," *APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING* (123:7), 2017.
600. Mondal, S., Madhuri, R. and Sharma, P. K. "Electrochemical sensing of cyanometalic compound using TiO₂/PVA nanocomposite-modified electrode," *Journal of Applied Electrochemistry* (47:1), 2017, pp. 75--83.
601. Mondal, S., Madhuri, R. and Sharma, P. K. "Probing the shape-specific electrochemical properties of cobalt oxide nanostructures for their application as selective and sensitive non-enzymatic glucose sensors," *JOURNAL OF MATERIALS CHEMISTRY C* (5:26), 2017, pp. 6497-6505.
602. Mondal, S., Madhuri, R. and Sharma, P. K. "CuO Nanostructure Modified Pencil Graphite Electrode for Non-Enzymatic Detection of Glucose", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1N01, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
603. Mondal, T., Das, S., Badapanda, T., Sinha, T. P. and Sarun, P. M. "Effect of Ca²⁺ substitution on impedance and electrical conduction mechanism of Ba_{1-x}CaxZr_{0.1}Ti_{0.9}O₃ (0.00 ≤ x ≤ 0.20) ceramics," *PHYSICA B-CONDENSED MATTER* (508), 2017, pp. 124-135.
604. Mondal, T., Majee, B. P., Das, S., Sinha, T. P., Middya, T. R., Badapanda, T. and Sarun, P. M. "A comparative study on electrical conduction properties of Sr-substituted Ba_{1-x} Sr (x) Zr_{0.1}Ti_{0.9}O₃ (x=0.00-0.15) ceramics," *IONICS* (23:9), 2017, pp. 2405-2416.
605. Mritunjay, S. K. and Kumar, V. "Microbial Quality, Safety, and Pathogen Detection by Using Quantitative PCR of Raw Salad Vegetables Sold in Dhanbad City, India," *Journal of Food Protection* (80:1), 2017, pp. 121--126.

606. Mritunjay, S. K. and Kumar, V. "A study on prevalence of microbial contamination on the surface of raw salad vegetables," *3 BIOTECH* (7), 2017.
607. Muduli, L., Jana, P. K. and Mishra, D. P. "A novel wireless sensor network deployment scheme for environmental monitoring in longwall coal mines," *PROCESS SAFETY AND ENVIRONMENTAL PROTECTION* (109), 2017, pp. 564-576.
608. Mukherjee, A. and Singh, R. "From Postcolonial Vision of Nature to Ecocinema: A Study of Satyajit Ray's *Aranyer Din Ratri* and Goutam Ghose's *Abar Aranye*," *ISLE-INTERDISCIPLINARY STUDIES IN LITERATURE AND ENVIRONMENT* (24:2), 2017, pp. 224-242.
609. Mukherjee, B. and Roy, P. N. S. "Fractal analysis of logs to characterize the hydrocarbon and non-hydrocarbon zones of Bhogpara oil field, Northeast India," *ARABIAN JOURNAL OF GEOSCIENCES* (10:22), 2017.
610. Mukherjee, D., Mukhopadhyay, S. and Biswas, G. P. "FPGA-Based Parallel Implementation of Morphological Operators for 2D Gray-Level Images," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:8), 2017, pp. 3191-3206.
611. Mukherjee, M., Pradhan, A. K., Baral, A. and Chakravorti, S. "A Modified Maxwell Model for Modeling Dielectric Response of Oil-paper Insulation Affected by Radial and Axial Temperature Gradients," *IEEE TRANSACTIONS ON DIELECTRICS AND ELECTRICAL INSULATION* (24:2), 2017, pp. 1000-1009.
612. Mukherjee, R., Venkatesh, A. S. and Fareeduddin "Chemistry of magnetite-apatite from albitite and carbonate-hosted Bhukia Gold Deposit, Rajasthan, western India - An IOCG-IOA analogue from Paleoproterozoic Aravalli Supergroup: Evidence from petrographic, LA-ICP-MS and EPMA studies," *ORE GEOLOGY REVIEWS* (91), 2017, pp. 509-529.
613. Mukhopadhyay, A. K., Gupta, A. K., Kundu, S. and Manna, S. "Influence of initial stress and gravity on torsional surface wave in heterogeneous medium," *JOURNAL OF VIBRATION AND CONTROL* (23:6), 2017, pp. 970-979.
614. Mukhopadhyay, L. and Rai, V. K. "Upconversion based near white light emission, intrinsic optical bistability and temperature sensing in Er³⁺/Tm³⁺/Yb³⁺/Li⁺:NaZnPO₄ phosphors," *NEW JOURNAL OF CHEMISTRY* (41:15), 2017, pp. 7650-7661.
615. Mukhopadhyay, L., Rai, V. K., Bokolia, R. and Sreenivas, K. "980 nm excited Er³⁺/Yb³⁺/Li⁺/Ba²⁺: NaZnPO₄ upconverting phosphors in optical thermometry," *JOURNAL OF LUMINESCENCE* (187), 2017, pp. 368-377.
616. Mukhopadhyay, P. and Dutta, S. C. "Rapid visual screening of earthquake-susceptible buildings," *PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS-MUNICIPAL ENGINEER* (170:2), 2017, pp. 74-81.
617. Mukhopadhyay, S., Rana, V., Kumar, A. and Maiti, S. K. "Biodiversity variability and metal accumulation strategies in plants spontaneously inhibiting fly ash lagoon, India," *ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH* (24:29, SI), 2017, pp. 22990-23005.

618. Mulia, P., Behura, A. K. and Kar, S. "Corporate Environmental Responsibility for a Sustainable Future," *PROBLEMY EKOROZWOJU* (12:2), 2017, pp. 69-77.
619. Murmu, L., Bage, A. and Das, S. "WIDEBAND BANDPASS FILTER USING STEPPED IMPEDANCE RESONATOR WITH SUSCEPTIBILITY TEST," *REVUE ROUMAINE DES SCIENCES TECHNIQUES-SERIE ELECTROTECHNIQUE ET ENERGETIQUE* (62:3), 2017, pp. 294-298.
620. Murmu, L. and Das, S. "A Dual-Band Bandpass Filter Using Quad-Mode Resonator for Bluetooth and WLAN Applications," *JOURNAL OF CIRCUITS SYSTEMS AND COMPUTERS* (26:3), 2017.
621. Murmu, L., Das, S. and Bage, A. "Modeling and Susceptibility Study of Ring Resonator Bandpass Filter for Wireless Applications," *IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF ELECTRICAL ENGINEERING* (41:3), 2017, pp. 197-203.
622. Muthukumar, H., Chandrasekaran, N. I., Mohammed, S. N., Pichiah, S. and Manickam, M. "Iron oxide nano-material: physicochemical traits and in vitro antibacterial propensity against multidrug resistant bacteria," *JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY* (45), 2017, pp. 121-130.
623. Nadeem, M., Banka, H. and Venugopal, R. "Estimation of pellet size and strength of limestone and manganese concentrate using soft computing techniques," *APPLIED SOFT COMPUTING* (59), 2017, pp. 500-511.
624. Nagar, B. C. and Paul, S. K. "Lossless grounded FDNR simulator and its applications using OTRA," *ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING* (92:3, SI), 2017, pp. 507-517.
625. Nahak, S., Chattopadhyaya, S., Dewangan, S., Hloch, S., Krolczyk, G. and Legutko, S. "MICROSTRUCTURAL STUDY OF FAILURE PHENOMENA IN WC 94%-CO 6% HARD METAL ALLOY TIPS OF RADIAL PICKS," *ADVANCES IN SCIENCE AND TECHNOLOGY-RESEARCH JOURNAL* (11:1), 2017, pp. 36-47.
626. Nahak, S., Dewangan, S., Chattopadhyaya, S. and Hloch, S. "Characterization of Failure Behavior in Distorted WC-Co Tip of Coal Mining Picks," *JOURNAL OF FAILURE ANALYSIS AND PREVENTION* (17:1), 2017, pp. 136-143.
627. Naick, B. K., Chatterjee, T. K. and Chatterjee, K. "Fuzzy Logic Controller based PV System Connected in Standalone and Grid Connected Mode of Operation with Variation of Load," *International Journal of Renewable Energy Research* (7:1), 2017, pp. 311--322.
628. Naick, B. K., Chatterjee, T. K. and Chatterjee, K. "Performance Analysis of Maximum Power Point Tracking Algorithms Under Varying Irradiation," *INTERNATIONAL JOURNAL OF RENEWABLE ENERGY DEVELOPMENT-IJRED* (6:1), 2017, pp. 65-74.

629. Naktode, K., Das, S., Nayek, H. P. and Panda, T. K. "Imidazolin-2-iminato ligand supported titanium(IV) aryloxo complexes - Syntheses and structures," *INORGANICA CHIMICA ACTA* (456), 2017, pp. 24-33.
630. Nanda, D., Swetha, T., Varshney, P., Gupta, P. K., Mohapatra, S. S. and Kumar, A. "Temperature dependent switchable superamphiphobic coating on steel alloy surface," *JOURNAL OF ALLOYS AND COMPOUNDS* (727), 2017, pp. 1293-1301.
631. Nandi, M., Shiva, C. K. and Mukherjee, V. "Frequency stabilization of multi-area multi-source interconnected power system using TCSC and SMES mechanism," *JOURNAL OF ENERGY STORAGE* (14:2, SI), 2017, pp. 348-362.
632. Nandi, M., Shiva, C. K. and Mukherjee, V. "TCSC based automatic generation control of deregulated power system using quasi-oppositional harmony search algorithm," *ENGINEERING SCIENCE AND TECHNOLOGY-AN INTERNATIONAL JOURNAL-JESTECH* (20:4), 2017, pp. 1380-1395.
633. Narayan, S., Sahoo, S. D., Pal, S. K., Kumar, U., Pathak, V. K., Majumdar, T. J. and Chouhan, A. "Delineation of structural features over a part of the Bay of Bengal using total and balanced horizontal derivative techniques," *Geocarto International* (32:4), 2017, pp. 351--366.
634. Naseem, M. and Kumar, C. "QSLB: queue size based single path load balancing routing protocol for MANETs," *International Journal of Ad Hoc and Ubiquitous Computing* (24:1-2), 2017, pp. 90--100.
635. Naseem, M. and Kumar, C. "Queue-based multiple path load balancing routing protocol for MANETs," *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS* (30:6), 2017.
636. Naveen, P., Asif, M., Ojha, K., Panigrahi, D. C. and Vuthalur, H. B. "Sorption Kinetics of CH₄ and CO₂ Diffusion in Coal: Theoretical and Experimental Study," *ENERGY & FUELS* (31:7), 2017, pp. 6825-6837.
637. Nayak, S., Kumar, C. and Tripathi, S. "Enhancing Efficiency of the Test Case Prioritization Technique by Improving the Rate of Fault Detection," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:8), 2017, pp. 3307-3323.
638. Negi, C. M. S., Kumar, D. and Kumar, J. "Analysis of polarized light generation in anisotropic strained quantum dots," *JOURNAL OF COMPUTATIONAL ELECTRONICS* (16:3), 2017, pp. 805-813.
639. Neogi, B., Singh, A. K., Pathak, D. D. and Chaturvedi, A. "Hydrogeochemistry of coal mine water of North Karanpura coalfields, India: implication for solute acquisition processes, dissolved fluxes and water quality assessment," *ENVIRONMENTAL EARTH SCIENCES* (76:14), 2017.
640. Nitesh, K., Azharuddin, M. and Jana, P. "Minimum spanning tree-based delay-aware mobile sink traversal in wireless sensor networks," *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS* (30:13), 2017.

641. Okas, P., Sharma, A. and Gangwar, R. K. "Circular base loaded modified rectangular monopole radiator for super wideband application," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:10), 2017, pp. 2421-2428.
642. Om, H. and Banerjee, S. "A password authentication method for remote users based on smart card and biometrics," *JOURNAL OF DISCRETE MATHEMATICAL SCIENCES & CRYPTOGRAPHY* (20:3), 2017, pp. 595-610.
643. Om, H. and Kumari, S. "Comment and modification of RSA based remote password authentication using smart card," *JOURNAL OF DISCRETE MATHEMATICAL SCIENCES & CRYPTOGRAPHY* (20:3), 2017, pp. 625-635.
644. Oraon, R., De Adhikari, A., Tiwari, S. K. and Nayak, G. C. "Nanoclay Co-Doped CNT/Polyaniline Nanocomposite: A High-Performance Electrode Material for Supercapacitor Applications," *CHEMISTRYSELECT* (2:28), 2017, pp. 8807-8817.
645. Pal, A. and Pal, S. "Effect of Fe₃O₄ NPs on micellization and release behavior of CBABC-type pentablock copolymer," *POLYMER* (133), 2017, pp. 184-194.
646. Pal, A. and Pal, S. "Synthesis of poly (ethylene glycol)-block-poly (acrylamide)-block-poly (lactide) amphiphilic copolymer through ATRP, ROP and click chemistry: Characterization, micellization and pH-triggered sustained release behaviour," *POLYMER* (127), 2017, pp. 150-158.
647. Pal, A. and Pal, S. "Amphiphilic copolymer derived from tamarind gum and poly (methyl methacrylate) toxic dyes," *CARBOHYDRATE POLYMERS* (160), 2017, pp. 1-8.
648. Pal, B. and Dwari, S. "Microstrip dual-band bandpass filter with independently tunable passbands using varactor-tuned stub loaded resonators," *Aeu-international Journal of Electronics and Communications* (73), 2017, pp. 105--109.
649. Pal, N., Saxena, N. and Mandal, A. "Synthesis, characterization, and physicochemical properties of a series of quaternary gemini surfactants with different spacer lengths," *COLLOID AND POLYMER SCIENCE* (295:12), 2017, pp. 2261-2277.
650. Pal, N., Saxena, N. and Mandal, A. "Equilibrium and dynamic adsorption of gemini surfactants with different spacer lengths at oil/aqueous interfaces," *COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS* (533), 2017, pp. 20-32.
651. Pal, N., Saxena, N. and Mandal, A. "Phase Behavior, Solubilization, and Phase Transition of a Microemulsion System Stabilized by a Novel Surfactant Synthesized from Castor Oil," *JOURNAL OF CHEMICAL AND ENGINEERING DATA* (62:4), 2017, pp. 1278-1291.
652. Pal, N., Yadav, A., Rani, S. and Patra, J. "Voltage Profile Improvement in Off Grid Wind Turbine System using MGVC and Diesel Generator" "2017 4TH INTERNATIONAL CONFERENCE ON POWER, CONTROL & EMBEDDED SYSTEMS (ICPCES)", Motilal Nehru Natl Inst Technol, Dept Elect Engn; IEEE; TEQIP II, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 4th International Conference on Power, Control Embedded Systems (ICPCES), ALLAHABAD, INDIA, MAR 09-11, 2017, 2017.

653. Pal, S., Tarafdar, A., Sinha, A., Bhunia, A., Harms, K. and Nayek, H. P. "Mononuclear metal (II) complexes of a Bis(organoamido) phosphate ligand with antimicrobial activities against *Escherichia coli*," *APPLIED ORGANOMETALLIC CHEMISTRY* (31:12), 2017.
654. Pal, S. K., Vaish, J., Kumar, S., Priyam, P., Bharti, A. K. and Kumar, R. "Downward continuation and tilt derivative of magnetic data for delineation of concealed coal fire in East Basuria Colliery, Jharia coal field, India," *JOURNAL OF EARTH SYSTEM SCIENCE* (126:4), 2017.
655. Palaparthi, J., Chakrabarti, R., Banerjee, S., Guin, R., Ghosal, S., Agrahari, S. and Sengupta, D. "Economically viable rare earth element deposits along beach placers of Andhra Pradesh, eastern coast of India," *ARABIAN JOURNAL OF GEOSCIENCES* (10:9), 2017.
656. Pamula, R. and Chakraborty, R. "Taxi Recommender System using Ridesharing Service" 2017 4TH INTERNATIONAL CONFERENCE ON ADVANCED COMPUTING AND COMMUNICATION SYSTEMS (ICACCS)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 4th International Conference on Advanced Computing and Communication Systems (ICACCS), Coimbatore, INDIA, JAN 06-07, 2017, 2017.
657. Panda, S. K. and Jana, P. K. "SLA-based task scheduling algorithms for heterogeneous multi-cloud environment," *JOURNAL OF SUPERCOMPUTING* (73:6), 2017, pp. 2730-2762.
658. Pandey, A. K., Chingtham, P. and Roy, P. N. S. "Homogeneous earthquake catalogue for Northeast region of India using robust statistical approaches," *GEOMATICS NATURAL HAZARDS & RISK* (8:2), 2017, pp. 1477-1491.
659. Pandey, A. K., Dasgupta, K., Kumar, N. and Vardhan, A. "Leakage Analysis of Bent-axis Hydro-motors: An Experimental Study," *JOURNAL OF THE CHINESE SOCIETY OF MECHANICAL ENGINEERS* (38:1), 2017, pp. 93-98.
660. Pandey, J., Kumar, D., Panigrahi, D. C. and Singh, V. K. "Temporal transition analysis of coal mine fire of Jharia coalfield, India, using Landsat satellite imageries," *ENVIRONMENTAL EARTH SCIENCES* (76:12), 2017.
661. Pandey, J. K., Agarwal, D., Gorain, S., Dubey, R. K., Vishwakarma, M. K., Mishra, K. K. and Pal, A. K. "Characterisation of respirable dust exposure of different category of workers in Jharia Coalfields," *ARABIAN JOURNAL OF GEOSCIENCES* (10:7), 2017.
662. Pandey, R. K., Kakati, H. and Mandal, A. "Thermodynamic modeling of equilibrium conditions of CH₄/CO₂/N₂ clathrate hydrate in presence of aqueous solution of sodium chloride inhibitor," *PETROLEUM SCIENCE AND TECHNOLOGY* (35:10), 2017, pp. 947-954.
663. Pandey, S. K., Pandey, G. P. and Sarun, P. M. "Fractal Based Triple Band High Gain Monopole Antenna," *FREQUENZ* (71:11-12), 2017, pp. 531-537.
664. Pandey, V., Usmani, Z., Chandra, A., Mishra, R. K. and Kumar, V. "Environmental impact of leaching of trace elements from fly ash dumps on aquatic ecosystems," *CHEMISTRY AND ECOLOGY* (33:8), 2017, pp. 777-794.

665. Pandit, D. K. and Kundu, S. "Propagation of Love wave in viscoelastic sandy medium lying over pre-stressed orthotropic half-space", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 996--1002.
666. Pandit, D. K., Kundu, S. and Gupta, S. "Propagation of Love waves in a prestressed Voigt-type viscoelastic orthotropic functionally graded layer over a porous half-space," *ACTA MECHANICA* (228:3), 2017, pp. 871-880.
667. Pandit, D. K., Kundu, S. and Gupta, S. "Analysis of dispersion and absorption characteristics of shear waves in sinusoidally corrugated elastic medium with void pores," *ROYAL SOCIETY OPEN SCIENCE* (4:2), 2017.
668. Panwar, D. S., Saxena, V. K., Chaurasia, R. C. and Singh, A. K. "Prospective evaluation of coal bed methane in Raniganj coal field, India," *Energy Sources Part A-recovery Utilization and Environmental Effects* (39:9), 2017, pp. 946--954.
669. Panwar, D. S., Saxena, V. K., Rani, A., Singh, A. K. and Kumar, V. "Source rock evaluation of the Gondwana coals in Raniganj coalfield, India," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:13), 2017, pp. 1395-1402.
670. Panwar, D. S., Saxena, V. K., Suman, S., Kumar, V. and Singh, A. K. "Physicochemical study of coal for CBM extraction in Raniganj coal field, India," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:11), 2017, pp. 1182-1189.
671. Pareek, P., Das, M. K. and Kumar, S. "Theoretical analysis of tin incorporated group IV alloy based QWIPd," *SUPERLATTICES AND MICROSTRUCTURES* (107), 2017, pp. 56-68.
672. Pareek, P., Ranjan, R. and Das, M. K. "Numerical Analysis of Tin Incorporated Group IV Alloy Based MQWIP", in Piprek, J. and Willatzen, M., ed., '17TH INTERNATIONAL CONFERENCE ON NUMERICAL SIMULATION OF OPTOELECTRONIC DEVICES NUSOD 2017', IEEE Photonics Soc; DTU Technical Univ Denmark; NUSOD Inst, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 17th International Conference on Numerical Simulation of Optoelectronic Devices NUSOD, santa barbara, CA, JUL 24-28, 2017, 2017, pp. 141-142.
673. Pareek, P., Ranjan, R. and Das, M. K. "Modeling of Frequency Response in strain balanced SiGeSn/GeSn Quantum well infrared photodetector", in Witzigmann, B., Osinski, M. and Arakawa, Y., ed., 'PHYSICS AND SIMULATION OF OPTOELECTRONIC DEVICES XXV', SPIE, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, Conference on Physics and Simulation of Optoelectronic Devices XXV, San Francisco, CA, JAN 30-FEB 02, 2017, 2017.
674. Parida, A. K., Soren, S., Jha, R. N. and Krishnamurthy, N. "Multistage Cup Drawing of Thicker Blanks of Al-Killed AISI 1010 Steel: A Modified Approach," *TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS* (70:8), 2017, pp. 2059-2070.
675. Parida, A. K., Soren, S., Jha, R. N. and Krishnamurthy, N. "Multistage Deep Drawing with Ironing of Al-killed AISI 1040 Graded Medium Carbon Steel: a Parametric Study," *MATERIALS RESEARCH-IBERO-AMERICAN JOURNAL OF MATERIALS* (20:4), 2017, pp. 1111-1120.

676. Parida, S. K. and Sahu, S. "Theoretical analysis of CO interaction with second-row dicarbides C₂X (X = Na-Cl)," *CHEMICAL PHYSICS LETTERS* (684), 2017, pp. 153-157.
677. Parmar, A. D. S., Kundu, P. and Sastry, S. "Density dependence of relaxation dynamics in glass formers, and the dependence of their fragility on the softness of inter-particle interactions," *JOURNAL OF CHEMICAL SCIENCES* (129:7, SI), 2017, pp. 1081-1091.
678. Parshad, R. D., Bhowmick, S., Quansah, E., Agrawal, R. and Upadhyay, R. K. "Finite Time Blow-up in a Delayed Diffusive Population Model with Competitive Interference," *INTERNATIONAL JOURNAL OF NONLINEAR SCIENCES AND NUMERICAL SIMULATION* (18:5), 2017, pp. 435-450.
679. Parshad, R. D., Upadhyay, R. K., Mishra, S., Tiwari, S. K. and Sharma, S. "On the explosive instability in a three-species food chain model with modified Holling type IV functional response," *MATHEMATICAL METHODS IN THE APPLIED SCIENCES* (40:16), 2017, pp. 5707-5726.
680. Patel, J., Majee, K., Ahmad, E., Das, B. and Padhi, S. K. "Effect of Pyridyl Substitution on Chemical and Photochemical Water Oxidation by [Ru(terpyridine)(bipyridine)(OH₂)](2+) Scaffolds," *European Journal of Inorganic Chemistry* (:1), 2017, pp. 160--171.
681. Patel, J., Majee, K., Ahmad, E., Vatsa, A., Das, B. and Padhi, S. K. "Electronic Effect on Catalytic Water Oxidation by Single Site [Ru(QCl-tpy) (bpy)(OH₂)](2+) Catalyst," *CHEMISTRYSELECT* (2:1), 2017, pp. 123-129.
682. Patel, J., Majee, K., Raj, M., Vatsa, A., Rai, S. and Padhi, S. K. "Effect of Quinoline Substitution on Water Oxidation by [Ru (Ql-tpy)(bpy)(OH₂)](PF₆) (2)," *CHEMISTRYSELECT* (2:10), 2017, pp. 3053-3059.
683. Pathak, A. K., Bhardwaj, V., Gangwar, R. K., De, M. and Singh, V. K. "Fabrication and characterization of TiO₂ coated cone shaped nano-fiber pH sensor," *OPTICS COMMUNICATIONS* (386), 2017, pp. 43-48.
684. Pathak, A. K., Gangwar, R. K., Priyadarshini, P. and Singh, V. K. "A robust optical fiber sensor for the detection of petrol adulteration," *OPTIK* (149), 2017, pp. 43-48.
685. Pathak, A. K. and Singh, V. K. "A wide range and highly sensitive optical fiber pH sensor using polyacrylamide hydrogel," *OPTICAL FIBER TECHNOLOGY* (39), 2017, pp. 43-48.
686. Pathak, A. K. and Singh, V. K. "Fabrication and characterization of down-tapered optical fiber pH sensor using sol-gel method," *OPTIK* (149), 2017, pp. 288-294.
687. Patolia, P. and Sinha, A. "Fluoride contamination in Gharbar Village of Dhanbad District, Jharkhand, India: source identification and management," *ARABIAN JOURNAL OF GEOSCIENCES* (10:17), 2017.
688. Patra, A. S., Ghorai, S., Sarkar, D., Das, R., Sarkar, S. and Pal, S. "Anionically functionalized guar gum embedded with silica nanoparticles: An efficient nanocomposite adsorbent for rapid adsorptive removal of toxic cationic dyes and metal ions," *BIORESOURCE TECHNOLOGY* (225), 2017, pp. 367-376.

689. Patra, P., Gupta, A. K. and Kundu, S. "Propagation of Love waves in a void medium over a sandy half space under gravity," *ACTA GEOPHYSICA* (65:2), 2017, pp. 269-274.
690. Patra, S., Choudhary, R., Roy, E., Madhuri, R. and Sharma, P. K. "Triple signalling mode carbon dots-based biodegradable molecularly imprinted polymer as a multi-tasking visual sensor for rapid and "on-site" monitoring of silver ions," *JOURNAL OF MATERIALS CHEMISTRY C* (5:45), 2017, pp. 11965-11976.
691. Patra, S., Roy, E., Choudhary, R., Tiwari, A., Madhuri, R. and Sharma, P. K. "Graphene quantum dots decorated CdS doped graphene oxide sheets in dual action mode: As initiator and platform for designing of nimesulide imprinted polymer," *BIOSENSORS & BIOELECTRONICS* (89:1, SI), 2017, pp. 627-635.
692. Patra, S., Roy, E., Madhuri, R. and Sharma, P. K. "Removal and Recycling of Precious Rare Earth Element from Wastewater Samples Using Imprinted Magnetic Ordered Mesoporous Carbon," *ACS SUSTAINABLE CHEMISTRY & ENGINEERING* (5:8), 2017, pp. 6910-6923.
693. Patra, S., Roy, E., Madhuri, R. and Sharma, P. K. "Imprinted Magnetic Graphene Oxide for the Mini-Solid Phase Extraction of Eu (III) from Coal Mine Area", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1N01, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
694. Patra, S., Roy, E., Parui, R., Madhuri, R. and Sharma, P. K. "Anisotropic (spherical/hexagon/cube) silver nanoparticle embedded magnetic carbon nanosphere as platform for designing of tramadol imprinted polymer," *BIOSENSORS & BIOELECTRONICS* (97), 2017, pp. 208-217.
695. Patra, S., Roy, E., Tiwari, A., Madhuri, R. and Sharma, P. K. "2-Dimensional graphene as a route for emergence of additional dimension nanomaterials," *BIOSENSORS & BIOELECTRONICS* (89:1, SI), 2017, pp. 8-27.
696. Pattapu, U., Biswal, S. P. and Das, S. "A 2.45 GHz DGS Based Harmonic Rejection Antenna For Rectenna Application" '2017 USNC-URSI RADIO SCIENCE MEETING (JOINT WITH AP-S SYMPOSIUM)', IEEE Antennas Propagat Soc; Inst Elect Elect Engineers; USNC; URSI, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Symposium of IEEE-Antennas-and-Propagation-Society / USNC/URSI National Radio Science Meeting, San Diego, CA, JUL 09-14, 2017, 2017, pp. 123-124.
697. Paul, C. and Vishwakarma, G. K. "Back propagation neural networks and multiple regressions in the case of heteroskedasticity," *COMMUNICATIONS IN STATISTICS-SIMULATION AND COMPUTATION* (46:9), 2017, pp. 6772-6789.
698. Paul, P., Kundu, S. and Mandal, D. "Effect of surface wave propagation in a four-layered oceanic crust model," *ACTA GEOPHYSICA* (65:6), 2017, pp. 1119-1131.
699. Paul, S., Ghoshal, S. K., Samanta, S. and Das, J. "Model-based single fault disambiguation and fault tolerant control for a hydraulic drive using receding horizon," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:7), 2017, pp. 2405-2419.

700. Paul, S. R. and Bhattacharya, S. "Effect of feed particle size and feed NGM on the cleaning performance of a Jig," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:19), 2017, pp. 1984-1990.
701. Perez-Flores, P., Wang, G., Mitchell, T. M., Meredith, P. G., Nara, Y., Sarkar, V. and Cembrano, J. "The effect of offset on fracture permeability of rocks from the Southern Andes Volcanic Zone, Chile," *JOURNAL OF STRUCTURAL GEOLOGY* (104), 2017, pp. 142-158.
702. Perfilieva, I., Singh, A. P. and Tiwari, S. P. "On the relationship among F-transform, fuzzy rough set and fuzzy topology," *SOFT COMPUTING* (21:13), 2017, pp. 3513-3523.
703. Perfilieva, I., Singh, A. P. and Tiwari, S. P. "On F-transforms, L-fuzzy partitions and L-fuzzy pretopological spaces" 2017 IEEE SYMPOSIUM SERIES ON COMPUTATIONAL INTELLIGENCE (SSCI)', IEEE; IEEE Computat Intelligence Soc, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Symposium Series on Computational Intelligence (IEEE SSCI), Honolulu, HI, NOV 27-DEC 01, 2017, 2017, pp. 154-161.
704. Phanikumar, D. V., Kumar, K. N., Bhattacharjee, S., Naja, M., Girach, I. A., Nair, P. R. and Kumari, S. "Unusual enhancement in tropospheric and surface ozone due to orography induced gravity waves," *REMOTE SENSING OF ENVIRONMENT* (199), 2017, pp. 256-264.
705. Pillai, P., Pal, N. and Mandal, A. "Synthesis, Characterization, Surface Properties and Micellization Behaviour of Imidazolium-based Ionic Liquids," *JOURNAL OF SURFACTANTS AND DETERGENTS* (20:6), 2017, pp. 1321-1335.
706. Prabhakar, R., Samadder, S. R. and Jyotsana "Aquatic and terrestrial weed mediated synthesis of iron nanoparticles for possible application in wastewater remediation," *JOURNAL OF CLEANER PRODUCTION* (168), 2017, pp. 1201-1210.
707. Prakash, A. and Murthy, V. M. S. R. "Hierarchy of parameters influencing cutting performance of surface miner through artificial intelligence and statistical methods," *CURRENT SCIENCE* (112:6), 2017, pp. 1242-1249.
708. Prakash, C. S., Anand, K. V. and Maheshkar, S. "Detection of Copy-Move Image Forgery Using DCT", *Advances in Computational Intelligence* 509, Springer-verlag Singapore Pte Ltd, 2017, pp. 257--265.
709. Prakash, C. S. and Maheshkar, S. "Copy-Move Forgery Detection Using DyWT," *International Journal of Multimedia Data Engineering & Management* (8:2), 2017, pp. 1--9.
710. Prakash, G. and Pathak, P. "Determinants of Counterfeit Purchase: A Study on Young Consumers of India," *JOURNAL OF SCIENTIFIC & INDUSTRIAL RESEARCH* (76:4), 2017, pp. 208-211.
711. Prakash, G. and Pathak, P. "Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation," *JOURNAL OF CLEANER PRODUCTION* (141), 2017, pp. 385-393.

712. Pramanik, A., Basak, A. K., Dong, Y., Sarker, P. K., Uddin, M. S., Littlefair, G., Dixit, A. R. and Chattopadhyaya, S. "Joining of carbon fibre reinforced polymer (CFRP) composites and aluminium alloys - A review," *COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING* (101), 2017, pp. 1-29.
713. Pramanik, A., Dixit, A. R., Chattopadhyaya, S., Uddin, M. S., Dong, Y., Basak, A. K. and Littlefair, G. "Fatigue life of machined components," *ADVANCES IN MANUFACTURING* (5:1, SI), 2017, pp. 59-76.
714. Pramanik, A. and Gupta, S. "Effect of Rigid Boundary on the Propagation of Torsional Surface Waves in Heterogeneous Earth Media", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 964--971.
715. Pramanik, A., Islam, M. N., Davies, I. J., Boswell, B., Dong, Y., Basak, A. K., Uddin, M. S., Dixit, A. R. and Chattopadhyaya, S. "Contribution of machining to the fatigue behaviour of metal matrix composites (MMCs) of varying reinforcement size," *INTERNATIONAL JOURNAL OF FATIGUE* (102), 2017, pp. 9-17.
716. Prasad, A. and Kumar, P. "Abelian theorems for fractional wavelet transform," *ASIAN-EUROPEAN JOURNAL OF MATHEMATICS* (10:1), 2017.
717. Prasad, A. and Mandal, U. K. "Boundedness of pseudo-differential operators involving Kontorovich-Lebedev transform," *INTEGRAL TRANSFORMS AND SPECIAL FUNCTIONS* (28:4), 2017, pp. 300-314.
718. Prasad, A. and Mandal, U. K. "Wavelet transforms associated with the Kontorovich-Lebedev transform," *INTERNATIONAL JOURNAL OF WAVELETS MULTIREOLUTION AND INFORMATION PROCESSING* (15:2), 2017.
719. Prasad, A. and Singh, M. K. "Pseudo-Differential Operators Involving Fractional Fourier Cosine (Sine) Transform," *Filomat* (31:6), 2017, pp. 1791--1801.
720. Prasad, A. and Singh, M. K. "Integral representations of pseudo-differential operator associated with the Jacobi differential operator," *RENDICONTI DEL CIRCOLO MATEMATICO DI PALERMO* (66:3), 2017, pp. 325-336.
721. Prasad, B., Pal, P. C. and Kundu, S. "PROPAGATION OF SH-WAVES THROUGH NON PLANER INTERFACE BETWEEN VISCO-ELASTIC AND FIBRE-REINFORCED SOLID HALF-SPACES," *JOURNAL OF MECHANICS* (33:4), 2017, pp. 545-557.
722. Prasad, B., Pal, P. C., Kundu, S. and Prasad, N. "Effect of Inhomogeneity Due to Temperature on the Propagation of Shear Waves in an Anisotropic Layer", in Srivastava, A. K., Arora, G. and Dosanjh, H. S., ed., 'RECENT ADVANCES IN FUNDAMENTAL AND APPLIED SCIENCES (RAFAS 2016)', AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1N01, MELVILLE, NY 11747-4501 USA, Conference on Recent Advances in Fundamental and Applied Sciences (RAFAS), INDIA, NOV 25-26, 2016, 2017.
723. Prasad, D., Mukherjee, A. and Mukherjee, V. "Application of chaotic krill herd algorithm for optimal power flow with direct current link placement problem," *CHAOS SOLITONS & FRACTALS* (103), 2017, pp. 90-100.

724. Prasad, D., Mukherjee, A., Shankar, G. and Mukherjee, V. "Application of chaotic whale optimisation algorithm for transient stability constrained optimal power flow," *IET SCIENCE MEASUREMENT & TECHNOLOGY* (11:8), 2017, pp. 1002-1013.
725. Prasad, H. and Maity, T. "Modeling and reliability analysis of three phase z-source AC-AC converter," *ARCHIVES OF ELECTRICAL ENGINEERING* (66:4), 2017, pp. 731-743.
726. Prasad, J., Venkatesh, A. S., Sahoo, P. R., Singh, S. and Kanouo, N. S. "Geological Controls on High-Grade Iron Ores from Kiriburu-Meghahatuburu Iron Ore Deposit, Singhbhum-Orissa Craton, Eastern India," *MINERALS* (7:10), 2017.
727. Prasad, R. M. and Kundu, S. "Torsional surface wave dispersion in pre-stressed dry sandy layer over a gravitating anisotropic porous half-space," *ZAMM-ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND MECHANIK* (97:5), 2017, pp. 550-560.
728. Prasad, R. M. and Kundu, S. "Dispersion of Love Wave in a Heterogeneous Orthotropic Layer Under Compressive Pre-Stress Lying Over an Isotropic Elastic Half-space With Rectangular Irregularity", in Gahegan, M. and Mulerikkal, J. P., ed., '7TH INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTING & COMMUNICATIONS (ICACC-2017)', IEEE, ELSEVIER SCIENCE BV, SARA BURGERHARTSTRAAT 25, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS, 7th International Conference on Advances in Computing and Communications (ICACC), Kochin, INDIA, AUG 22-24, 2017, 2017, pp. 22-29.
729. Prasad, R. M. and Kundu, S. "Dispersion of Torsional Surface Wave in a Pre-stress Anisotropic Porous Medium With Rigid and Traction Free Boundary Surface Over Sandy Half-Space", in Gahegan, M. and Mulerikkal, J. P., ed., '7TH INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTING & COMMUNICATIONS (ICACC-2017)', IEEE, ELSEVIER SCIENCE BV, SARA BURGERHARTSTRAAT 25, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS, 7th International Conference on Advances in Computing and Communications (ICACC), Kochin, INDIA, AUG 22-24, 2017, 2017, pp. 771-778.
730. Prasad, R. M., Kundu, S. and Gupta, S. "Propagation of torsional surface wave in sandy layer sandwiched between a non-homogeneous and a gravitating anisotropic porous semi-infinite media," *JOURNAL OF VIBRATION AND CONTROL* (23:11), 2017, pp. 1768-1781.
731. Prasad, S., Choudhary, B. S. and Mishra, A. K. "Effect of Stemming to Burden Ratio and Powder Factor on Blast Induced Rock Fragmentation- A Case Study", in Noor, M. M., Mani, V. N., Ganesh, M. S. and Idris, M. H., ed., 'INTERNATIONAL CONFERENCE ON MATERIALS, ALLOYS AND EXPERIMENTAL MECHANICS (ICMAEM-2017)', IOP PUBLISHING LTD, DIRAC HOUSE, TEMPLE BACK, BRISTOL BS1 6BE, ENGLAND, International Conference on Materials, Alloys and Experimental Mechanics (ICMAEM), Narsimha Reddy Engn Coll, INDIA, JUL 03-04, 2017, 2017.
732. Prasad, S. and Pal, A. K. "An RGB colour image steganography scheme using overlapping block-based pixel-value differencing," *ROYAL SOCIETY OPEN SCIENCE* (4:4), 2017.

733. Priya, S. and Singh, R. "Language Acquisition of Korean Children in an Indian Multilingual Society," *RUPKATHA JOURNAL ON INTERDISCIPLINARY STUDIES IN HUMANITIES* (9:1), 2017, pp. 263-279.
734. Priya, T. and Mishra, B. K. "Enzyme Mediated Chloroform Biotransformation and Quantitative Cancer Risk Analysis of Trihalomethanes Exposure in South East Asia," *EXPOSURE AND HEALTH* (9:1), 2017, pp. 61-75.
735. Priya, T., Mohanta, V. L. and Mishra, B. K. "Performance evaluation of zirconium oxychloride for reduction of hydrophobic fractions of natural organic matter," *SEPARATION AND PURIFICATION TECHNOLOGY* (174), 2017, pp. 104-108.
736. Priyadarshini, B. and Das, M. K. "Modeling and design of Si/SiGe radial heterojunction microwire array solar cell with pyramidal reflectors," *OPTIK* (140), 2017, pp. 1047-1055.
737. Priyam, P. and Pal, S. K. "Delineation of Rajmahal basaltic flows, inter-trappeans and associated coal layers using Audio-magneto-telluric method," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (90:1), 2017, pp. 25-31.
738. Priyanka and Maheshkar, S. "Region-based hybrid medical image watermarking for secure telemedicine applications," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:3), 2017, pp. 3617-3647.
739. Priye, V. and Kumar, V. "Subwavelength T-slot waveguide optical interconnect," *ELECTRONICS LETTERS* (53:4), 2017.
740. Purkait, R. and Tripathi, S. "Energy Aware Fuzzy Based Multi-Hop Routing Protocol Using Unequal Clustering," *WIRELESS PERSONAL COMMUNICATIONS* (94:3), 2017, pp. 809-833.
741. Quereshi, S., Ahmad, E., Pant, K. K. and Dutta, S. "Insights into the metal salt catalyzed ethyl levulinate synthesis from biorenewable feedstocks," *CATALYSIS TODAY* (291), 2017, pp. 187-194.
742. Radhakrishnan, E., Kumaraswamidhas, L. A., Muruganandam, D. and Kumaran, S. S. "Dissimilar metal study on C44300 tube to AA7075 -T651 tube plate with and without thread by FWTPET process (vol 31, pg 2523, 2017)," *JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY* (31:7), 2017, pp. 3633.
743. Radhakrishnan, E., Kumaraswamidhas, L. A., Muruganandam, D. and Kumaran, S. S. "Dissimilar metal study on C44300 tube to AA7075-T651 tube plate with and without thread by FWTPET process," *JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY* (31:5), 2017, pp. 2523-2533.
744. Raghuwanshi, S. K. and Srivastava, N. K. "Temporal pulse shaping approach for photonic generation of an arbitrary chirped microwave waveform with high time-bandwidth product," *OPTIK* (138), 2017, pp. 535-541.
745. Raghuwanshi, S. K., Srivastava, N. K. and Srivastava, A. "A novel approach to generate a chirp microwave waveform using temporal pulse shaping technique applicable in remote sensing application," *INTERNATIONAL JOURNAL OF ELECTRONICS* (104:10), 2017, pp. 1689-1699.

746. Raghuwanshi, S. K., Srivastava, N. K., Srivastava, A. and Athokpam, B. S. "Effect of Laser Modulation on Dispersion Induced Chirp Microwave Signal Generation by Using Temporal Pulse Shaping Technique," *WIRELESS PERSONAL COMMUNICATIONS* (95:2), 2017, pp. 1451-1468.
747. Rahaman, S. E., Singh, A. K., Shukla, S. K. and Barik, R. K. "Analytical Modeling of Low Erosion Extraction Grid for Ion Thruster," *IEEE TRANSACTIONS ON PLASMA SCIENCE* (45:11), 2017, pp. 2974-2978.
748. Raj, D., Chowdhury, A. and Maiti, S. K. "Ecological risk assessment of mercury and other heavy metals in soils of coal mining area: A case study from the eastern part of a Jharia coal field, India," *Human and Ecological Risk Assessment* (23:4), 2017, pp. 767--787.
749. Rajak, D. K., Deshpande, P. G. and Kumaraswamidhas, L. A. "Experimental analysis of energy absorption behaviour of Al-tube filled with pumice lightweight concrete under axial loading condition", in Noor, M. M., Mani, V. N., Ganesh, M. S. and Idris, M. H., ed., 'INTERNATIONAL CONFERENCE ON MATERIALS, ALLOYS AND EXPERIMENTAL MECHANICS (ICMAEM-2017)', IOP PUBLISHING LTD, DIRAC HOUSE, TEMPLE BACK, BRISTOL BS1 6BE, ENGLAND, International Conference on Materials, Alloys and Experimental Mechanics (ICMAEM), Narsimha Reddy Engn Coll, INDIA, JUL 03-04, 2017, 2017.
750. Rajak, D. K., Kumaraswamidhas, L. A. and Das, S. "On the influence of porosity and pore size on AlSi17 alloy foam using artificial neural network," *CIENCIA & TECNOLOGIA DOS MATERIAIS* (29:2), 2017, pp. 14-21.
751. Rajak, D. K., Kumaraswamidhas, L. A. and Das, S. "TECHNICAL OVERVIEW OF ALUMINUM ALLOY FOAM," *REVIEWS ON ADVANCED MATERIALS SCIENCE* (49:1), 2017, pp. 68-86.
752. Rajak, D. K., Kumaraswamidhas, L. A. and Sahu, S. "Experimental studies on the quasi-static movements of tube sections filled with pumice stone," *MATERIALS TODAY-PROCEEDINGS* (4:9), 2017, pp. 10560-10564.
753. Rajita, G., Lata, A. and Mandal, N. "Anemometric type flow transmitter using LM335-A temperature sensing IC," *MEASUREMENT* (108), 2017, pp. 134-142.
754. Rajkamal, Pathak, N. P., Halder, T., Dhara, S. and Yadav, S. "Partially Acetylated or Benzoylated Arabinose Derivatives as Structurally Simple Organogelators: Effect of the Ester Protecting Group on Gel Properties," *CHEMISTRY-A EUROPEAN JOURNAL* (23:47), 2017, pp. 11323-11329.
755. Rajput, V., Kumar, A., Baral, A. and Chakravorti, S. "Effect of Introduced Charge on Frequency Domain Dielectric Response of Oil-Paper Insulation" '2017 IEEE CALCUTTA CONFERENCE (CALCON)', IEEE; IEEE Kolkata Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Calcutta Conference (CALCON), Kolkata, INDIA, DEC 02-03, 2017, 2017, pp. 125-129.
756. Ram, S., Kumar, D., Singh, A. K., Kumar, A. and Singh, R. "Field and numerical modelling studies for an efficient placement of roof bolts as breaker line support," *INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES* (93), 2017, pp. 152-162.

757. Ramesh, D., Mishra, R. and Edla, D. R. "Secure Data Storage in Cloud: An e-Stream Cipher-Based Secure and Dynamic Updation Policy," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:2), 2017, pp. 873-883.
758. Rani, R. and Jain, M. K. "Effect of bottom ash at different ratios on hydraulic transportation of fly ash during mine fill," *POWDER TECHNOLOGY* (315), 2017, pp. 309-317.
759. Rani, R. and Kumar, V. "Endosulfan Degradation by Selected Strains of Plant Growth Promoting Rhizobacteria," *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY* (99:1), 2017, pp. 138-145.
760. Rani, S., Hussain, S., Mech, B. C. and Kumar, J. "Recombination Dynamics in Quantum-Dot Infrared Photodetectors with Spherical and Lens-shaped Potential" 2017 IEEE 17TH INTERNATIONAL CONFERENCE ON NANOTECHNOLOGY (IEEE-NANO)', IEEE; IEEE Nanotechnol Council; W Virginia Univ, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 17th IEEE International Conference on Nanotechnology (IEEE NANO), Pittsburgh, PA, JUL 25-28, 2017, 2017, pp. 345-348.
761. Rani, S., Hussain, S., Saha, S. and Kumar, J. "Analysis of Dark Current and Detectivity of Quantum Dot Infrared Photodetectors under the effect of microscale and nanoscale transport mechanisms" 2017 2ND IEEE INTERNATIONAL CONFERENCE ON TELECOMMUNICATIONS AND PHOTONICS (ICTP)', IEEE; IEEE Commun Soc; Energypac; Summit Commun Ltd; Dhaka Power Distribut Co Ltd; BSCCL; BBS Cables; MK Traders; UGC, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd IEEE International Conference on Telecommunications and Photonics (ICTP), Bangladesh Univ Engrn Technol, Dept EEE ECE Bldg, Dhaka, BANGLADESH, DEC 26-28, 2017, 2017, pp. 157-160.
762. Ranjan, P. and Gangwar, R. K. "Two Element Half Split Cylindrical Dielectric Resonator Antenna for Wireless Applications," *WIRELESS PERSONAL COMMUNICATIONS* (96:1), 2017, pp. 895-907.
763. Ranjan, P. and Gangwar, R. K. "Segmented quarter cylindrical dielectric resonator antenna: simulation and experimental investigation in composite form for wideband applications," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:4), 2017, pp. 881-890.
764. Ranjan, P. and Gangwar, R. K. "Quarter cylindrical dielectric resonator antenna in multi-element composite form for wideband applications," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:3), 2017, pp. 639-647.
765. Ranjan, P., Sharma, A. and Gangwar, R. K. "Experimental Investigation on Probe Feed Equilateral Triangular Dielectric Resonator Antenna for 5.8GHz ISM Band (IEEE 802.11)" 2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - SPRING (PIERS)', Electromagnet Acad; St Petersburg State Univ; Tomsk Polytechn Univ; Univ Gavle; Swedish Inst; Inst Elec Elect Engineers; IEEE Geoscience Remote Sensing Soc; Zhejiang Univ, Coll Informat Sci Elect Engrn; Sino Swedish Joint Res Ctr Photon; Zhejiang Univ, Electromagnet Acad, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Spring (PIERS), St Petersburg, RUSSIA, MAY 22-25, 2017, 2017, pp. 2195-2199.

766. Ranjan, R., Mallick, A. and Prasad, D. K. "Closed form solution for a conductive-convective-radiative annular fin with multiple nonlinearities and its inverse analysis," *HEAT AND MASS TRANSFER* (53:3), 2017, pp. 1037-1049.
767. Ranjan, R., Mallick, A. and Prasad, D. K. "Closed form solution for a conductive-convective-radiative annular fin with multiple nonlinearities and its inverse analysis (vol 53, pg 1037, 2017)," *HEAT AND MASS TRANSFER* (53:3), 2017, pp. 1133.
768. Ranjan, R. and Mitra, D. "GA Optimized HMM Error Model for OFDM," *WIRELESS PERSONAL COMMUNICATIONS* (96:1), 2017, pp. 621-633.
769. Ranjan, R., Pareek, P. and Das, M. K. "Analysis of static response of tin incorporated group -IV alloy based mid-infrared transistor laser", in Piprek, J. and Willatzen, M., ed., '17TH INTERNATIONAL CONFERENCE ON NUMERICAL SIMULATION OF OPTOELECTRONIC DEVICES NUSOD 2017', IEEE Photonics Soc; DTU Technical Univ Denmark; NUSOD Inst, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 17th International Conference on Numerical Simulation of Optoelectronic Devices NUSOD, santa barbara, CA, JUL 24-28, 2017, 2017, pp. 149-150.
770. Ranjan, R., Pareek, P. and Das, M. K. "Analysis of carrier dynamic effects on frequency response of tin incorporated group -IV alloy based transistor Laser", in Witzigmann, B., Osinski, M. and Arakawa, Y., ed., 'PHYSICS AND SIMULATION OF OPTOELECTRONIC DEVICES XXV', SPIE, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, Conference on Physics and Simulation of Optoelectronic Devices XXV, San Francisco, CA, JAN 30-FEB 02, 2017, 2017.
771. Ranjan, R. K., Mazumdar, K., Pal, R. and Chandra, S. "Generation of square and triangular wave with independently controllable frequency and amplitude using OTAs only and its application in PWM," *ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING* (92:1), 2017, pp. 15-27.
772. Ranjan, R. K., Raj, N., Bhuwal, N. and Khateb, F. "Single DVCCTA based high frequency incremental/decremental memristor emulator and its application," *AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS* (82), 2017, pp. 177-190.
773. Ranjan, R. K., Rani, N., Pal, R., Paul, S. K. and Kanyal, G. "Single CCTA based high frequency floating and grounded type of incremental/decremental memristor emulator and its application," *MICROELECTRONICS JOURNAL* (60), 2017, pp. 119-128.
774. Ranjan, S. K., Soni, A. K. and Rai, V. K. "Frequency upconversion and fluorescence intensity ratio method in Yb³⁺-ion-sensitized Gd₂O₃:Er³⁺-Eu³⁺ phosphors for display and temperature sensing," *METHODS AND APPLICATIONS IN FLUORESCENCE* (5:3), 2017.
775. Ranjan, S. K., Soni, A. K. and Rai, V. K. "Enhanced green upconversion emission in Ho³⁺:Gd₂O₃ phosphor by codoping of Yb³⁺ ions," *MATERIALS TODAY-PROCEEDINGS* (4:4, E), 2017, pp. 5593-5598.
776. Ranjan, V., Sen, P., Kumar, D. and Saraswat, A. "Enhancement of mechanical stability of waste dump slope through establishing vegetation in a surface iron ore mine," *Environmental Earth Sciences* (76:1), 2017, pp. 35.

777. Ranjan, V., Sen, P., Kumar, D. and Sarsawat, A. "Enhancement of Mechanical Stability of Waste Dump Slope through Establishing Vegetation in a Surface Iron Ore Mine," *JOURNAL OF MINING SCIENCE* (53:2), 2017, pp. 377-388.
778. Rao, P. C. S. and Banka, H. "Novel chemical reaction optimization based unequal clustering and routing algorithms for wireless sensor networks," *WIRELESS NETWORKS* (23:3), 2017, pp. 759-778.
779. Rao, P. C. S. and Banka, H. "Energy efficient clustering algorithms for wireless sensor networks: novel chemical reaction optimization approach," *WIRELESS NETWORKS* (23:2), 2017, pp. 433-452.
780. Rao, P. C. S., Jana, P. K. and Banka, H. "A particle swarm optimization based energy efficient cluster head selection algorithm for wireless sensor networks," *WIRELESS NETWORKS* (23:7), 2017, pp. 2005-2020.
781. Rao, P. S. and Agarwal, S. "Couple Stress Fluid-Based Squeeze Film Between Porous Annular Curved Plates with the Effect of Rotational Inertia," *IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY TRANSACTION A-SCIENCE* (41:A4), 2017, pp. 1171-1175.
782. Rao, P. S., Kumbhakar, B. and Kumar, B. V. R. "Effect of Thermal Radiation on MHD Flow with Variable Viscosity and Thermal Conductivity Over a Stretching Sheet in Porous Media," *JOURNAL OF NANOFUIDS* (6:2), 2017, pp. 292-299.
783. Rao, P. S., Murmu, B. and Agarwal, S. "Effects of Surface Roughness and Non-Newtonian Micropolar Fluid Squeeze Film between Conical Bearings," *ZEITSCHRIFT FÜR NATURFORSCHUNG SECTION A-A JOURNAL OF PHYSICAL SCIENCES* (72:12), 2017, pp. 1151-1158.
784. Rao, S., Sethi, A., Das, A. K., Mandal, N., Kiran, P., Ghosh, R., Dixit, A. R. and Mandal, A. "Fiber laser cutting of CFRP composites and process optimization through response surface methodology," *MATERIALS AND MANUFACTURING PROCESSES* (32:14), 2017, pp. 1612-1621.
785. Rashmi, S., Priyanka and Maheshkar, S. "Robust Multiple Composite Watermarking Using LSB Technique", in "Satapathy, S. C., Bhateja, V., Udgata, S. K. and Pattnaik, P. K., ed., 'PROCEEDINGS OF THE 5TH INTERNATIONAL CONFERENCE ON FRONTIERS IN INTELLIGENT COMPUTING: THEORY AND APPLICATIONS, FICTA 2016, VOL 1', SPRINGER-VERLAG SINGAPORE PTE LTD, SINGAPORE, SINGAPORE, 5th International Conference on Frontiers in Intelligent Computing - Theory and Applications (FICTA), KIIT Univ, Sch Comp Engn, Bhubaneswar, INDIA, SEP 16-17, 2016, 2017, pp. 209-217.
786. Rathore, M. S., Vinod, A., Angalakurthi, R., Pathak, A. P., Singh, F., Thatikonda, S. K. and Nelamarri, S. R. "Ion beam modification of structural and optical properties of GeO₂ thin films deposited at various substrate temperatures using pulsed laser deposition," *APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING* (123:11), 2017.

787. Ravi, B. and Thangaraj, J. "End-to-End Delay Bound Analysis of VANETs Based on Stochastic Method via Queueing Theory Model" "2017 2ND IEEE INTERNATIONAL CONFERENCE ON WIRELESS COMMUNICATIONS, SIGNAL PROCESSING AND NETWORKING (WISPNET)", IEEE; IEEE Commun Soc; SSN; iNSERB INDIA; Aconf; ISRO Bangalore; Pearson India Educ Serv Private Ltd; IEEE MAS Sect; IEEE Commun Madras Chapter; DST SERB New Delhi, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd IEEE International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET), Chennai, INDIA, MAR 22-24, 2017, 2017, pp. 1920-1923.
788. Ravi, K., Ravi, V. and Prasad, P. S. R. K. "Fuzzy formal concept analysis based opinion mining for CRM in financial services," *APPLIED SOFT COMPUTING* (60), 2017, pp. 786-807.
789. Rawat, P. and Singh, K. K. "Damage Tolerance of Carbon Fiber Woven Composite Doped with MWCNTs under Low-Velocity Impact", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 440--446.
790. Rawat, P. and Singh, K. K. "An Impact Behavior Analysis of CNT-Based Fiber Reinforced Composites Validated by LS-DYNA: A Review," *Polymer Composites* (38:1), 2017, pp. 175--184.
791. Rawat, P., Singh, K. K. and Singh, N. K. "Numerical Investigation of Damage Area Due to Different Shape of Impactors at Low Velocity Impact of GFRP Laminate," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 8731-8738.
792. Ray, A. and Mondal, S. "Study of collaborative PRM business model for sustainability," *BENCHMARKING-AN INTERNATIONAL JOURNAL* (24:7), 2017, pp. 1891-1911.
793. Ray, K., Sengupta, S. and Deo, G. "Reforming and cracking of CH₄ over Al₂O₃ supported Ni, Ni-Fe and Ni-Co catalysts," *FUEL PROCESSING TECHNOLOGY* (156), 2017, pp. 195-203.
794. Ray, M., Usmani, Z., Chandra, A., Kumar, V. and Jain, M. K. "Bacterial diversity in mining and non-mining regions with emphasis on plant growth-promoting traits," *CHEMISTRY AND ECOLOGY* (33:9), 2017, pp. 826-842.
795. Ray, R. K., Syed, T. H., Saha, D., Sarkar, B. C. and Patre, A. K. "Assessment of village-wise groundwater draft for irrigation: a field-based study in hard-rock aquifers of central India," *HYDROGEOLOGY JOURNAL* (25:8), 2017, pp. 2513-2525.
796. Ray, R. K., Syed, T. H., Saha, D., Sarkar, B. C. and Patre, A. K. "Assessment of village-wise groundwater draft for irrigation: a field-based study in hard-rock aquifers of central India (vol 25, pg 2513, 2017)," *HYDROGEOLOGY JOURNAL* (25:8), 2017, pp. 2527-2528.
797. Ray, R. K., Syed, T. H., Saha, D., Sarkar, B. C. and Reddy, D. V. "Recharge mechanism and processes controlling groundwater chemistry in a Precambrian sedimentary terrain: a case study from Central India," *ENVIRONMENTAL EARTH SCIENCES* (76:3), 2017.
798. Raza, M. S., Hussain, M., Kumar, V. and Das, A. K. "In Situ Production of Hard Metal Matrix Composite Coating on Engineered Surfaces Using Laser Cladding Technique," *Journal of Materials Engineering and Performance* (26:1), 2017, pp. 76--83.

799. Ritika, A., Xiong, Y. and Quan, C. "Optical Image Encryption Using Radon Transform" 2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 1235-1238.
800. Roshan, R. and Singh, U. K. "Inversion of residual gravity anomalies using tuned PSO," *GEOSCIENTIFIC INSTRUMENTATION METHODS AND DATA SYSTEMS* (6:1), 2017, pp. 71-79.
801. Roy, A., Sahoo, S. S. and Chatterjee, K. "A Reliability Assessment Model of a Wind Farm for Generation Adequacy Studies of Wind Integrated Power System" 2017 THIRD INTERNATIONAL CONFERENCE ON SCIENCE TECHNOLOGY ENGINEERING & MANAGEMENT (ICONSTEM)', Jeppiaar Engn Coll; IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 3rd IEEE International Conference on Science Technology Engineering Management (ICONSTEM), Chennai, INDIA, MAR 23-24, 2017, 2017, pp. 566-570.
802. Roy, D., Das, A. K., Saini, R., Singh, P. K., Kumar, P., Hussain, M., Mandal, A. and Dixit, A. R. "Pulse current co-deposition of Ni-WS₂ nano-composite film for solid lubrication," *Materials and Manufacturing Processes* (32:4), 2017, pp. 365--372.
803. Roy, D., Naskar, A. K. and Sadhu, P. K. "A mathematical analysis of two dimensional steady state heat conduction in the coil of an induction heater using finite element method," *JOURNAL OF POWER TECHNOLOGIES* (97:3), 2017, pp. 214-219.
804. Roy, E., Patra, S., Madhuri, R. and Sharma, P. K. "RETRACTED: Anisotropic Gold Nanoparticle Decorated Magnetopolymersome: An Advanced Nanocarrier for Targeted Photothermal Therapy and Dual Mode Responsive T-1 MRI Imaging (Retracted article. See vol. 4, pg. 1112, 2018)," *ACS BIOMATERIALS SCIENCE & ENGINEERING* (3:9, SI), 2017, pp. 2120-2135.
805. Roy, E., Patra, S., Madhuri, R. and Sharma, P. K. "Carbon dot/TAT peptide co-conjugated bubble nanoliposome for multicolor cell imaging, nuclear-targeted delivery, and chemo/photothermal synergistic therapy," *CHEMICAL ENGINEERING JOURNAL* (312), 2017, pp. 144-157.
806. Roy, E., Patra, S., Saha, S., Kumar, D., Madhuri, R. and Sharma, P. K. "Shape effect on the fabrication of imprinted nanoparticles: Comparison between spherical-, rod-, hexagonal-, and flower-shaped nanoparticles," *CHEMICAL ENGINEERING JOURNAL* (321), 2017, pp. 195-206.
807. Roy, E., Patra, S., Tiwari, A., Madhuri, R. and Sharma, P. K. "Introduction of selectivity and specificity to graphene using an inimitable combination of molecular imprinting and nanotechnology," *BIOSENSORS & BIOELECTRONICS* (89:1, SI), 2017, pp. 234-248.

808. Roy, E., Patra, S., Tiwari, A., Madhuri, R. and Sharma, P. K. "RETRACTED: Single cell imprinting on the surface of Ag-ZnO bimetallic nanoparticle modified graphene oxide sheets for targeted detection, removal and photothermal killing of E. Coli (Retracted article. See vol. 112, pg. 216, 2018)," *BIOSENSORS & BIOELECTRONICS* (89:1, SI), 2017, pp. 620-626.
809. Roy, G. M., Kumar, S., Kanuajia, B. K. and Song, H. "Bandwidth enlargement of CMOS TIA using on-chip T-network for patient diagnosis in biomedical application," *MICROELECTRONICS JOURNAL* (67), 2017, pp. 82-87.
810. Roy, N. and Sarkar, R. "A Review of Seismic Damage of Mountain Tunnels and Probable Failure Mechanisms," *GEOTECHNICAL AND GEOLOGICAL ENGINEERING* (35:1), 2017, pp. 1-28.
811. Roy, P. and Upadhyay, R. K. "SPATIOTEMPORAL TRANSMISSION DYNAMICS OF RECENT EBOLA OUTBREAK IN SIERRA LEONE, WEST AFRICA: IMPACT OF CONTROL MEASURES," *JOURNAL OF BIOLOGICAL SYSTEMS* (25:3), 2017, pp. 369-397.
812. Roy, P. K., Mallick, A., Mondal, H., Goqo, S. and Sibanda, P. "Numerical study on rectangular-convex-triangular profiles with all variable thermal properties," *INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES* (133), 2017, pp. 251-259.
813. Roy, R., Akhtar, F. and Das, N. "Entrepreneurial intention among science & technology students in India: extending the theory of planned behavior," *INTERNATIONAL ENTREPRENEURSHIP AND MANAGEMENT JOURNAL* (13:4), 2017, pp. 1013-1041.
814. Roy, R. and Das, N. "Proactive entrepreneurial characteristics of science and technology students: an empirical study in Indian context," *CURRENT SCIENCE* (113:9), 2017, pp. 1692-1701.
815. Roy, S. and Pal, A. K. "A blind DCT based color watermarking algorithm for embedding multiple watermarks," *Aeu-international Journal of Electronics and Communications* (72), 2017, pp. 149--161.
816. Roy, S. and Pal, A. K. "An indirect watermark hiding in discrete cosine transform-singular value decomposition domain for copyright protection," *ROYAL SOCIETY OPEN SCIENCE* (4:6), 2017.
817. Roy, S. and Pal, A. K. "A robust blind hybrid image watermarking scheme in RDWT-DCT domain using Arnold scrambling," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:3), 2017, pp. 3577-3616.
818. Roy, T., Sadhu, P. K. and Dasgupta, A. "A New Single Phase Multilevel Inverter Topology with Two-step Voltage Boosting Capability," *JOURNAL OF POWER ELECTRONICS* (17:5), 2017, pp. 1173-1185.
819. Rudolf, R., Majeric, P., Tomic, S., Shariq, M., Fercec, U., Budic, B., Friedrich, B., Vucevic, D. and Colic, M. "Morphology, Aggregation Properties, Cytocompatibility, and Anti-Inflammatory Potential of Citrate-Stabilized AuNPs Prepared by Modular Ultrasonic Spray Pyrolysis," *Journal of Nanomaterials* (), 2017, pp. 9365012.
820. Safiullah, M., Pathak, P., Singh, S. and Anshul, A. "Social media as an upcoming tool for political marketing effectiveness," *ASIA PACIFIC MANAGEMENT REVIEW* (22:1), 2017, pp. 10-15.

821. Saha, R. P., Choudhury, B., Das, R. K. and Sur, A. "An overview of modelling techniques employed for performance simulation of low grade heat operated adsorption cooling systems," *RENEWABLE & SUSTAINABLE ENERGY REVIEWS* (74), 2017, pp. 364-376.
822. Saha, A., Kundu, S., Gupta, S. and Vaishnav, P. K. "SH Wave Propagation in a Finite Thicker Layer of the Void Pore Sandwiched by Heterogeneous Orthotropic Media," *INTERNATIONAL JOURNAL OF GEOMECHANICS* (17:5, SI), 2017.
823. Saha, J. and Gupta, S. K. "A novel electro-chlorinator using low cost graphite electrode for drinking water disinfection," *IONICS* (23:7), 2017, pp. 1903-1913.
824. Saha, J. and Gupta, S. K. "Endeavor toward competitive electrochlorination by comparing the performance of easily affordable carbon electrodes with platinum," *CHEMICAL ENGINEERING COMMUNICATIONS* (204:12), 2017, pp. 1357-1368.
825. Saha, N. "An Introduction to the Dasasloki of Samkara and Its Commentary Siddhantabindu by Madhusudana Sarasvati," *SOPHIA* (56:2, SI), 2017, pp. 355-365.
826. Saha, S., Chattopadhyay, A., Mistri, K. C. and Singh, A. K. "Influence of yielding base and rigid base on propagation of Rayleigh-type wave in a viscoelastic layer of Voigt type," *SADHANA-ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES* (42:9), 2017, pp. 1459-1471.
827. Saha, S., Chattopadhyay, A. and Singh, A. K. "Propagation of Rayleigh type wave in an initially stressed Voigt type viscoelastic layer", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1162--1168.
828. Saha, S. and Kumar, J. "Role of interface roughness scattering, temperature, and structural parameters on the performance characteristics of III-nitride quantum cascade detectors," *JOURNAL OF APPLIED PHYSICS* (121:5), 2017.
829. Saha, S. and Kumar, J. "Modelling of Carrier Transport in Non-polar, M-plane III-nitride Quantum Cascade Detectors""2017 2ND IEEE INTERNATIONAL CONFERENCE ON TELECOMMUNICATIONS AND PHOTONICS (ICTP)', IEEE; IEEE Commun Soc; Energypac; Summit Commun Ltd; Dhaka Power Distribut Co Ltd; BSCCL; BBS Cables; MK Traders; UGC, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 2nd IEEE International Conference on Telecommunications and Photonics (ICTP), Bangladesh Univ Engr Technol, Dept EEE ECE Bldg, Dhaka, BANGLADESH, DEC 26-28, 2017, 2017, pp. 152-156.
830. Saha, S., Mech, B. C., Hussain, S. and Kumar, J. "Optical analysis of non-polar, m-plane GaN/AlGaIn quantum cascade structures", in Piprek, J. and Willatzen, M., ed., '17TH INTERNATIONAL CONFERENCE ON NUMERICAL SIMULATION OF OPTOELECTRONIC DEVICES NUSOD 2017', IEEE Photonics Soc; DTU Technical Univ Denmark; NUSOD Inst, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 17th International Conference on Numerical Simulation of Optoelectronic Devices NUSOD, santa barbara, CA, JUL 24-28, 2017, 2017, pp. 153-154.
831. Saha, S., Sarkar, A., Das, S., Panda, T. K., Harms, K. and Nayek, H. P. "The Missing Link in Ni(II)-Ln(III) System: Design and Synthesis of a Dinuclear [Ni-2] and Three Pentanuclear [Ni(3)Ln(2)] (Ln = La, Ce, Eu) Complexes of a Schiff Base Ligand," *CHEMISTRYSELECT* (2:26), 2017, pp. 7865-7872.

832. Saha, T., Kumar, S. and Bhaumik, S. K. "Slip-enhanced flow through thin packed column with superhydrophobic wall," *SENSORS AND ACTUATORS B-CHEMICAL* (240), 2017, pp. 468-476.
833. Sahoo, K., Biswas, A. and Nayak, J. "Effect of synthesis temperature on the UV sensing properties of ZnO-cellulose nanocomposite powder," *SENSORS AND ACTUATORS A-PHYSICAL* (267), 2017, pp. 99-105.
834. Sahoo, K. and Nayak, J. "ZnO-cellulose Nanocomposite Powder For Application In UV Sensors", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
835. Sahoo, S. K., Suresh, N. and Varma, A. K. "Correlation between Average Gray Value (AGV) of coal froth image with its ash and vitrinite content," *Energy Sources Part A-recovery Utilization and Environmental Effects* (39:9), 2017, pp. 893--898.
836. Sahoo, S. K., Suresh, N. and Varma, A. K. "Characterization of macerals from the coal flotation froth fraction," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:10), 2017, pp. 992-998.
837. Sahoo, S. R. and Sahu, S. "Ambipolar Nature of Dimethyl Benzo Difuran (DMBDF) Molecule: A Charge Transport Study", in Bhattacharya, S., Singh, S., Das, A. and Basu, S., ed., '61ST DAE-SOLID STATE PHYSICS SYMPOSIUM', Board Res Nucl Sci; Dept Atom Energy, AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, 61st DAE-Solid State Physics Symposium, KIIT Univ, Bhubaneswar, INDIA, DEC 26-30, 2016, 2017.
838. Sahoo, S. R., Sahu, S. and Sharma, S. "Charge transport, optical and nonlinear optical properties of CF₃ -substituted acene compounds: a DFT study," *THEORETICAL CHEMISTRY ACCOUNTS* (136:9), 2017.
839. Sahoo, S. S., Mishra, A., Chatterjee, K. and Sharma, C. K. "Enhanced Fault Ride - Through Ability of DFIG-Based Wind Energy System Using Superconducting Fault Current Limiter" "2017 4TH INTERNATIONAL CONFERENCE ON POWER, CONTROL & EMBEDDED SYSTEMS (ICPCES)", Motilal Nehru Natl Inst Technol, Dept Elect Engn; IEEE; TEQIP II, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 4th International Conference on Power, Control Embedded Systems (ICPCES), ALLAHABAD, INDIA, MAR 09-11, 2017, 2017.
840. Sahoo, T. K. and Banka, H. "New Hybrid PCA-Based Facial Age Estimation Using Inter-Age Group Variation-Based Hierarchical Classifier," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:8), 2017, pp. 3337-3355.

841. Sahu, N. K., Das, G., Sharma, A. and Gangwar, R. K. "Design of a Dual-Polarized Triple-Band Hybrid MIMO Antenna for WLAN/WiMAX Applications"2017 IEEE CONFERENCE ON ANTENNA MEASUREMENTS & APPLICATIONS (CAMA)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Conference on Antenna Measurements and Applications (CAMA), Tsukuba, JAPAN, DEC 04-06, 2017, 2017, pp. 246-248.
842. Sahu, N. K., Sharma, A. and Gangwar, R. K. "Modified annular ring patch fed cylindrical dielectric resonator antenna for WLAN/WIMAX applications," *Microwave and Optical Technology Letters* (59:1), 2017, pp. 120--125.
843. Sahu, R. and Elumalai, S. P. "Identifying Speed Hump, a Traffic Calming Device, as a Hotspot for Environmental Contamination in Traffic-Affected Urban Roads," *ACS OMEGA* (2:9), 2017, pp. 5434-5444.
844. Sahu, S. A., Chaudhary, S., Saroj, P. K. and Chattopadhyay, A. "Rayleigh waves in liquid layer resting over an initially stressed orthotropic half-space under self-weight," *ARABIAN JOURNAL OF GEOSCIENCES* (10:5), 2017.
845. Saikia, S., Chopra, S., Baruah, S. and Singh, U. K. "Shallow Sedimentary Structure of the Brahmaputra Valley Constraint from Receiver Functions Analysis," *Pure and Applied Geophysics* (174:1), 2017, pp. 229--247.
846. Saikia, T., Mahto, V. and Kumar, A. "Quantum dots: A new approach in thermodynamic inhibitor for the drilling of gas hydrate bearing formation," *JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY* (52), 2017, pp. 89-98.
847. Saini, R. K. and Dwari, S. "DUAL-BAND DUAL-SENSE CIRCULARLY POLARIZED SQUARE SLOT ANTENNA WITH CHANGEABLE POLARIZATION," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:4), 2017, pp. 902-907.
848. Saini, R. K. and Dwari, S. "Dual-Band Dual-Sense Circularly Polarized Slot Antenna"2017 INTERNATIONAL CONFERENCE ON ELECTROMAGNETICS IN ADVANCED APPLICATIONS (ICEAA)', Politecnico Torino; Univ Studi Verona; IEIIT CNR; IEEE Antennas Propagat Soc; URSI; Torino Wireless Fdn; Ist Super Mario Boella Tecnologie Informazione Telecomunicazioni; IEEE Italy Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 19th International Conference on Electromagnetics in Advanced Applications (ICEAA), Verona, ITALY, SEP 11-15, 2017, 2017, pp. 472-475.
849. Saini, R. K., Dwari, S. and Mandal, M. K. "CPW-Fed Dual-Band Dual-Sense Circularly Polarized Monopole Antenna," *IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS* (16), 2017, pp. 2497-2500.
850. Samadder, S. R., Prabhakar, R., Khan, D., Kishan, D. and Chauhan, M. S. "Analysis of the contaminants released from municipal solid waste landfill site: A case study," *SCIENCE OF THE TOTAL ENVIRONMENT* (580), 2017, pp. 593-601.

851. Sani, M. M., Chowdhury, R. and Chaudhary, R. K. "An Omni-directional Elliptical Ring Dielectric Resonator Antenna Excited with C-shaped Feed for Wideband Applications"2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 141-145.
852. Sani, M. M., Chowdhury, R. and Chaudhary, R. K. "Three-element Homogeneous Layer of Cylindrical Dielectric Resonator Antenna for Wideband Applications"2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - FALL (PIERS - FALL)', Inst Elect Elect Engineers; Nanyang Technol Univ; Electromagnet Acad; Inst Elect Elect Engineers Geoscience Remote Sensing Soc; Comp Simulat Technol; Off Naval Res Global; Interhorizon Corp Pte Ltd; Linbou Nearfield Technol Co Ltd; Rohde Schwarz; YSL Photon; Zhejiang Univ, Electromagnet Acad; Singapore Exhibit Convent Bur; YourSingapore, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL), Singapore, SINGAPORE, NOV 19-22, 2017, 2017, pp. 146-150.
853. Santoshkumar, B., Biswas, A., Kalyanaraman, S., Thangavel, R., Udayabhanu, G., Annadurai, G. and Velumani, S. "Influence of defect luminescence and structural modification on the electrical properties of Magnesium Doped Zinc Oxide Nanorods," *SUPERLATTICES AND MICROSTRUCTURES* (106), 2017, pp. 58-66.
854. Sarangi, S., Mohanty, S. P. and Barik, A. "Rare earth element characteristics of Paleoproterozoic cap carbonates pertaining to the Sausar Group, Central India: Implications for ocean paleoredox conditions," *JOURNAL OF ASIAN EARTH SCIENCES* (148), 2017, pp. 31-50.
855. Sarkar, A. and Paul, B. "The global menace of arsenic and its conventional remediation -A critical review (vol 158, pg 37, 2016)," *CHEMOSPHERE* (173), 2017, pp. 630-631.
856. Sarkar, A. K., Saha, A., Midya, L., Banerjee, C., Mandre, N., Panda, A. B. and Pal, S. "Cross-Linked Biopolymer Stabilized Exfoliated Titanate Nanosheet-Supported AgNPs: A Green Sustainable Ternary Nanocomposite Hydrogel for Catalytic and Antimicrobial Activity," *ACS SUSTAINABLE CHEMISTRY & ENGINEERING* (5:2), 2017, pp. 1881-1891.
857. Sarkar, D., Moyra, T. and Murmu, L. "An ultra-wideband (UWB) bandpass filter with complementary split ring resonator for coupling improvement," *Aeu-international Journal of Electronics and Communications* (71), 2017, pp. 89--95.
858. Sarkar, S. A. M. and Manna, N. "Juvenile rights and politicization of childhood in colonial Bengal. A socioliterary panorama," *HISTORY OF EDUCATION & CHILDRENS LITERATURE* (12:1), 2017, pp. 357-376.
859. Sarkar, S. and Seth, G. S. "Unsteady Hydromagnetic Natural Convection Flow Past a Vertical Plate with Time-Dependent Free Stream through a Porous Medium in the Presence of Hall Current, Rotation, and Heat Absorption," *Journal of Aerospace Engineering* (30:1), 2017, pp. 04016081.

860. Saurabh, Banerjee, C. M., Baral, A. and Chakravorti, S. "Effect of Measurement Temperature on Transfer Function Zero Evaluated for Condition Assessment of Oil-Paper Insulation" 2017 3RD INTERNATIONAL CONFERENCE ON CONDITION ASSESSMENT TECHNIQUES IN ELECTRICAL SYSTEMS (CATCON)', Indian Inst Technol Ropar; IEEE Dielectr and Electl Insulat Soc; IEEE Kolkata Sect DEIS Chapter; IEEE Delhi Sect, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 3rd International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), Indian Inst Technol Ropar, Rupnagar, INDIA, NOV 16-18, 2017, 2017, pp. 371-374.
861. Saxena, N., Pal, N., Dey, S. and Mandal, A. "Characterizations of surfactant synthesized from palm oil and its application in enhanced oil recovery," *JOURNAL OF THE TAIWAN INSTITUTE OF CHEMICAL ENGINEERS* (81), 2017, pp. 343-355.
862. Saxena, S., Kanaujia, B. K., Dwari, S., Kumar, S. and Tiwari, R. "A compact microstrip fed dual polarised multiband antenna for IEEE 802.11 a/b/g/n/ac/ax applications," *Aeu-international Journal of Electronics and Communications* (72), 2017, pp. 95--103.
863. Saxena, S., Kanaujia, B. K., Dwari, S., Kumar, S. and Tiwari, R. "A Compact Dual-Polarized MIMO Antenna With Distinct Diversity Performance for UWB Applications," *IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS* (16), 2017, pp. 3096-3099.
864. Saxena, V., Kumar, N. and Saxena, V. K. "A comprehensive review on combustion and stability aspects of metal nanoparticles and its additive effect on diesel and biodiesel fuelled CI engine," *RENEWABLE & SUSTAINABLE ENERGY REVIEWS* (70), 2017, pp. 563-588.
865. Seema and Dixit, A. R. "Application of Soft Computing Techniques for Cell Formation Problems: A Review", in Agarwal, P. K. and Gupta, M., ed., 2017 INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL, INDUSTRIAL, AUTOMATION AND MANAGEMENT SYSTEMS (AMIAMS) - PROCEEDINGS', IEEE; Motilal Nehru Natl Inst Technol, Dept Mech Engrg; IEEE Uttar Pradesh Sect; IEEE Robot Automat Soc, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS), Allahabad, INDIA, FEB 03-05, 2017, 2017, pp. 245-251.
866. Selvaraj, S. K., Nagarajan, M. K. and Kumaraswamidhas, L. A. "An investigation of abrasive and erosion behaviour of AA 2618 reinforced with Si₃N₄, AlN and ZrB₂ in situ composites by using optimization techniques," *Archives of Civil and Mechanical Engineering* (17:1), 2017, pp. 43--54.
867. Sen, T., Thangavel, R. and Nair, U. G. "Optical and Electrical Properties of Copper Doped Nickel Oxide Thin Films by Using Sol-Gel Spin Coating Method," *MATERIALS TODAY-PROCEEDINGS* (4:9), 2017, pp. 9597-9601.
868. Senapati, R. N., Dutta, P., Rana, S., Parida, K. M., Sahu, S. and Sarkar, A. "Catalytic activity of vanadium-substituted molybdophosphoric acid supported on titania for the vapor-phase synthesis of isophthalonitrile," *INORGANIC AND NANO-METAL CHEMISTRY* (47:10), 2017, pp. 1429-1435.

869. Sengar, S. S. and Mukhopadhyay, S. "Motion detection using block based bi-directional optical flow method," *JOURNAL OF VISUAL COMMUNICATION AND IMAGE REPRESENTATION* (49), 2017, pp. 89-103.
870. Sengar, S. S. and Mukhopadhyay, S. "Moving object detection based on frame difference and W4," *SIGNAL IMAGE AND VIDEO PROCESSING* (11:7), 2017, pp. 1357-1364.
871. Sengar, S. S. and Mukhopadhyay, S. "Foreground Detection via Background Subtraction and Improved Three-Frame Differencing," *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING* (42:8), 2017, pp. 3621-3633.
872. Sengar, S. S. and Mukhopadhyay, S. "Detection of moving objects based on enhancement of optical flow," *OPTIK* (145), 2017, pp. 130-141.
873. Sengar, V. K., Ray, P. K. C., Chatteraj, S. L., Venkatesh, A. S., Sajeer, R., Konwar, P. and Thapa, S. "Demarcation of Mineral Rich Zones in Areas Adjoining to a Copper Prospect In Rajasthan, India Using ASTER, DEM (ALOS) & Spaceborne Gravity Data", in Michel, U., Schulz, K., Nikolakopoulos, K. G. and Civco, D., ed., 'EARTH RESOURCES AND ENVIRONMENTAL REMOTE SENSING/GIS APPLICATIONS VIII', SPIE, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, 17th SPIE Conference on Earth Resources and Environmental Remote Sensing/GIS Applications, Warsaw, POLAND, SEP 12-14, 2017, 2017.
874. Seth, G. S., Bhattacharyya, A. and Tripathi, R. "EFFECT OF HALL CURRENT ON MHD NATURAL CONVECTION HEAT AND MASS TRANSFER FLOW OF ROTATING FLUID PAST A VERTICAL PLATE WITH RAMPED WALL TEMPERATURE," *FRONTIERS IN HEAT AND MASS TRANSFER* (9), 2017.
875. Seth, G. S., Kumbhakar, B. and Sarkar, S. "Unsteady MHD natural convection flow with exponentially accelerated free-stream past a vertical plate in the presence of hall current and rotation," *RENDICONTI DEL CIRCOLO MATEMATICO DI PALERMO* (66:3), 2017, pp. 263-283.
876. Seth, G. S. and Mishra, M. K. "Analysis of transient flow of MHD nanofluid past a non-linear stretching sheet considering Navier's slip boundary condition," *ADVANCED POWDER TECHNOLOGY* (28:2), 2017, pp. 375-384.
877. Seth, G. S., Sharma, R., Mishra, M. K. and Chamkha, A. J. "Analysis of hydromagnetic natural convection radiative flow of a viscoelastic nanofluid over a stretching sheet with Soret and Dufour effects," *ENGINEERING COMPUTATIONS* (34:2), 2017, pp. 603-628.
878. Seth, G. S., Singha, A. K., Mandal, M. S., Banerjee, A. and Bhattacharyya, K. "MHD stagnation-point flow and heat transfer past a non-isothermal shrinking/stretching sheet in porous medium with heat sink or source effect," *INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES* (134), 2017, pp. 98-111.
879. Seth, G. S., Tripathi, R. and Mishra, M. K. "Hydromagnetic thin film flow of Casson fluid in non-Darcy porous medium with Joule dissipation and Navier's partial slip," *APPLIED MATHEMATICS AND MECHANICS-ENGLISH EDITION* (38:11), 2017, pp. 1613-1626.

880. Seth, G. S., Tripathi, R. and Rashidi, M. M. "HYDROMAGNETIC NATURAL CONVECTION FLOW IN A NON-DARCY MEDIUM WITH SORET AND DUFOUR EFFECTS PAST AN INCLINED STRETCHING SHEET," *JOURNAL OF POROUS MEDIA* (20:10), 2017, pp. 941-960.
881. Seth, G. S., Tripathi, R., Sharma, R. and Chamkha, A. J. "MHD DOUBLE DIFFUSIVE NATURAL CONVECTION FLOW OVER EXPONENTIALLY ACCELERATED INCLINED PLATE," *JOURNAL OF MECHANICS* (33:1), 2017, pp. 87-99.
882. Sethi, K. K. and Ramesh, D. "HFIM: a Spark-based hybrid frequent itemset mining algorithm for big data processing," *JOURNAL OF SUPERCOMPUTING* (73:8), 2017, pp. 3652-3668.
883. Sethy, S. N., Syed, T. H. and Kumar, A. "Evaluation of groundwater quality in parts of the Southern Gangetic Plain using water quality indices," *Environmental Earth Sciences* (76:3), 2017.
884. Shah, S., Tiwari, N., Kumar, Y., Jha, S. N., Auroux, A., Pandey, J. K. and Chowdhury, B. "Highly Acidic, Thermal Stable NbPO₄@Fullerene Catalyst for Dehydration of Cyclohexanol," *CHEMISTRYSELECT* (2:20), 2017, pp. 5640-5645.
885. Shameem, M., Kumar, C. and Chandra, B. "A proposed framework for effective software team performance: A mapping study between the team members' personality and team climate", in Astya, P. N., Swaroop, A., Sharma, V., Singh, M. and Gupta, K., ed., '2017 IEEE INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND AUTOMATION (ICCCA)', IEEE; IEEE UP Sect; GALGOTIAS UNIV, Sch Comp Sci Engn, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE International Conference on Computing, Communication and Automation (ICCCA), Noida, INDIA, MAY 05-06, 2017, 2017, pp. 912-917.
886. Shameem, M., Kumar, C. and Chandra, B. "Challenges of Management in the Operation of Virtual Software Development Teams: A Systematic Literature Review" '2017 4TH INTERNATIONAL CONFERENCE ON ADVANCED COMPUTING AND COMMUNICATION SYSTEMS (ICACCS)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 4th International Conference on Advanced Computing and Communication Systems (ICACCS), Coimbatore, INDIA, JAN 06-07, 2017, 2017.
887. Shameem, M., Kumar, C., Chandra, B. and Khan, A. A. "Systematic Review of Success Factors for Scaling Agile Methods in Global Software Development Environment: A Client-Vendor Perspective" '2017 24TH ASIA-PACIFIC SOFTWARE ENGINEERING CONFERENCE WORKSHOPS (APSECW)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 24th Asia-Pacific Software Engineering Conference (APSEC), Nanjing, PEOPLES R CHINA, DEC 04-08, 2017, 2017, pp. 17-24.
888. Shankar, G., Kumar, S. K. and Mahato, P. K. "Vibration analysis and control of smart composite plates with delamination and under hygrothermal environment," *THIN-WALLED STRUCTURES* (116), 2017, pp. 53-68.
889. Shankar, G. and Mahato, P. K. "Vibration analysis and control of delaminated and/or damaged composite plate structures using finite element analysis," *MATERIALS AT HIGH TEMPERATURES* (34:5-6), 2017, pp. 342-349.

890. Shankar, R., Pradhan, S. R., Chatterjee, K. and Mandal, R. "A comprehensive state of the art literature survey on LFC mechanism for power system," *RENEWABLE & SUSTAINABLE ENERGY REVIEWS* (76), 2017, pp. 1185-1207.
891. Sharan, S., Srivastava, A. K. and Tiwari, S. P. "Characterizations of rough finite state automata," *INTERNATIONAL JOURNAL OF MACHINE LEARNING AND CYBERNETICS* (8:3), 2017, pp. 721-730.
892. Sharan, S., Tiwari, S. P. and Kumari, N. "On relationship between generalized rough multisets and multiset topologies," *INTERNATIONAL JOURNAL OF MACHINE LEARNING AND CYBERNETICS* (8:6), 2017, pp. 2017-2024.
893. Shariq, M., Majeric, P., Friedrich, B., Budic, B., Jenko, D., Dixit, A. R. and Rudolf, R. "Application of Gold(III) Acetate as a New Precursor for the Synthesis of Gold Nanoparticles in PEG Through Ultrasonic Spray Pyrolysis," *JOURNAL OF CLUSTER SCIENCE* (28:3), 2017, pp. 1647-1665.
894. Sharma, A., Das, G. and Gangwar, R. K. "Dual-band circularly polarized hybrid antenna for WLAN/WiMAX applications," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:10), 2017, pp. 2450-2457.
895. Sharma, A., Das, G. and Gangwar, R. K. "Dual-band circularly polarized modified circular aperture loaded cylindrical dielectric resonator antenna for wireless applications," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:7), 2017, pp. 1562-1570.
896. Sharma, A., Das, G. and Gangwar, R. K. "Dual-band dual-polarized hybrid aperture-cylindrical dielectric resonator antenna for wireless applications," *INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING* (27:5), 2017.
897. Sharma, A., Das, G. and Gangwar, R. K. "Dual-band Dual-polarized Hybrid Cylindrical Dielectric Resonator Antenna for Wireless Applications"2017 PROGRESS IN ELECTROMAGNETICS RESEARCH SYMPOSIUM - SPRING (PIERS)', Electromagnet Acad; St Petersburg State Univ; Tomsk Polytechn Univ; Univ Gavle; Swedish Inst; Inst Elec Elect Engineers; IEEE Geoscience Remote Sensing Soc; Zhejiang Univ, Coll Informat Sci Elect Engn; Sino Swedish Joint Res Ctr Photon; Zhejiang Univ, Electromagnet Acad, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Progress in Electromagnetics Research Symposium - Spring (PIERS), St Petersburg, RUSSIA, MAY 22-25, 2017, 2017, pp. 2190-2194.
898. Sharma, A., Das, G. and Gangwar, R. K. "Tri-Band Ring Dielectric Resonator Based Integrated Antenna for WLAN/WiMAX Applications"2017 IEEE CONFERENCE ON ANTENNA MEASUREMENTS & APPLICATIONS (CAMA)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE Conference on Antenna Measurements and Applications (CAMA), Tsukuba, JAPAN, DEC 04-06, 2017, 2017, pp. 174-177.
899. Sharma, A. and Gangwar, R. K. "Tri-band composite cylindrical dielectric resonator antenna with hybrid mode excitation and cross-polarization suppression," *INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING* (27:8), 2017.
900. Sharma, A., Ranjan, P. and Gangwar, R. K. "Multiband cylindrical dielectric resonator antenna for WLAN/WiMAX application," *ELECTRONICS LETTERS* (53:3), 2017.

901. Sharma, A. K., Singh, R. K., Dixit, A. R. and Tiwari, A. K. "Novel uses of alumina-MoS₂ hybrid nanoparticle enriched cutting fluid in hard turning of AISI 304 steel," *JOURNAL OF MANUFACTURING PROCESSES* (30), 2017, pp. 467-482.
902. Sharma, A. K., Tiwari, A. K., Dixit, A. R. and Singh, R. K. "Investigation into Performance of SiO₂ Nanoparticle Based Cutting Fluid in Machining Process," *MATERIALS TODAY-PROCEEDINGS* (4:2, A), 2017, pp. 133-141.
903. Sharma, D. K., Patra, A. N. and Kumar, C. "P-AODV: A Priority Based Route Maintenance Process in Mobile Ad Hoc Networks," *WIRELESS PERSONAL COMMUNICATIONS* (95:4), 2017, pp. 4381-4402.
904. Sharma, G., Ray, P. K. C., Mohanty, S., Gautam, P. K. R. and Kannaujiya, S. "Global navigation satellite system detection of preseismic ionospheric total electron content anomalies for strong magnitude ($M_w > 6$) Himalayan earthquakes," *JOURNAL OF APPLIED REMOTE SENSING* (11), 2017.
905. Sharma, G., Ray, P. K. C., Mohanty, S. and Kannaujiya, S. "Ionospheric TEC modelling for earthquakes precursors from GNSS data," *QUATERNARY INTERNATIONAL* (462), 2017, pp. 65-74.
906. Sharma, H., Pal, N., Kumar, P. and Yadav, A. "A control strategy of hybrid solar-wind energy generation system," *ARCHIVES OF ELECTRICAL ENGINEERING* (66:2), 2017, pp. 241-251.
907. Sharma, R. and Raghuwanshi, S. K. "Modeling and analysis of overmodulation in erbium-doped fiber amplifiers including amplified spontaneous emission," *OPTICAL ENGINEERING* (56:2), 2017.
908. Sharma, S., Jayswal, A. and Choudhury, S. "SUFFICIENCY AND MIXED TYPE DUALITY FOR MULTIOBJECTIVE VARIATIONAL CONTROL PROBLEMS INVOLVING α -V-UNIVEXITY," *EVOLUTION EQUATIONS AND CONTROL THEORY* (6:1), 2017, pp. 93-109.
909. Sharma, S. and Saha, A. K. "Statistical analysis of rainfall trends over Damodar River basin, India," *ARABIAN JOURNAL OF GEOSCIENCES* (10:15), 2017.
910. Sharma, S. and Singh, P. K. "Long Term Spatiotemporal Variability in Rainfall Trends over the State of Jharkhand, India," *CLIMATE* (5:1), 2017.
911. Sharma, S. K., Abdalla, M. A. and Chaudhary, R. K. "AN ELECTRICALLY SMALL SICRR METAMATERIAL-INSPIRED DUAL-BAND ANTENNA FOR WLAN AND WIMAX APPLICATIONS," *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS* (59:3), 2017, pp. 573-578.

912. Sharma, T. K. and Kumar, S. "Impact of Geometry Aspect Ratio on the Performance of Si GAA Nanowire MOSFET" "2017 INTERNATIONAL CONFERENCE ON MICROELECTRONIC DEVICES, CIRCUITS AND SYSTEMS (ICMDCS)', Vellore Inst Technol, Sch Elect Engn, Dept Micro Nanoelectron; IEEE Elect Devices Soc; GlobalFoundries; Mentor, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International conference on Microelectronic Devices, Circuits and Systems (ICMDCS), Vellore Inst Technol, Vellore, INDIA, AUG 10-12, 2017, 2017.
913. Sharma, V., Chattopadhyaya, S. and Hloch, S. "SURFACE QUALITY FINISH IN LASER CUTTING USING TAGUCHI DESIGN," *TEHNICKI VJESNIK-TECHNICAL GAZETTE* (24:1), 2017, pp. 15-19.
914. Shinde, P. S., Kumar, P., Singh, K. K., Tripathi, V. K., Aradhi, S. and Sarkar, P. K. "The role of yield stress on cracked thin panels of aluminum alloys repaired with a fRP patch," *Journal of Adhesion* (93:5), 2017, pp. 412--429.
915. Shiwakoti, N., Bobby, A., Asokan, K. and Antony, B. "Effect of Au⁸⁺ irradiation on Ni/n-GaP Schottky diode: Its influence on interface state density and relaxation time," *Physica B-condensed Matter* (504), 2017, pp. 133--138.
916. Shiwakoti, N., Bobby, A., Asokan, K. and Antony, B. "Transport properties of Gallium Phosphide based Schottky contact with thin insulating layer," *MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING* (61), 2017, pp. 145-149.
917. Shiwakoti, N., Bobby, A., Asokan, K. and Antony, B. "The role of electronic energy loss in SHI irradiated Ni/oxide/n-GaP Schottky diode," *MICROELECTRONICS RELIABILITY* (69), 2017, pp. 40-46.
918. Shravan, K. and Venugopal, R. "Performance analysis of jig for coal cleaning using 3D response surface methodology," *INTERNATIONAL JOURNAL OF MINING SCIENCE AND TECHNOLOGY* (27:2), 2017, pp. 333-337.
919. Shukla, K., Kumar, B., Agrawal, R., Priyanka, K., Venkatesh, M. and Anshumali "Assessment of Cr, Ni and Pb Pollution in Rural Agricultural Soils of Tonalite-Trondjemite Series in Central India," *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY* (98:6), 2017, pp. 856-866.
920. Sikder, P. S. and Pal, N. "INCREMENTAL CONDUCTANCE BASED MAXIMUM POWER POINT TRACKING CONTROLLER USING DIFFERENT BUCK-BOOST CONVERTER FOR SOLAR PHOTOVOLTAIC SYSTEM," *REVUE ROUMAINE DES SCIENCES TECHNIQUES-SERIE ELECTROTECHNIQUE ET ENERGETIQUE* (62:3), 2017, pp. 269-275.
921. Sim, L. C., Tan, W. H., Leong, K. H., Bashir, M. J. K., Saravanan, P. and Surib, N. A. "Mechanistic Characteristics of Surface Modified Organic Semiconductor g-C₃N₄ Nanotubes Alloyed with Titania," *Materials* (10:1), 2017, pp. 28.
922. Sing, A. .. K. ..., Das, A. and Ray, A. "Rayleigh-type wave propagation through liquid layer over corrugated substrate," *APPLIED MATHEMATICS AND MECHANICS-ENGLISH EDITION* (38:6), 2017, pp. 851-866.

923. Singh, A., Maiti, S. and Tiwari, R. K. "Selection of optimum wavelet in CWT analysis of geophysical downhole data," *JOURNAL OF INDIAN GEOPHYSICAL UNION* (21:2), 2017, pp. 153-166.
924. Singh, A. and Singh, U. K. "Continuous wavelet transform and Euler deconvolution method and their application to magnetic field data of Jharia coalfield, India," *GEOSCIENTIFIC INSTRUMENTATION METHODS AND DATA SYSTEMS* (6:1), 2017, pp. 53-69.
925. Singh, A. K., Chaki, M. S., Hazra, B. and Mahto, S. "Influence of imperfectly bonded piezoelectric layer with irregularity on propagation of Love-type wave in a reinforced composite structure," *STRUCTURAL ENGINEERING AND MECHANICS* (62:3), 2017, pp. 325-344.
926. Singh, A. K., Das, A., Chattopadhyay, A. and Dhua, S. "Influence of magnetic effect, anisotropy, irregularity, initial stress and heterogeneity on propagation of SH-wave in an irregular pre-stressed magnetoelastic monoclinic sandwiched layer," *ARABIAN JOURNAL OF GEOSCIENCES* (10:13), 2017.
927. Singh, A. K., Das, A., Lakshman, A., Negi, A. and Chattopadhyay, A. "Effects of irregularity and initial stresses on the dynamic response of viscoelastic half-space due to a moving load," *ACTA MECHANICA SOLIDA SINICA* (30:3), 2017, pp. 306-317.
928. Singh, A. K., Das, A., Mistri, K. C. and Chattopadhyay, A. "Green's function approach to study the propagation of SH-wave in piezoelectric layer influenced by a point source," *MATHEMATICAL METHODS IN THE APPLIED SCIENCES* (40:13), 2017, pp. 4771-4784.
929. Singh, A. K., Das, A., Mistri, K. C., Nimishe, S. and Koley, S. "Effect of corrugation on the dispersion of Love-type wave in a layer with monoclinic symmetry, overlying an initially stressed transversely isotropic half-space," *MULTIDISCIPLINE MODELING IN MATERIALS AND STRUCTURES* (13:2), 2017, pp. 308-325.
930. Singh, A. K., Kumar, S., Dharmender and Mahto, S. "Influence of rectangular and parabolic irregularities on the propagation behavior of transverse wave in a piezoelectric layer A comparative approach," *MULTIDISCIPLINE MODELING IN MATERIALS AND STRUCTURES* (13:2), 2017, pp. 188-216.
931. Singh, A. K., Lakshman, A. and Chattopadhyay, A. "Influence of corrugated boundary surface and reinforcement of fibre-reinforced layer on propagation of torsional surface wave," *JOURNAL OF VIBRATION AND CONTROL* (23:9), 2017, pp. 1417-1436.
932. Singh, A. K., Mahato, A. K. and Shum, K. P. "Quasi-coretractable modules," *ASIAN-EUROPEAN JOURNAL OF MATHEMATICS* (10:3), 2017.
933. Singh, A. K., Mistri, K. C. and Chattopadhyay, A. "Normal load moving on magneto-elastic transversely isotropic half-space with irregular and hydrostatic initial stress," *JOURNAL OF VIBRATION AND CONTROL* (23:8), 2017, pp. 1354-1373.
934. Singh, A. K., Mistri, K. C. and Das, A. "Propagation of SH-wave in a corrugated viscous sandy layer sandwiched between two elastic half-spaces," *Waves in Random and Complex Media* (27:2), 2017, pp. 213--240.

935. Singh, A. K., Mistri, K. C., Dharmender, Kaur, T. and Sharma, S. K. "Shear-Wave Propagation in a Loosely Bonded Inhomogeneous Fiber-Reinforced Stratum under the Influence of Horizontal Initial Stress Growing with Depth," *INTERNATIONAL JOURNAL OF GEOMECHANICS* (17:10), 2017.
936. Singh, A. K., Mistri, K. C., Kaur, T. and Chattopadhyay, A. "Effect of undulation on SH-wave propagation in corrugated magneto-elastic transversely isotropic layer," *Mechanics of Advanced Materials and Structures* (24:3), 2017, pp. 200--211.
937. Singh, A. K., Mistri, K. C., Kaur, T. and Sharma, S. "Propagation of Shear Wave at a Loosely Bonded Corrugated Interface between a Fibre-reinforced Layer and an Isotropic Half-space", in Chamola, B. P. and Kumari, P., ed., 'MATHEMATICAL SCIENCES AND ITS APPLICATIONS', AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, International Conference on Recent Advances in Mathematical Sciences and its Applications (RAMSA), Jaypee Inst Informat Technol, Noida, INDIA, DEC 08-10, 2016, 2017.
938. Singh, A. K., Negi, A., Chattopadhyay, A. and Verma, A. K. "Analysis of Different Types of Heterogeneity and Induced Stresses in an Initially Stressed Irregular Transversely Isotropic Rock Medium Subjected to Dynamic Load," *INTERNATIONAL JOURNAL OF GEOMECHANICS* (17:8), 2017.
939. Singh, A. K., Negi, A., Verma, A. K. and Kumar, S. "Analysis of Stresses Induced due to a Moving Load on Irregular Initially Stressed Heterogeneous Viscoelastic Rock Medium," *JOURNAL OF ENGINEERING MECHANICS* (143:9), 2017.
940. Singh, A. K., Parween, Z., Das, A. and Chattopadhyay, A. "INFLUENCE OF LOOSELY-BONDED SANDWICHED INITIALLY STRESSED VISCO-ELASTIC LAYER ON TORSIONAL WAVE PROPAGATION," *JOURNAL OF MECHANICS* (33:3), 2017, pp. 351-368.
941. Singh, A. K., Yadav, R. P., Kumar, S. and Chattopadhyay, A. "Shear wave in a pre-stressed poroelastic medium diffracted by a rigid strip," *JOURNAL OF SOUND AND VIBRATION* (407), 2017, pp. 16-31.
942. Singh, A. P. and Tiwari, S. P. "On residuated lattice based fuzzy variable precision F-transform" "2017 JOINT 17TH WORLD CONGRESS OF INTERNATIONAL FUZZY SYSTEMS ASSOCIATION AND 9TH INTERNATIONAL CONFERENCE ON SOFT COMPUTING AND INTELLIGENT SYSTEMS (IFSA-SCIS)', Int Fuzzy Syst Assoc; SOFT; IEE Syst Man Cybernet Soc; Fuji Technol Press Ltd; Omron, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, Joint 17th World Congress of International-Fuzzy-Systems-Association / 9th International Conference on Soft Computing and Intelligent Systems (IFSA-SCIS), Otsu City, JAPAN, JUN 27-30, 2017, 2017.
943. Singh, B., Pal, C., Mukherjee, V., Tiwari, P. and Yadav, M. K. "Distributed generation planning from power system performances viewpoints: A taxonomical survey," *RENEWABLE & SUSTAINABLE ENERGY REVIEWS* (75), 2017, pp. 1472-1492.

944. Singh, D. K., Behera, D., Singh, M. K., Udayabhanu, G. and John, R. P. "Investigation on Adsorption and the Corrosion Inhibition Effect of Some Novel Hydrazide Derivatives for Mild Steel in HCl Solution," *METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE* (48A:10), 2017, pp. 5132-5145.
945. Singh, D. K., Kanaujia, B. K., Dwari, S., Pandey, G. P. and Kumar, S. "Reconfigurable circularly polarized capacitive coupled microstrip antenna," *INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES* (9:4), 2017, pp. 843-850.
946. Singh, D. K. and Manam, J. "Investigation of structural, spectral and photometric properties of CaTiO₃:Dy³⁺ nanophosphors for the lighting applications," *ELECTRONIC MATERIALS LETTERS* (13:4), 2017, pp. 292-301.
947. Singh, D. K., Mondal, K. and Manam, J. "Improved photoluminescence, thermal stability and temperature sensing performances of K⁺ incorporated perovskite BaTiO₃:Eu³⁺ red emitting phosphors," *CERAMICS INTERNATIONAL* (43:16), 2017, pp. 13602-13611.
948. Singh, G. and Kamal, R. K. "Heavy metal contamination and its indexing approach for groundwater of Goa mining region, India," *APPLIED WATER SCIENCE* (7:3), 2017, pp. 1479-1485.
949. Singh, G. N., Khalid, M. and Sharma, A. K. "Some efficient classes of estimators of population mean in two-phase successive sampling under random non response," *COMMUNICATIONS IN STATISTICS-THEORY AND METHODS* (46:24), 2017, pp. 12194-12209.
950. Singh, G. N., Khetan, M. and Maurya, S. "Some Estimation Procedures Under Non-response Using Super Population Model in Two-Occasion Successive Sampling," *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES INDIA SECTION A-PHYSICAL SCIENCES* (87:3), 2017, pp. 373-384.
951. Singh, G. N., Khetan, M. and Maurya, S. "On the use of multi-auxiliary variables to neutralize the effect of non response in two-occasion successive sampling," *Communications in Statistics-theory and Methods* (46:7), 2017, pp. 3501--3519.
952. Singh, G. N., Maurya, S. and Khetan, M. "Some effective combinations of available information under non response in two-occasion successive sampling," *Communications in Statistics-theory and Methods* (46:1), 2017, pp. 280--295.
953. Singh, G. N., Sharma, A. K. and Bandyopadhyay, A. "Effectual variance estimation strategy in two-occasion successive sampling in presence of random non response," *Communications in Statistics-theory and Methods* (46:14), 2017, pp. 7201--7224.
954. Singh, G. N. and Singh, A. K. "An Efficient Estimation Procedure in Two-Occasion Successive Sampling," *JOURNAL OF STATISTICAL THEORY AND APPLICATIONS* (16:1), 2017, pp. 26-37.
955. Singh, H. and Mishra, B. K. "Assessment of kinetics behavior of electrocoagulation process for the removal of suspended solids and metals from synthetic water," *ENVIRONMENTAL ENGINEERING RESEARCH* (22:2), 2017, pp. 141-148.

956. Singh, J. and Manam, J. "Effect of Y^{3+} on structural environment and luminescence characteristics of novel $SrGd_{1.94-2x}Eu_{0.06Y_{2x}O_4}$ phosphors for display and dosimetric applications," *MATERIALS RESEARCH BULLETIN* (88), 2017, pp. 105-113.
957. Singh, J., Manam, J., Kumari, P. and Jana, S. "Investigation of Thermal Stability of Red Emitting $SrGd_{2(1-x)}Eu_{2x}O_4$ Phosphors for Lighting and Display Applications," *JOURNAL OF NANO-AND ELECTRONIC PHYSICS* (9:3), 2017.
958. Singh, J., Manam, J. and Singh, F. "Thermoluminescence studies of solid-state reaction derived and gamma-irradiated $SrGd_2O_4: Eu^{3+}$ phosphor," *MATERIALS RESEARCH BULLETIN* (93), 2017, pp. 318-324.
959. Singh, J., Manam, J. and Singh, F. "Synthesis and thermoluminescence studies of gamma-irradiated Dy^{3+} doped $SrGd_2O_4$ phosphor," *MATERIALS RESEARCH BULLETIN* (94), 2017, pp. 113-121.
960. Singh, K. K., Chaudhary, S. K., Venugopal, R. and Gaurav, A. "Bulk synthesis of multi-walled carbon nanotubes by AC arc discharge method," *PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART N-JOURNAL OF NANOMATERIALS NANOENGINEERING AND NANOSYSTEMS* (231:3), 2017, pp. 141-151.
961. Singh, K. K., Singh, S. and Shrivastava, A. K. "Comparison of Wear and Friction Behavior of Aluminum Matrix Alloy (Al 7075) and Silicon Carbide based Aluminum Metal Matrix Composite under Dry Condition at Different Sliding Distance," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 8960-8970.
962. Singh, K. K. and Singh, U. K. "Application of particle swarm optimization for gravity inversion of 2.5-D sedimentary basins using variable density contrast," *GEOSCIENTIFIC INSTRUMENTATION METHODS AND DATA SYSTEMS* (6:1), 2017, pp. 193-198.
963. Singh, M., Kushwaha, B. K., Singh, S., Kumar, V., Singh, V. P. and Prasad, S. M. "Sulphur alters chromium (VI) toxicity in *Solarium melongena* seedlings: Role of sulphur assimilation and sulphur-containing antioxidants," *PLANT PHYSIOLOGY AND BIOCHEMISTRY* (112), 2017, pp. 183-192.
964. Singh, M. and Raghuwanshi, S. K. "Generation of octupled microwave signal via frequency multiplication method," *JOURNAL OF OPTICS* (19:11), 2017.
965. Singh, M., Raghuwanshi, S. K. and Srivastava, N. K. "Reconfigurable photonic delay line filter working in Ku band," *JOURNAL OF OPTICS* (19:6), 2017.
966. Singh, M. K. and Chatterjee, A. "Solution of one-dimensional space- and time-fractional advection-dispersion equation by homotopy perturbation method," *ACTA GEOPHYSICA* (65:2), 2017, pp. 353-361.
967. Singh, M. K., Chatterjee, A. and Singh, V. P. "Solution of One-Dimensional Time Fractional Advection Dispersion Equation by Homotopy Analysis Method," *JOURNAL OF ENGINEERING MECHANICS* (143:9), 2017.

968. Singh, M. K., Roy, S., Hansda, A., Kumar, S., Kumar, M., Kumar, V., Peter, S. C. and John, R. P. "Synthesis, characterization and antibacterial activity evaluation of trinuclear Ni(II) complexes with N-substituted salicylhydrazide ligands," *POLYHEDRON* (126), 2017, pp. 100-110.
969. Singh, M. K. and Sahu, S. A. "Effect of Anisotropy, Earth Magnetism and Irregular Boundary on Polarized Shear wave propagation", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1138--1145.
970. Singh, M. K. and Sahu, S. A. "TORSIONAL WAVE PROPAGATION IN A PRE-STRESSED STRUCTURE WITH CORRUGATED AND LOOSELY BONDED SURFACES," *JOURNAL OF THEORETICAL AND APPLIED MECHANICS-BULGARIA* (47:4), 2017, pp. 48-74.
971. Singh, N. K., Pandey, P. M. and Singh, K. K. "Experimental investigations into the performance of EDM using argon gas-assisted perforated electrodes," *Materials and Manufacturing Processes* (32:9), 2017, pp. 940--951.
972. Singh, N. K. and Singh, K. K. "Impact Analysis of Multi-wall Carbon Nano Tubes Doped Symmetric and Asymmetric Glass Fiber Reinforced Polymer Laminates," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 8059-8068.
973. Singh, P. K., Bishwakarma, H., Shubham and Das, A. K. "Study of Annealing Effects on Ag₂O Nanoparticles Generated by Electrochemical Spark Process," *JOURNAL OF ELECTRONIC MATERIALS* (46:10), 2017, pp. 5715-5727.
974. Singh, P. K., Das, A. K., Hatui, G. and Nayak, G. C. "Shape controlled green synthesis of CuO nanoparticles through ultrasonic assisted electrochemical discharge process and its application for supercapacitor," *MATERIALS CHEMISTRY AND PHYSICS* (198), 2017, pp. 16-34.
975. Singh, P. K., Mishra, A. K. and Singh, D. R. "A new model of exact reclamation of post-mining land to address land acquisition problem in Indian coal mining industry," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (89:3), 2017, pp. 307-314.
976. Singh, P. K. and Sharma, S. "STATISTICAL ANALYSIS OF SEASONAL AND ANNUAL RAINFALL TRENDS OVER DHANBAD, JHARKHAND INDIA," *MAUSAM* (68:2), 2017, pp. 367-369.
977. Singh, R. "The Indian Graphic Novel: Nation, History and Critique," *RUPKATHA JOURNAL ON INTERDISCIPLINARY STUDIES IN HUMANITIES* (9:1), 2017, pp. 339-341.
978. Singh, R. "In the Archive of Longing: Susan Sontag's Critical Modernism," *RUPKATHA JOURNAL ON INTERDISCIPLINARY STUDIES IN HUMANITIES* (9:1), 2017, pp. 342-345.
979. Singh, R. "INTRA-POETIC RELATIONSHIP T.S. Eliot's Dialogue with Tradition," *JOURNAL OF DHARMA* (42:1), 2017, pp. 47-66.
980. Singh, R. and Chakrabarti, R. "From the Inferior Other to the Becoming Being: a Reading of Dracula from Haddon's Frame," *RUPKATHA JOURNAL ON INTERDISCIPLINARY STUDIES IN HUMANITIES* (9:4), 2017, pp. 74-81.

981. Singh, R., Kumari, P., Chavan, P. D., Datta, S. and Dutta, S. "Synthesis of solvothermal derived TiO₂ nanocrystals supported on ground nano egg shell waste and its utilization for the photocatalytic dye degradation," *OPTICAL MATERIALS* (73), 2017, pp. 377-383.
982. Singh, R. and Ladsaria, S. K. "Reading 'studium' and 'punctum' in Steve Mccurry and Raghu Rai's Photography," *Trames-journal of the Humanities and Social Sciences* (21:1), 2017, pp. 33-50.
983. Singh, R. and Mahto, V. "Synthesis, characterization and evaluation of polyacrylamide graft starch/clay nanocomposite hydrogel system for enhanced oil recovery," *PETROLEUM SCIENCE* (14:4), 2017, pp. 765-779.
984. Singh, R. and Om, H. "Newborn face recognition using deep convolutional neural network," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:18), 2017, pp. 19005-19015.
985. Singh, R. and Om, H. "(Two-Dimensional)(2) whitening reconstruction for newborn recognition," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:3), 2017, pp. 3471-3483.
986. Singh, R. and Srivastava, S. "Stock prediction using deep learning," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:18), 2017, pp. 18569-18584.
987. Singh, R., Syed, T. H., Kumar, S., Kumar, M. and Venkatesh, A. S. "Hydrogeochemical assessment of surface and groundwater resources of Korba coalfield, Central India: environmental implications," *ARABIAN JOURNAL OF GEOSCIENCES* (10:14), 2017.
988. Singh, R., Venkatesh, A. S., Syed, T. H., Reddy, A. G. S., Kumar, M. and Kurakalva, R. M. "Assessment of potentially toxic trace elements contamination in groundwater resources of the coal mining area of the Korba Coalfield, Central India," *ENVIRONMENTAL EARTH SCIENCES* (76:16), 2017.
989. Singh, R. K., Dixit, A. R., Mandal, A. and Sharma, A. K. "Emerging application of nanoparticle-enriched cutting fluid in metal removal processes: a review," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:11), 2017, pp. 4677-4717.
990. Singh, R. K., Sharma, A. K., Dixit, A. R., Mandal, A. and Tiwari, A. K. "Experimental investigation of thermal conductivity and specific heat of nanoparticles mixed cutting fluids," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 8587-8596.
991. Singh, R. K., Sharma, A. K., Dixit, A. R., Tiwari, A. K., Pramanik, A. and Mandal, A. "Performance evaluation of alumina-graphene hybrid nano-cutting fluid in hard turning," *JOURNAL OF CLEANER PRODUCTION* (162), 2017, pp. 830-845.
992. Singh, S. and Antony, B. "Study of inelastic channels by positron impact on simple molecules," *JOURNAL OF APPLIED PHYSICS* (121:24), 2017.
993. Singh, S. and Antony, B. "Positronium formation and ionization of atoms and diatomic molecules by positron impact," *EPL* (119:5), 2017.

994. Singh, S., Dutta, S., Naghma, R. and Antony, B. "Positron scattering from simple molecules," *JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS* (50:13), 2017.
995. Singh, S. and Mitra, D. "Implementation and Evaluation of Energy Detector Performance" 2017 INTERNATIONAL CONFERENCE ON COMMUNICATION AND SIGNAL PROCESSING (ICCSP)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE International Conference on Communication and Signal Processing (ICCSP), Melmaruvathur, INDIA, APR 06-08, 2017, 2017, pp. 1634-1640.
996. Singh, S., Tripathi, S. and Batabyal, S. "Utilization based Secured Dynamic Scheduling Algorithm for Real-Time Applications on Grid (u-SDSA)", in Barolli, L., Takizawa, M., Enokido, T., Hsu, H. H. and Lin, C. Y., ed., 2017 IEEE 31ST INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION NETWORKING AND APPLICATIONS (AINA)', IEEE; IEEE Tech Comm Distributed Proc; IEEE Comp Soc, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 31st IEEE International Conference on Advanced Information Networking and Applications (IEEE AINA), Tamkang Univ, Taipei, TAIWAN, MAR 27-29, 2017, 2017, pp. 606-613.
997. Singh, V., Rai, V. K., Singh, N., Pathak, M. S., Rathaiah, M., Venkatramu, V., Patel, R. V., Singh, P. K. and Dhoble, S. J. "Visible upconversion in Er³⁺/Yb³⁺co-doped LaAlO₃ phosphors," *SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY* (171), 2017, pp. 229-235.
998. Singh, V., Venugopal, R., Tripathy, S. K. and Saxena, V. K. "Comparative analysis of the effect of microwave pretreatment on the milling and liberation characteristics of mineral matters of different morphologies," *MINERALS & METALLURGICAL PROCESSING* (34:2), 2017, pp. 65-75.
999. Singh, Y. K., Sinha, N. and Singh, S. K. "Heart Disease Prediction System Using Random Forest", in Singh, M., Gupta, P. K., Tyagi, V., Sharma, A., Oren, T. and Grosky, W., ed., 'ADVANCES IN COMPUTING AND DATA SCIENCES, ICACDS 2016', Comp Soc India, Special Interest Grp Cyber Forens; Govt India, Minist Def, DRDO; Comp Soc India, Ghaziabad Chapter, SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, D-14197 BERLIN, GERMANY, 1st International Conference on Advances in Computing and Data Sciences (ICACDS), Krishna Engn Coll, Dept Comp Sci Engn, Ghaziabad, INDIA, NOV 11-12, 2016, 2017, pp. 613-623.
1000. Singha, D. K. and Chatterjee, R. "Rock physics modeling in sand reservoir through well log analysis, Krishna-Godavari basin, India," *GEOMECHANICS AND ENGINEERING* (13:1), 2017, pp. 99-117.
1001. Singha, S., Pasupuleti, S., Singha, S. and Villuri, V. G. K. "An integrated approach for evaluation of groundwater quality in Korba district, Chhattisgarh using Geomatic techniques," *JOURNAL OF ENVIRONMENTAL BIOLOGY* (38:5), 2017, pp. 865-872.
1002. Sinha, A. and Jana, P. K. "A Novel MapReduce Based k-Means Clustering", *Proceedings of the First International Conference on Intelligent Computing and Communication* 458, Springer-verlag Singapore Pte Ltd, 2017, pp. 247--255.

1003. Sinha, D., Syed, T. H., Famiglietti, J. S., Reager, J. T. and Thomas, R. C. "Characterizing Drought in India Using GRACE Observations of Terrestrial Water Storage Deficit," *JOURNAL OF HYDROMETEOROLOGY* (18:2), 2017, pp. 381-396.
1004. Sinha, P. and Singh, S. "Comparing Risks and Benefits for the Value Enhancement of Online Purchases," *GADJAH MADA INTERNATIONAL JOURNAL OF BUSINESS* (19:3), 2017, pp. 307-326.
1005. Sinha, R. and Mukhopadhyay, A. K. "RETRACTED: Load Dependent Wear Analysis of Manganese Steels - Influence of Al Content (Retracted article. See vol. 20, pg. 1160, 2017)," *MATERIALS RESEARCH-IBERO-AMERICAN JOURNAL OF MATERIALS* (20:4), 2017, pp. 1153-1159.
1006. Sinha, R. S. and Mukhopadhyay, A. K. "Failure rate analysis of jaw crusher using Weibull model," *PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART E- JOURNAL OF PROCESS MECHANICAL ENGINEERING* (231:4), 2017, pp. 760-772.
1007. Sinha, S., Mahata, M. K., Kumar, K., Tiwari, S. P. and Rai, V. K. "Dualistic temperature sensing in Er³⁺/Yb³⁺ doped CaMoO₄ upconversion phosphor," *SPECTROCHIMICA ACTA PART A- MOLECULAR AND BIOMOLECULAR SPECTROSCOPY* (173), 2017, pp. 369-375.
1008. Sinha, S., Mahata, M. K., Swart, H. C., Kumar, A. and Kumar, K. "Enhancement of upconversion, temperature sensing and cathodoluminescence in the K⁺/Na⁺ compensated CaMoO₄:Er³⁺/Yb³⁺ nanophosphor," *NEW JOURNAL OF CHEMISTRY* (41:13), 2017, pp. 5362-5372.
1009. Sinha, S. K., Kumar, M., Guria, C., Kumar, A. and Banerjee, C. "Biokinetic model-based multi-objective optimization of *Dunaliella tertiolecta* cultivation using elitist non-dominated sorting genetic algorithm with inheritance," *BIORESOURCE TECHNOLOGY* (242:SI), 2017, pp. 206-217.
1010. Smriti, N. and Das, N. "IMPACT OF INTELLECTUAL CAPITAL ON BUSINESS PERFORMANCE: EVIDENCE FROM INDIAN PHARMACEUTICAL SECTOR," *POLISH JOURNAL OF MANAGEMENT STUDIES* (15:1), 2017, pp. 232-243.
1011. Sonal, S. and Singh, R. "Black Female Bodies and Resistance in Gayl Jones *Corregidora* and Eva's Man," *RUPKATHA JOURNAL ON INTERDISCIPLINARY STUDIES IN HUMANITIES* (9:2), 2017, pp. 203-211.
1012. Soni, A. and Singh, S. N. "Experimental analysis of geometrical parameters on the performance of an inline jet plate solar air heater," *SOLAR ENERGY* (148), 2017, pp. 149-156.
1013. Soni, A., Stagner, J. A. and Ting, D. S. K. "Adaptable wind/solar powered hybrid system for household wastewater treatment," *SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS* (24:SI), 2017, pp. 8-18.
1014. Soni, A. K. and Rai, V. K. "Thermal and pump power effect in SrMoO₄:Er³⁺-Yb³⁺ phosphor for thermometry and optical heating," *Chemical Physics Letters* (667), 2017, pp. 226--232.

1015. Soni, A. K., Rai, V. K. and Mahata, M. K. "Yb³⁺ sensitized Na₂Y₂B₂O₇:Er³⁺ phosphors in enhanced frequency upconversion, temperature sensing and field emission display," *MATERIALS RESEARCH BULLETIN* (89), 2017, pp. 116-124.
1016. Soren, S. "Effect of Deformation on the Structure and Properties of Interstitial Free Steels," *MATERIALS TODAY-PROCEEDINGS* (4:8), 2017, pp. 9029-9038.
1017. Sourav, K. and Sen, S. "On the Response of a Freely Vibrating Thick Elliptic Cylinder of Low Mass Ratio," *Journal of Applied Fluid Mechanics* (10:3), 2017, pp. 899--913.
1018. Srivastava, A. K., Nag, A., Dixit, A. R., Tiwari, S., Scucka, J., Zelenak, M., Hloch, S. and Hlavacek, P. "Surface integrity in tangential turning of hybrid MMC A359/B4C/Al₂O₃ by abrasive waterjet," *JOURNAL OF MANUFACTURING PROCESSES* (28:1), 2017, pp. 11-20.
1019. Srivastava, H., Bhaumik, A. K. and Mohanty, S. "DEPOSITIONAL ENVIRONMENT OF INTERTRAPPEAN AND INTRATRAPPEAN BEDS OF THE ANJAR AREA, KACHCHH DISTRICT, INDIA: FORAMINIFERAL EVIDENCE," *JOURNAL OF THE PALAEOONTOLOGICAL SOCIETY OF INDIA* (62:2), 2017, pp. 147-155.
1020. Srivastava, J. P., Kiran, M. V. R., Sarkar, P. K. and Ranjan, V. "Numerical Investigation of Ratchetting Behaviour in Rail Steel under Cyclic Rolling-Sliding Contact", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1130--1137.
1021. Srivastava, J. P., Sarkar, P. K., Meesala, V. R. K. and Ranjan, V. "Rolling Contact Fatigue Life of Rail for Different Slip Conditions," *LATIN AMERICAN JOURNAL OF SOLIDS AND STRUCTURES* (14:12), 2017, pp. 2243-2264.
1022. Srivastava, K., Kumar, A., Kanaujia, B., Dwari, S., Verma, A. K., Yadav, M., Lalita, J. and Chamarthi, S. "MIMO Based Multi Band Antenna for Wireless Communication in C-Band, X-Band, K-Band and Ku Band", in Otung, I., Pillai, P., Eleftherakis, G. and Giambene, G., ed., 'WIRELESS AND SATELLITE SYSTEMS (WISATS 2016)', Univ S Wales; European Alliance Innovat; Inst Comp Sci Social Informat Telecommunicat Engn; CREATE NET, SPRINGER INTERNATIONAL PUBLISHING AG, GEWERBESTRASSE 11, CHAM, CH-6330, SWITZERLAND, 8th International Conference on Wireless and Satellite Systems (WiSATS), Cardiff, ENGLAND, SEP 19-20, 2019, 2017, pp. 28-36.
1023. Srivastava, N. K. and Raghuwanshi, S. K. "Generation of an arbitrary chirped microwave waveform with high time-bandwidth product for increasing range resolution of RADAR by using photonic technique," *OPTICAL AND QUANTUM ELECTRONICS* (49:9), 2017.
1024. Srivastava, V. K., Kumar, J. and Kushvah, B. S. "Regularization of circular restricted three-body problem accounting radiation pressure and oblateness," *ASTROPHYSICS AND SPACE SCIENCE* (362:3), 2017.
1025. Stancu-Minasian, I. M., Kummari, K. and Jayswal, A. "Duality for Semi-Infinite Minimax Fractional Programming Problem Involving Higher-Order (phi,)-V-Invexity," *Numerical Functional Analysis and Optimization* (38:7), 2017, pp. 926--950.
1026. Subindu, K., Amrita, K. and Das Mukul, K. "Strain induced changes in performance of strained-Si/strained-Si_{1-y}Ge (y)/relaxed-Si_{1-x}Ge (x) MOSFETs and circuits for digital applications," *JOURNAL OF CENTRAL SOUTH UNIVERSITY* (24:6), 2017, pp. 1233-1244.

1027. Subudhi, P. and Mukhopadhyay, S. "A fast texture segmentation scheme based on active contours and discrete cosine transform," *COMPUTERS & ELECTRICAL ENGINEERING* (62), 2017, pp. 105-118.
1028. Sukul, P. P. and Kumar, K. "Spectroscopic enhancement study in Yb³⁺/Er³⁺ doped ferroelectric SrTiO₃ ceramics", in Bentley, J. L. and Stoebenau, S., ed., 'OPTIFAB 2017', SPIE; Amer Preci Opt Manufacturers Assoc, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, Optifab Conference, Rochester, NY, OCT 16-20, 2017, 2017.
1029. Sukul, P. P. and Kumar, K. "Upconversion emission and phase transformation study in Yb³⁺/Er³⁺ doped SrTiO₃ ceramics," *FERROELECTRICS* (517:1, 2), 2017, pp. 113-117.
1030. Sukul, P. P., Mahata, M. K. and Kumar, K. "NIR optimized dual mode photoluminescence in Nd doped Y₂O₃ ceramic phosphor," *JOURNAL OF LUMINESCENCE* (185), 2017, pp. 92-98.
1031. Sultana, N., Das, A., Guria, C., Hajra, B., Chitres, G., Saxena, V. K. and Pathak, A. K. "Kinetics of bentonite nanoclay-catalyzed sal oil (*Shorea robusta*) transesterification with methanol," *CHEMICAL ENGINEERING RESEARCH & DESIGN* (119), 2017, pp. 263-285.
1032. Sultana, R. and Gupta, S. "Torsional wave propagation in a sandy layer under initial stress over an inhomogeneous half-space", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 1003--1013.
1033. Suman, S. and Gautam, S. "Effect of pyrolysis time and temperature on the characterization of biochars derived from biomass," *Energy Sources Part A-recovery Utilization and Environmental Effects* (39:9), 2017, pp. 933--940.
1034. Suman, S. and Gautam, S. "Pyrolysis of coconut husk biomass: Analysis of its biochar properties," *Energy Sources Part A-recovery Utilization and Environmental Effects* (39:8), 2017, pp. 761--767.
1035. Suman, S. and Gautam, S. "A comparative study between time, temperature, and fixed carbon using different biochar reductants as an alternate source of energy," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:10), 2017, pp. 1029-1035.
1036. Suman, S., Panwar, D. S. and Gautam, S. "Surface morphology properties of biochars obtained from different biomass waste," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:10), 2017, pp. 1007-1012.
1037. Sunasee, S., Wong, K. T., Lee, G., Pichiah, S., Ibrahim, S., Park, C., Kim, N. C., Yoon, Y. and Jang, M. "Titanium dioxide-based sonophotocatalytic mineralization of bisphenol A and its intermediates," *ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH* (24:18), 2017, pp. 15488-15499.
1038. Sur, A. and Das, R. K. "Experimental investigation on waste heat driven activated carbon-methanol adsorption cooling system," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:7), 2017, pp. 2735-2746.

1039. Suraj, K., Talreja, R. and Murthy, V. M. S. R. "Development of a drill energy utilization index for aiding selection of drill machines in surface mines," *INTERNATIONAL JOURNAL OF MINING SCIENCE AND TECHNOLOGY* (27:3), 2017, pp. 393-399.
1040. Suresh, S., Srivastava, V. C. and Mishra, I. M. "Adsorption of aniline, phenol, 4-chlorophenol and 4-nitrophenol onto granular activated carbon: isotherm, thermodynamics and relationship with solvatochromic parameters," *BIOINTERFACE RESEARCH IN APPLIED CHEMISTRY* (7:6), 2017, pp. 2263-2276.
1041. Surib, N. A., Sim, L. C., Leong, K. H., Kuila, A., Saravanan, P., Lo, K. M., Ibrahim, S., Bahnemann, D. and Jang, M. "Ag⁺, Fe³⁺ and Zn²⁺-intercalated cadmium(II)-metal-organic frameworks for enhanced daylight photocatalysis," *RSC ADVANCES* (7:81), 2017, pp. 51272-51280.
1042. Swaroop, R., Kaur, M., Suresh, P. and Sadhu, P. K. "Classification of Myopathy and Neuropathy EMG signals using Neural Network" PROCEEDINGS OF 2017 IEEE INTERNATIONAL CONFERENCE ON CIRCUIT ,POWER AND COMPUTING TECHNOLOGIES (ICCPCT)', Baseliros Mathews II Coll Engn; IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE International Conference on Circuit ,Power and Computing Technologies (ICCPCT), Kollam, INDIA, APR 20-21, 2017, 2017.
1043. Swaroop, R., Kaur, M., Suresh, P. and Sadhu, P. K. "Classification of Myopathy and Neuropathy EMG signals using Neural Network" PROCEEDINGS OF 2017 IEEE INTERNATIONAL CONFERENCE ON CIRCUIT ,POWER AND COMPUTING TECHNOLOGIES (ICCPCT)', Baseliros Mathews II Coll Engn; IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE International Conference on Circuit ,Power and Computing Technologies (ICCPCT), Kollam, INDIA, APR 20-21, 2017, 2017.
1044. Tabrez, M., Rafiuddin, N., Hasan, M. A. and Bakhsh, F. I. "Upgrading Cars Running on Indian Roads: Analyzing Its Impact on Environment Using ANN" 2017 INTERNATIONAL CONFERENCE ON COMPUTING METHODOLOGIES AND COMMUNICATION (ICCMC)', IEEE, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Computing Methodologies and Communication (ICCMC), Surya Engn Coll, INDIA, JUL 18-19, 2017, 2017, pp. 1156-1160.
1045. Tabrez, M., Sadhu, P. K. and Iqbal, A. "A Novel Three Phase to Seven Phase Conversion Technique Using Transformer Winding Connections," *ENGINEERING TECHNOLOGY & APPLIED SCIENCE RESEARCH* (7:5), 2017, pp. 1953-1961.
1046. Tai, J. Y., Leong, K. H., Saravanan, P., Abd Aziz, A. and Sim, L. C. "Dopant-free oxygen-rich titanium dioxide: LED light-induced photocatalysis and mechanism insight," *JOURNAL OF MATERIALS SCIENCE* (52:19), 2017, pp. 11630-11642.
1047. Talukdar, P., Sharma, C., Doley, A., Baruah, K., Borah, A., Agarwal, P. and Deori, P. "Isolation and characterization of biosurfactant producing microorganisms from petroleum contaminated soil samples for EOR and bioremediation," *PETROLEUM SCIENCE AND TECHNOLOGY* (35:22), 2017, pp. 2102-2108.

1048. Tamilmani, V., Kumari, A., Rai, V. K., Nair, B. U. and Sreeram, K. J. "Bright Green Frequency Upconversion in Catechin Based Yb³⁺/Er³⁺ Codoped LaVO₄ Nanorods upon 980 nm Excitation," *JOURNAL OF PHYSICAL CHEMISTRY C* (121:8), 2017, pp. 4505-4516.
1049. Tamilmani, V., Soni, A. K., Rai, V. K., Nair, B. U. and Sreeram, K. J. "Frequency upconversion in catechin assisted : - square nanoplates," *JOURNAL OF CHEMICAL SCIENCES* (129:12), 2017, pp. 1929-1940.
1050. Tan, W. H., Hak, C. H., Saravanan, P., Leong, K. H. and Sim, L. C. "Titania with Alkaline Treated Graphitic Carbon Nitride (g-C₃N₄) to Improve Photocatalysis Properties" 2ND INTERNATIONAL CONFERENCE ON MATERIALS ENGINEERING AND NANOTECHNOLOGY (ICMEN)', IOP PUBLISHING LTD, DIRAC HOUSE, TEMPLE BACK, BRISTOL BS1 6BE, ENGLAND, 2nd International Conference on Materials Engineering and Nanotechnology (ICMEN), Kuala Lumpur, MALAYSIA, MAY 12-14, 2017, 2017.
1051. Tarafdar, A. and Sinha, A. "Cancer Risk Assessment of Polycyclic Aromatic Hydrocarbons in the Soils and Sediments of India: A Meta-Analysis," *ENVIRONMENTAL MANAGEMENT* (60:4), 2017, pp. 784-795.
1052. Tarafdar, A. and Sinha, A. "Estimation of decrease in cancer risk by biodegradation of PAHs content from an urban traffic soil," *ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH* (24:11), 2017, pp. 10373-10380.
1053. Tarafdar, A., Sinha, A. and Mastro, R. E. "Biodegradation of anthracene by a newly isolated bacterial strain, *Bacillus thuringiensis* AT.ISM.1, isolated from a fly ash deposition site," *LETTERS IN APPLIED MICROBIOLOGY* (65:4), 2017, pp. 327-334.
1054. Teka, W. W., Upadhyay, R. K. and Mondal, A. "Fractional-order leaky integrate-and-fire model with long-term memory and power law dynamics," *NEURAL NETWORKS* (93), 2017, pp. 110-125.
1055. Thakur, A. K., Choudhary, R. B., Majumder, M. and Gupta, G. "In-Situ Integration of Waste Coconut Shell Derived Activated Carbon/Polypyrrole/Rare Earth Metal Oxide (Eu₂O₃): A Novel Step Towards Ultrahigh Volumetric Capacitance," *ELECTROCHIMICA ACTA* (251), 2017, pp. 532-545.
1056. Thakur, A. K., Deshmukh, A. B., Choudhary, R. B., Karbhal, I., Majumder, M. and Shelke, M. V. "Facile synthesis and electrochemical evaluation of PANI/CNT/MoS₂ ternary composite as an electrode material for high performance supercapacitor," *MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS* (223), 2017, pp. 24-34.
1057. Thakur, N. K., Gupta, R. and Upadhyay, R. K. "Complex dynamics of diffusive predator-prey system with Beddington-DeAngelis functional response: The role of prey-taxis," *ASIAN-EUROPEAN JOURNAL OF MATHEMATICS* (10:3), 2017.

1058. Thakur, N. K., Tiwari, S. K., Dubey, B. and Upadhyay, R. K. "DIFFUSIVE THREE SPECIES PLANKTON MODEL IN THE PRESENCE OF TOXIC PREY: APPLICATION TO SUNDARBAN MANGROVE WETLAND," *JOURNAL OF BIOLOGICAL SYSTEMS* (25:2), 2017, pp. 185-206.
1059. Thapa, S., Chatterjee, R. S., Kumar, D., Singh, K. B. and Sengar, V. "Advanced Subsidence Monitoring Using Persistent Scatterer Interferometry for Jharia Coal Field, Dhanbad, India", in Notarnicola, C., Pierdicca, N. and Santi, E., ed., 'ACTIVE AND PASSIVE MICROWAVE REMOTE SENSING FOR ENVIRONMENTAL MONITORING', SPIE, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, Conference on Active and Passive Microwave Remote Sensing for Environmental Monitoring, Warsaw, POLAND, SEP 12-14, 2017, 2017.
1060. Thummaluru, S. R. and Chaudhary, R. K. "Mu-negative metamaterial filter-based isolation technique for MIMO antennas," *ELECTRONICS LETTERS* (53:10), 2017, pp. 644-645.
1061. Thummaluru, S. R., Mishra, N. and Chaudhary, R. K. "Design and analysis of an ultrathin triple-band polarization independent metamaterial absorber," *AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS* (82), 2017, pp. 508-515.
1062. Tiwari, A. K., Lavy, M., Amanzio, G., De Maio, M., Singh, P. K. and Mahato, M. K. "Identification of artificial groundwater recharging zone using a GIS-based fuzzy logic approach: a case study in a coal mine area of the Damodar Valley, India," *APPLIED WATER SCIENCE* (7:8), 2017, pp. 4513-4524.
1063. Tiwari, A. K., Singh, P. K. and Mahato, M. K. "Assessment of Metal Contamination in the Mine Water of the West Bokaro Coalfield, India," *MINE WATER AND THE ENVIRONMENT* (36:4), 2017, pp. 532-541.
1064. Tiwari, H. P., Saxena, V. K., Haldar, S. K. and Sriramoju, S. K. "Assessment of thermal efficiency of heat recovery coke making," *HEAT AND MASS TRANSFER* (53:8), 2017, pp. 2517-2529.
1065. Tiwari, S. K., Hatui, G., Oraon, R., De Adhikari, A. and Nayak, G. C. "Mixing sequence driven controlled dispersion of graphene oxide in PC/PMMA blend nanocomposite and its effect on thermo-mechanical properties," *CURRENT APPLIED PHYSICS* (17:9), 2017, pp. 1158-1168.
1066. Tiwari, S. K., Huczko, A., Oraon, R., De Adhikari, A. and Nayak, G. C. "Facile electrochemical synthesis of few layered graphene from discharged battery electrode and its application for energy storage," *ARABIAN JOURNAL OF CHEMISTRY* (10:4), 2017, pp. 556-565.
1067. Tiwari, S. K., Oraon, R., De Adhikari, A. and Nayak, G. C. "A thermomechanical study on selective dispersion and different loading of graphene oxide in polypropylene/polycarbonate blends," *JOURNAL OF APPLIED POLYMER SCIENCE* (134:28), 2017.
1068. Tiwari, S. K. and Upadhyay, R. K. "Conservation of degraded wetland system of Keoladeo National Park, Bharatpur, India," *ECOLOGICAL COMPLEXITY* (32:A), 2017, pp. 74-89.

1069. Tiwari, S. K., Verma, K., Saren, P., Oraon, R., De Adhikari, A., Nayak, G. C. and Kumar, V. "Manipulating selective dispersion of reduced graphene oxide in polycarbonate/nylon 66 based blend nanocomposites for improved thermo-mechanical properties," *Rsc Advances* (7:36), 2017, pp. 22145--22155.
1070. Tiwari, S. K., Verma, K., Saren, P., Oraon, R., De Adhikari, A., Nayak, G. C. and Kumar, V. "Manipulating selective dispersion of reduced graphene oxide in polycarbonate/nylon 66 based blend nanocomposites for improved thermo-mechanical properties (vol 7, 22145, 2017)," *RSC ADVANCES* (7:52), 2017, pp. 32731.
1071. Tiwari, S. P., Kumar, A., Singh, S. and Kumar, K. "Synthesis, characterization and optical study of CaYAl₃O₇: Eu³⁺ phosphors for lighting application," *VACUUM* (146), 2017, pp. 537-541.
1072. Tiwari, S. P., Yadav, V. K. and Gautam, V. "On Minimal Fuzzy Realization for a Fuzzy Language: A Categorical Approach," *Journal of Multiple-valued Logic and Soft Computing* (28:4-5), 2017, pp. 361--374.
1073. Tiwari, V., Das, S. and Pal, A. "Sensorless Speed Control of Induction Motor Drive Using Extended Kalman Filter Observer" "2017 IEEE PES ASIA-PACIFIC POWER AND ENERGY ENGINEERING CONFERENCE (APPEEC)", IEEE; IEEE Power Energy Soc Bangalore Chapter, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), Bangalore, INDIA, NOV 08-10, 2017, 2017.
1074. Tiwari, V. and Singh, N. K. "Process capability index for bivariate exponentially distributed quality characteristics and its sampling properties," *COMMUNICATIONS IN STATISTICS-THEORY AND METHODS* (46:22), 2017, pp. 11099-11109.
1075. Tomar, A., Anwit, R. and Jana, P. K. "An efficient scheme for on-demand energy replenishment in wireless rechargeable sensor networks" "2017 INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTING, COMMUNICATIONS AND INFORMATICS (ICACCI)", IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Advances in Computing, Communications and Informatics (ICACCI), Manipal, INDIA, SEP 13-16, 2017, 2017, pp. 125-130.
1076. Tomar, A. and Jana, P. K. "Designing energy efficient traveling paths for multiple mobile chargers in wireless rechargeable sensor networks", in Aluru, S., Kalyanaraman, A., Ucar, B., Kothapalli, K., Halappanavar, M., Madduri, K., Govindaraju, M., Xia, Y., Prasad, S., Barnas, M., Sureka, A., Patel, P., Saxena, V. and Goel, S., ed., '2017 TENTH INTERNATIONAL CONFERENCE ON CONTEMPORARY COMPUTING (IC3)', Univ Florida Engr; IEEE; IEEE Comp Soc; IEEE Comp Soc Tech Comm Parallel Proc, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 10th International Conference on Contemporary Computing (IC3), Jaypee Inst Informat Technol, Noida, INDIA, AUG 10-12, 2017, 2017, pp. 277-282.
1077. Tomar, S. and Gupta, S. K. "Symbiosis of denitrification, anammox and anaerobic pathways-An innovative approach for confiscating the major bottlenecks of anammox process," *CHEMICAL ENGINEERING JOURNAL* (313), 2017, pp. 355-363.

1078. Tripathi, J. P. and Ghoshal, S. "Combining inertia and constriction technique in the PSO applied to fault identification in a hydraulic system," *PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART C-JOURNAL OF MECHANICAL ENGINEERING SCIENCE* (231:14), 2017, pp. 2730-2740.
1079. Tripathi, J. P., Ghoshal, S. K., Dasgupta, K. and Das, J. "Bond graph modelling of a hydraulic cylinder-actuated planar manipulator," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:11), 2017, pp. 4275-4287.
1080. Tripathi, R., Seth, G. S. and Mishra, M. K. "Double diffusive flow of a hydromagnetic nanofluid in a rotating channel with Hall effect and viscous dissipation: Active and passive control of nanoparticles," *ADVANCED POWDER TECHNOLOGY* (28:10), 2017, pp. 2630-2641.
1081. Tripathy, M., Joshi, H. and Panda, S. K. "Energy payback time and life-cycle cost analysis of building integrated photovoltaic thermal system influenced by adverse effect of shadow," *APPLIED ENERGY* (208), 2017, pp. 376-389.
1082. Tripathy, M., Kumar, M. and Sadhu, P. K. "Photovoltaic system using Lambert W function-based technique," *SOLAR ENERGY* (158), 2017, pp. 432-439.
1083. Tripathy, M., Yadav, S., Panda, S. K. and Sadhu, P. K. "Performance of building integrated photovoltaic thermal systems for the panels installed at optimum tilt angle," *RENEWABLE ENERGY* (113), 2017, pp. 1056-1069.
1084. Tripathy, M., Yadav, S., Sadhu, P. K. and Panda, S. K. "Determination of optimum tilt angle and accurate insolation of BIPV panel influenced by adverse effect of shadow," *RENEWABLE ENERGY* (104), 2017, pp. 211-223.
1085. Tripathy, S. K., Banerjee, P. K., Suresh, N., Murthy, Y. R. and Singh, V. "Dry High-Intensity Magnetic Separation In Mineral Industry A Review Of Present Status And Future Prospects," *MINERAL PROCESSING AND EXTRACTIVE METALLURGY REVIEW* (38:6), 2017, pp. 339-365.
1086. Tripathy, S. K., Singh, V., Murthy, Y. R., Banerjee, P. K. and Suresh, N. "Influence of process parameters of dry high intensity magnetic separators on separation of hematite," *INTERNATIONAL JOURNAL OF MINERAL PROCESSING* (160), 2017, pp. 16-31.
1087. Tripathy, S. K. and Suresh, N. "Influence of particle size on dry high-intensity magnetic separation of paramagnetic mineral," *ADVANCED POWDER TECHNOLOGY* (28:3), 2017, pp. 1092-1102.
1088. Tripathy, U., Rallabandi, S. and Bisht, P. B. "Experimental and theoretical simulation studies on picosecond closed-aperture Z-scan profiles of N,N'-Bis(2,5,-di-tert-butylphenyl)-3,4,9,10-perylenedicarboximide (DBPI)," *OPTICAL MATERIALS* (72), 2017, pp. 233-240.
1089. Tripti, Kumar, A., Usmani, Z., Kumar, V. and Anshumali "Biochar and flyash inoculated with plant growth promoting rhizobacteria act as potential biofertilizer for luxuriant growth and yield of tomato plant," *JOURNAL OF ENVIRONMENTAL MANAGEMENT* (190), 2017, pp. 20-27.

1090. Trivedy, S. and Pal, A. K. "A Logistic Map-Based Fragile Watermarking Scheme of Digital Images with Tamper Detection," *IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF ELECTRICAL ENGINEERING* (41:2), 2017, pp. 103-113.
1091. Ujjwal and Jaisingh, T. "Design and development of a new architecture of sliceable bandwidth variable transponder," *OPTO-ELECTRONICS REVIEW* (25:1), 2017, pp. 46-53.
1092. Upadhyay, R. and Laik, S. "An Alternative Approach to Predicting Reservoir Performance in a Coalbed Methane (CBM) Well Flowing Under Dominant Matrix Shrinkage Effect," *TRANSPORT IN POROUS MEDIA* (119:3), 2017, pp. 649-672.
1093. Upadhyay, R. and Laik, S. "A Computational Approach to Determine Average Reservoir Pressure in a Coalbed Methane (CBM) Well Flowing Under Dominant Matrix Shrinkage Effect," *TRANSPORT IN POROUS MEDIA* (116:3), 2017, pp. 1167-1188.
1094. Upadhyay, R. K., Kumari, S. and Misra, A. K. "Modeling the virus dynamics in computer network with SVEIR model and nonlinear incident rate," *JOURNAL OF APPLIED MATHEMATICS AND COMPUTING* (54:1-2), 2017, pp. 485-509.
1095. Upadhyay, R. K., Mishra, S., Parshad, R. D., Lyu, J. and Al Basheer, A. "Investigation of an explosive food chain model with interference and inhibitory effects," *IMA JOURNAL OF APPLIED MATHEMATICS* (82:6), 2017, pp. 1209-1237.
1096. Upadhyay, R. K. and Mondal, A. "Synchronization of bursting neurons with a slowly varying d. c. current," *CHAOS SOLITONS & FRACTALS* (99), 2017, pp. 195-208.
1097. Upadhyay, R. K., Mondal, A. and Aziz-Alaoui, M. A. "Synchronization analysis through coupling mechanism in realistic neural models," *APPLIED MATHEMATICAL MODELLING* (44), 2017, pp. 557-575.
1098. Upadhyay, R. K., Mondal, A. and Teka, W. W. "Mixed Mode Oscillations and Synchronous Activity in Noise Induced Modified Morris-Lecar Neural System," *INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS* (27:5), 2017.
1099. Upadhyay, R. K., Mondal, A. and Teka, W. W. "Fractional-order excitable neural system with bidirectional coupling," *NONLINEAR DYNAMICS* (87:4), 2017, pp. 2219-2233.
1100. Upadhyay, R. K. and Tiwari, S. K. "Ecological chaos and the choice of optimal harvesting policy," *JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS* (448:2), 2017, pp. 1533-1559.
1101. Upgupta, S. and Singh, P. K. "FRAGMENTED LANDSCAPES OF EAST BOKARO COALFIELDS: A REMOTE SENSING BASED APPROACH HIGHLIGHTING FORESTLAND DYNAMICS," *APPLIED ECOLOGY AND ENVIRONMENTAL RESEARCH* (15:4), 2017, pp. 1313-1326.

1102. Usha, V., Kalyanaraman, S., Vettumperumal, R. and Thangavel, R. "A study of frequency dependent electrical and dielectric properties of NiO nanoparticles," *Physica B-condensed Matter* (504), 2017, pp. 63--68.
1103. Usmani, Z. and Kumar, V. "Characterization, partitioning, and potential ecological risk quantification of trace elements in coal fly ash," *ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH* (24:18), 2017, pp. 15547-15566.
1104. Usmani, Z. and Kumar, V. "Metal bioaccumulation in tissues of *Puntius sarana* and *Labeo rohita* and its associated risk status: A case study of Damodar River, India," *DESALINATION AND WATER TREATMENT* (76), 2017, pp. 196-211.
1105. Usmani, Z., Kumar, V. and Mritunjay, S. K. "Vermicomposting of coal fly ash using epigeic and epi-endogeic earthworm species: nutrient dynamics and metal remediation," *Rsc Advances* (7:9), 2017, pp. 4876--4890.
1106. Vaishnav, P. K., Kundu, S., Abo-Dahab, S. M. and Saha, A. "Love Wave Behavior in Composite Fiber-Reinforced Structure," *INTERNATIONAL JOURNAL OF GEOMECHANICS* (17:9), 2017.
1107. Vardhan, A., Dasgupta, K. and Kumar, N. "Comparison of the steady-state performance of hydrostatic drives used in the rotary head of the drill machine," *JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING* (39:11), 2017, pp. 4403-4419.
1108. Varish, N., Kumar, S. and Pal, A. K. "A Novel Similarity Measure for Content Based Image Retrieval in Discrete Cosine Transform Domain," *FUNDAMENTA INFORMATICA* (156:2), 2017, pp. 209-235.
1109. Varish, N., Pradhan, J. and Pal, A. K. "Image retrieval based on non-uniform bins of color histogram and dual tree complex wavelet transform," *MULTIMEDIA TOOLS AND APPLICATIONS* (76:14), 2017, pp. 15885-15921.
1110. Vendramelli, R. A., Vijay, S. and Yuan, Q. Y. "Mechanism of nitrogen removal in wastewater lagoon: a case study," *Environmental Technology* (38:12), 2017, pp. 1514--1523.
1111. Verma, A., Chauhan, G. and Ojha, K. "Synergistic effects of polymer and bentonite clay on rheology and thermal stability of foam fluid developed for hydraulic fracturing," *ASIA-PACIFIC JOURNAL OF CHEMICAL ENGINEERING* (12:6), 2017, pp. 872-883.
1112. Verma, A. and Sharma, S. K. "Down-conversion from Er^{3+} - Yb^{3+} codoped CaMoO_4 phosphor: A spectral conversion to improve solar cell efficiency," *CERAMICS INTERNATIONAL* (43:12), 2017, pp. 8879-8885.
1113. Verma, A. K., Chattopadhyay, A. and Singh, A. K. "Influence of heterogeneity and initial stress on the propagation of Rayleigh-type wave in a transversely isotropic layer", *Plasticity and Impact Mechanics* 173, Elsevier Science Bv, 2017, pp. 988--995.

1114. Verma, A. K., Chattopadhyay, A. and Singh, A. K. "Propagation of Rayleigh-Type Wave in an Initially Stressed Heterogeneous Crustal Layer Resting on Rigid Surface", in Chamola, B. P. and Kumari, P., ed., 'MATHEMATICAL SCIENCES AND ITS APPLICATIONS', AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1NO1, MELVILLE, NY 11747-4501 USA, International Conference on Recent Advances in Mathematical Sciences and its Applications (RAMSA), Jaypee Inst Informat Technol, Noida, INDIA, DEC 08-10, 2016, 2017.
1115. Verma, A. K., Jha, M. K., Mantrala, S. and Sitharam, T. G. "Numerical Simulation of Explosion in Twin Tunnel System," *GEOTECHNICAL AND GEOLOGICAL ENGINEERING* (35:5), 2017, pp. 1953-1966.
1116. Verma, H. C., Baral, A., Pradhan, A. K. and Chakravorti, S. "A Method to Estimate Activation Energy of Power Transformer Insulation Using Time Domain Spectroscopy Data," *IEEE TRANSACTIONS ON DIELECTRICS AND ELECTRICAL INSULATION* (24:5), 2017, pp. 3245-3253.
1117. Verma, H. C., Baral, A., Pradhan, A. K. and Chakravorti, S. "Condition assessment of various regions within non-uniformly aged cellulosic insulation of power transformer using modified Debye model," *IET SCIENCE MEASUREMENT & TECHNOLOGY* (11:7), 2017, pp. 939-947.
1118. Verma, N. and Mandal, S. "Design and performance analysis of optical microring resonator based J - K flip-flop," *OPTICAL ENGINEERING* (56:3), 2017.
1119. Verma, P., Kaur, J. and Antony, B. "Electron-silane scattering cross section for plasma assisted processes," *PHYSICS OF PLASMAS* (24:3), 2017.
1120. Verma, R. and Tiwari, S. P. "DISTINGUISHABILITY AND COMPLETENESS OF CRISP DETERMINISTIC FUZZY AUTOMATA," *IRANIAN JOURNAL OF FUZZY SYSTEMS* (14:5), 2017, pp. 19-30.
1121. Verma, S., Saha, S. and Mukherjee, V. "A novel symbiotic organisms search algorithm for congestion management in deregulated environment," *Journal of Experimental & Theoretical Artificial Intelligence* (29:1), 2017, pp. 59--79.
1122. Verma, S., Saha, S. and Mukherjee, V. "A novel symbiotic organisms search algorithm for congestion management in deregulated environment," *Journal of Experimental & Theoretical Artificial Intelligence* (29:1), 2017, pp. 197--218.
1123. Vettumperumal, R., Kalyanaraman, S. and Thangavel, R. "Effect of Ruthenium Concentration on Structural and I-V Characteristics of ZnO Thin Films by Sol-Gel Method," *JOURNAL OF MOLECULAR AND ENGINEERING MATERIALS* (5:1), 2017.
1124. Vijay, S. and Yuan, Q. "Simplified empirical model for phosphorous removal in a facultative wastewater lagoon," *JOURNAL OF ENVIRONMENTAL MANAGEMENT* (201), 2017, pp. 1-5.

1125. Vikas, Sahoo, S. S., Tripathi, P. M. and Chatterjee, K. "A Coordinated control strategy using Rotor current limiter and switchable type series passive resistive fault current limiter for enhanced fault ride-through" 2017 7TH INTERNATIONAL CONFERENCE ON POWER SYSTEMS (ICPS)', Coll Engn, IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, 7th International Conference on Power Systems (ICPS), Pune, INDIA, DEC 21-23, 2017, 2017, pp. 346-351.
1126. Vinod, A., Rathore, M. S., Kumar, T. S., Pamu, D., Pathak, A. P. and Rao, S. "Ion beam-induced modification of structural and optical properties of MgTiO₃ nanocrystalline thin films," *Radiation Effects and Defects in Solids* (172:1-2), 2017, pp. 81--89.
1127. Vinod, P. D. and Singh, S. N. "Thermo-hydraulic performance analysis of jet plate solar air heater under cross flow condition," *INTERNATIONAL JOURNAL OF HEAT AND TECHNOLOGY* (35:3), 2017, pp. 603-610.
1128. Xie, H.-Y., Chen, M., Chang, Y.-C. and Moirangthem, R. S. "Biosensing via light scattering from plasmonic core-shell nanospheres coated with DNA molecules", in Cullum, B. M., Kiehl, D. and McLamore, E. S., ed., 'SMART BIOMEDICAL AND PHYSIOLOGICAL SENSOR TECHNOLOGY XIV', SPIE, SPIE-INT SOC OPTICAL ENGINEERING, 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA, Conference on Smart Biomedical and Physiological Sensor Technology XIV, Anaheim, CA, APR 09-10, 2017, 2017.
1129. Yadav, A., Panda, S. K. and Dey, T. "Non-linear dynamic instability analysis of thin-walled stiffener beam subjected to uniform harmonic in-plane loading," *JOURNAL OF SOUND AND VIBRATION* (408), 2017, pp. 383-399.
1130. Yadav, A., Panda, S. K. and Dey, T. "Non-linear dynamic instability analysis of mono-symmetric thin walled columns with various boundary conditions," *INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES* (126), 2017, pp. 242-254.
1131. Yadav, A. K., Das, S. K. and Tripathi, S. "EFMMRP: Design of efficient fuzzy based multi-constraint multicast routing protocol for wireless ad-hoc network," *COMPUTER NETWORKS* (118), 2017, pp. 15-23.
1132. Yadav, A. K., Kumar, M., Bajpai, V., Singh, N. K. and Singh, R. K. "FE modeling of burr size in high- speed micro-milling of Ti6Al4V," *PRECISION ENGINEERING-JOURNAL OF THE INTERNATIONAL SOCIETIES FOR PRECISION ENGINEERING AND NANOTECHNOLOGY* (49), 2017, pp. 287-292.
1133. Yadav, A. K. and Tripathi, S. "QMRPRNS: Design of QoS multicast routing protocol using reliable node selection scheme for MANETs," *PEER-TO-PEER NETWORKING AND APPLICATIONS* (10:4), 2017, pp. 897-909.
1134. Yadav, A. M., Nikkam, S., Gajbhiye, P. and Tyeb, M. H. "Modeling and optimization of coal oil agglomeration using response surface methodology and artificial neural network approaches," *INTERNATIONAL JOURNAL OF MINERAL PROCESSING* (163), 2017, pp. 55-63.
1135. Yadav, A. M., Panwar, D. S. and Suman, S. "The thermal conversion of coal impregnated with ZnCl₂," *Energy Sources Part A-recovery Utilization and Environmental Effects* (39:2), 2017, pp. 172--176.

1136. Yadav, A. M., Sundaram, A., Ghag, K. P., Suresh, N. and Gajbhiye, P. "Recovery and de-ashing of coal fines from coal water slurry using the oil agglomeration process by waste transformer oil," *ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS* (39:13), 2017, pp. 1353-1358.
1137. Yadav, A. M., Suresh, N. and Gajbhiye, P. "Effect of oil type on the recovery of coal fines from coal waste slurry by the oil agglomeration process (vol 38, pg 3612, 2016)," *Energy Sources Part A-recovery Utilization and Environmental Effects* (39:3), 2017, pp. 358--358.
1138. Yadav, A. M., Suresh, N. and Gajbhiye, P. "Recovery of coal fines from coal waste slurry by oil agglomeration process using linseed oil (vol 38, pg 3453, 2016)," *Energy Sources Part A-recovery Utilization and Environmental Effects* (39:3), 2017, pp. 359--359.
1139. Yadav, A. M., Suresh, N. and Gajbhiye, P. "Statistical Optimization of Coal-Oil Agglomeration Using Response Surface Methodology (vol 37, pg 1, 2016)," *International Journal of Coal Preparation and Utilization* (37:4), 2017, pp. 225--225.
1140. Yadav, P. and Samadder, S. R. "A global prospective of income distribution and its effect on life cycle assessment of municipal solid waste management: a review," *ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH* (24:10), 2017, pp. 9123-9141.
1141. Yadav, P. K., Adhikari, P. K., Shalivahan, Tripathi, A., Singh, S., Singh, R. K. and Bage, A. K. "Magnetic and Radiometric Signatures over a Proterozoic Massive Sulfide Setting of Northern Fringe of Dalma Volcanics, Eastern India: An implication to Metallogeny," *JOURNAL OF THE GEOLOGICAL SOCIETY OF INDIA* (89:6), 2017, pp. 705-710.
1142. Yadav, R. and Pathak, G. S. "Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior," *ECOLOGICAL ECONOMICS* (134), 2017, pp. 114-122.
1143. Yadav, R. K. and Banka, H. "An improved chemical reaction-based approach for multiple sequence alignment," *CURRENT SCIENCE* (112:3), 2017, pp. 527-538.
1144. Yadav, R. K., Roy, P. N. S., Gupta, S. K., Khan, P. K., Catherine, J. K., Prajapati, S. K., Kumar, A., Puviarasan, N., Bhu, H., Devachandra, M., Malik, J., Kundu, B., Debbarma, C. and Gahalaut, V. K. "Rupture model of Mw 7.8 2015 Gorkha, Nepal earthquake: Constraints from GPS measurements of coseismic offsets," *Journal of Asian Earth Sciences* (133), 2017, pp. 56--61.
1145. Yadav, R. K. and Sarkar, P. K. "The crack-face displacement field evaluation for an embedded elliptic crack," *MATERIALS TODAY-PROCEEDINGS* (4:9), 2017, pp. 10049-10053.
1146. Yadav, S. K. and Jain, M. K. "Exposure to particulate matter in different regions along a road network, Jharia coalfield, Dhanbad, Jharkhand, India," *CURRENT SCIENCE* (112:1), 2017, pp. 131-139.
1147. Yadav, S. S., Verma, B. and Jana, P. K. "Critical Observation on the Exponential Growth of Nature-Inspired Computation""2017 INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTING, COMMUNICATIONS AND INFORMATICS (ICACCI)', IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, International Conference on Advances in Computing, Communications and Informatics (ICACCI), Manipal, INDIA, SEP 13-16, 2017, 2017, pp. 1431-1437.

4. CENTRES OF ADVANCED LEARNING

IIT (ISM) has been recognized as a Centre of Advanced Learning in the fields of mining, mineral, mining environment, earth sciences, petroleum, mining machinery, mine electronics, applied sciences etc. There are following eighteen (18) research centres existing at IIT (ISM), Dhanbad:

List of Research Centres

- ❖ *Centre for Mining Environment*
- ❖ *Centre of Advanced Study in Mining Engineering*
- ❖ *Centre of Rock Excavation Engineering*
- ❖ *Centre of Longwall Mine Mechanization*
- ❖ *ENVIS Centre of MoEF&CC*
- ❖ *Central Research Facility*
- ❖ *Centre of Water Resource Management*
- ❖ *Center of Excellence in Safety, Occupational Health and Disaster Management*
- ❖ *Key Resource Centre for Water and Sanitation*
- ❖ *Center for Renewable Energy*
- ❖ *Centre of Excellence in Mining Technology*
- ❖ *Australia-India Joint Research Centre for Clean Coal and Energy Technology*
- ❖ *Reservoir Characterization Centre*
- ❖ *Centre for Innovation, Incubation, and Entrepreneurship*
- ❖ *Faculty Development Centre as a part of Pandit Madan Mohan Malviya National Mission for Education*
- ❖ *Centre for Societal Mission*
- ❖ *Centre for Climate Change and Atmospheric Studies*
- ❖ *Centre for Mineral Exploration*

4.1 Central Research Facility (CRF)

A Central Research Facility at Indian Institute of Technology (Indian School of Mines) [IIT (ISM)] will be a Centre of national importance at which the high-quality equipment with cutting edge technologies concentrated at a single location that will provide scientific and technical services for researchers. Such a facility is an important tool for strengthening the research-relevant infrastructure of science and, consequently, represents a key prerequisite for preserving and raising the efficiency of research. Sophisticated analytical instruments are vital for pursuing research in all areas of modern science and technology.

Objectives of CRF:

- To establish state-of-the-art research facilities and instruments to support advanced research under one umbrella.
- To support and promote inter- and multi- disciplinary research in contemporary and frontier areas.
- To enable Faculty members and research scholars of IIT (ISM) to get the facilities of most advanced instruments without the need of going to outside Institutions as is the case at present.
- To establish supporting facilities (e.g. Double Distilled Water Plant, Milli-Pore and Milli-Q water Plant, Liquid Nitrogen Plant etc.) for smooth running of instruments.

Table 4.1: Major Instrumental Facilities at CRF

Name of Equipment	Purpose/Uses
FE-SEM (Field Emission Scanning Electron Microscope) Software :Smart SEM	To find the surface structure, surface morphology & elemental composition.
RHEOMETER Software :BohlinR6.51.0.3	To find the viscosity & strength of the liquid & gel sample.
UV-VIS-NIR Spectrophotometer Software :CarryWinUV	To find the optical properties of liquid, solid & thin film sample.
EPMA(Electron Probe Micro Analyzer) Software :Cameca PeakSightV5.1	To find the qualitative, quantitative, x-ray mapping & BSE image.
SPM (Scanning Probe Microscope) Software :Nano Scope Analysis 1.5	To find the 3D mapping, topography with roughness & height profile, Microscopy like MFM, CFM, EFMetc.
MALSS (Multi Angle Light Scattering Spectrophotometer) Software :ParSEC Chromatography Software :NanoScopeAnalysis 1.5	To find the average molecular weight and PDI of polymer sample.
Single Crystal XRD Software :38.46CrysAlis PRO	To find the structure of crystal
Single Crystal XRD Software: 38.46 CrysAlis PRO	To find the average molecular weight and PDI of polymer sample.
Gas Sorption Analyser Software : 3FleX 3.02	To determine the surface area, pore size, pore volume.

4.2 Centre of Excellence in Safety, Occupational Health and Disaster Management

For furthering the research and development activities in mine safety, occupational health, and disaster prevention and management to improve safety and work place environment, Centre of Excellence in Safety, Occupational Health and Disaster Management (COESOHD) has been established in the Department of Mining Engineering at IIT (ISM), Dhanbad. The present scope of the centre encompasses the mining industry (covering both underground as well as surface mining) with a special attention to the deep mining issues.

4.2.1 Collaborative R&D projects with CIL and Australian Universities/ Organizations under CoESOHD

One project has been approved and already received partial funding from Coal India Limited under CIL R&D grant as mentioned below:

Project Title	Sanctioned Amount	Australian Collaborating Organization/ University
Development of guideline for prevention & mitigation of explosion hazard by risk assessment and determination of explosibility of Indian coal incorporating risk based mine emergency evacuation and re-entry protocol	Rs. 8.33 Crores	SIMTARS (Safety in Mines, Training and Research Station) under the Department of Natural Resources and Mines, Govt. of Queensland, Australia

4.3 Australia-India Joint Centre of Excellence in Mining Technology (CEMT)

A proposal was submitted to MHRD, Govt. of India for establishing a dedicated Centre for taking forward the Indo-Australia Collaboration for Mining Technology. Realizing the need for a concentrated effort, The Australia-India Joint Centre of Excellence in Mining Technology (CEMT) has been sanctioned by MHRD with a seed grant of Rs. 6.75 crores on 22nd January 2016. The centre has been established at the Department of Mining Engineering, IIT (ISM). The Australian High Commissioner to India, H.E. Ms. Harinder Sidhu inaugurated the Centre on 17th February 2017 in the Heritage Building at Deptt. of Mining Engineering, IIT(ISM), Dhanbad.

4.3.1 Institution of Australian Partnership Coordinator (APC) position

Considering the importance of the collaboration, an Australian Partnership Coordinator (APC) position has been sanctioned by the Australian Govt. to pursue the various activities envisaged under CEMT.

4.3.2 Collaborative R&D projects with CIL and Australian Universities/ organizations under CEMT

One project has been approved and has already received partial funding from Coal India Limited under CIL R&D grant while second project is in its final stage of approval.

Project Title	Sanctioned Amount	Australian Collaborating Organization/ University
Multiple layer trial blasting for better recovery with less diluted coal	Rs. 4.31 Crores	JKMRC, University of Queensland
Development of Virtual Reality Mine Simulator (VRMS) for improving Safety and Productivity in Indian Coal Mines	Rs. 14.10 Crores	Simtars, Department of Natural Resources, Govt. of Queensland, CMPDIL, Coal India Ltd., BCCL, and NCL

4.4 Oil and Gas Reservoir Characterization Simulation:

Petroleum Engineering is a unique stream where engineering is applied to the subsurface formation which is neither accessible nor visible to the engineers. Hence, ensuring reliability of the applied engineering and related predictions is challenging. Simulation software integrates geological, geophysical, reservoir and production data to maximize the reliability of predictions. Simulation software is widely used in upstream oil and gas industries to visualize the reservoir and predict recoverable amount of hydrocarbon from it. These days, decisions on capital investments in exploration and production projects is primarily based on techno-economic analysis using the simulation software. Hence, providing knowledge and skills relevant to the application of this software to petroleum engineers is necessary to ensure their preparedness for the oil and gas jobs and academic research. To achieve this objective, IIT (ISM), Dhanbad signed a MoU with Schlumberger Asia Services Limited in 2016 for establishing Reservoir Characterization Centre (RCC) in the Department of Petroleum Engineering of IIT (ISM), Dhanbad. As a part of the implementation of Information and Communication T based teaching and research in Petroleum industry, Advanced Reservoir Characterization software worth USD 13.14 million was sponsored by Schlumberger and introduced in the course of Petroleum Engineering of IIT (ISM), Dhanbad.

5. INDUSTRY – INSTITUTE INTERACTION

Industry - Institute Interaction is well established area at IIT (ISM). There has been a steady growth over the years in the sponsored projects, financial outlay and external cash flow through consultancy and professional development programmes offered to various Industries and Organizations.

5.1 Consultancy Projects

The faculty members of IIT (ISM) are involved in solving the real-life problems of different industries. As a result, the Institute has established excellent interaction with companies of public and private sectors, both in India and abroad apart from various Government bodies and research institutions. Many of the core sector industries regularly seek advice and expertise of IIT (ISM) faculty for their technological and economic development. Some of the major industries served in the recent past are listed below.

5.1.1 List of major industries, Government organizations, research institutions sponsoring projects to IIT (ISM)

Furgo Nexterra Geophysics Pvt. Ltd., Kolkata; Chennai Metro Rail Project; Hutti Gold Mines Co. Ltd, Raichur; World Bank Project; Ministry of Mines; Ministry of Mines & Petroleum, Islamic Republic of Afghanistan; Ministry of External Affairs, Government of India; DVC Bokaro; CCL; Tata Steel; SCCL; BCCL; MCL; WCL; SECL; NCL; ECL; UCIL; West Bengal Mineral Development & Trading Corporation Ltd.; SGS India Pvt. Ltd., Kolkata; Essar Oil Ltd. Durgapur; FCI; Aravali Gypsum and Minerals India Ltd., Jodhpur; SAIL; IEL; MECON Ranchi; Department of Mines and Geology, Government of Jharkhand; Monnet Ispat and Energy Limited; NTPC; NHPC; ONGC; OIL India Limited; Rio-Tinto; Schlumberger Asia; Shell Technologies; PWC; Infosys; Atlas Copco; Vedanta; Hindustan Copper Limited; Hutti Gold Mines Ltd.; 3M India Ltd.; Central Ground Water Board; Coal Miners' Provident Fund Organisation; Central Mining & Fuel Research Institute; Essar Steel; e-Valueserve.com, FACOR, Bhadrak; Gujarat Mineral Development Corporation, Hindustan Lever Ltd; SAIL; McNally Bharat; Ministry of Coal GOI; SGS India Pvt. Ltd; Tega Industries Ltd; VG Quenim-Goa; Vizag Sea-port; Warman Intl (I) Pvt Ltd.

The value of Consultancy projects undertaken during the year amounted to Rs.1273.56 Lakhs. A list of the consultancy projects executed at IIT (ISM) during the financial year 2017-18 is presented in Table 5.1.

Table 5.1: List of Consultancy Projects Undertaken during F.Y. 2017-18:

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
1	Cons/2674/2014-15	Impact of Mining Activities on Hydrology and Hydrogeology of Core Zone Covering all 5 underground Mines of Tata Steel.	Dr. S. K Gupta, CI Dr. Brijesh Mishra, CO-CI	ESE	460000.00	Tata Steel, Jharia Division
2	Cons/2675/2014-15	Monitoring of Environmental Parameters in Respect of (i) Stack Emission test (ii) Effluent discharge test (iii) Ambient air quality test (iv) Noise level Measurement for unit 1,2,3,7 & 8 DVC CTPS Chandrapura	Dr. S. K. Gupta, CI Dr. Alok Sinha, CO-CI	ESE	59790.00	DVC, Bokaro
3	Cons/2988/2015-16	Scientific Study of stability of the barrier Pillars between longwall Panels in Seam XV, Moonidih Project, BCCL	Prof. U. K. Singh, CI	ME	41250.00	Moonidih Project, BCCL
4	Cons/3007/2015-16	Profiling of Heat Values Along the Coal flow Chain in Vindhyachal STPP on NTPC	Prof. S. Bhattacharya, CI Prof. N. R. Mandre, CO-CI Prof. V. K. Saxena, CO-CI Shri Anand Anupam, CO-CI	FME	1966500.00	NTPC, Ltd.
5	Cons/3021/2015-16	Testing of Water Sample near Rajrappa Area	Dr. B. K. Mishra, CI	ME	32200.00	Hindalco Industries Ltd. Muri, Ranchi
6	Cons/3260/2016-17	Identification & Demarcation of Boundry under Surda Mining Lease Area (total 388.68 hectares) by Cadastral Survey and Preparation of Digital Geo-referenced map & Generation of Geo-Referenced Shape files by DGPS survey of that Area.	Dr. Dheeraj Kumar, CI Dr. VV Govind Kumar, CO-CI	ME	1931976.00	IIC Mining Projects
7	Cons/3274/2016-17	Testing of Ground Water Quality Kinandul NMDC	Dr. Anshumali, CI Prof. A. K. Singh, CO-CI	ESE	1513124.00	NMDC Ltd. Hyderabad.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
8	Cons/337 4/2016-17	Identification & Demarcation of Area under Sand Mining Leases of Tata steel, Jharia Division by DGPS Surveyt and Preparation of Geo-referenced Cadastral Map of the Mining Leases.	Dr. Dheeraj Kumar, CI Dr. V.V. Govind Kumar, CO-CI	ME	2822560.00	Tata Steel
9	Cons/337 8/2016-17	Social Impact Study of three Washeries of BCCL	Prof. A. K. Pal, CI Dr. Biswajit Paul, CO-CI	ESE	708000.00	CIL, Kolkata
10	Cons/343 3/2016-17	DGPS Survey of Demarked Lease Boundary Pillars of existing lease hold area, old lease hold area & forest area of Tulsidamar Dolomite Mines, SAIL and Geo-referencing of cadastral map of Ghagra, Gorgaon, and Saraiya mining leases of Bhawnathpur Group of Mines, SAIL into WGS 84 coordinates.	Dr. Dheeraj Kumar, CI	ME	1034175.00	SAIL
11	Cons/347 3/2016-17	Scientific Study for Support Design of a inter seam Tunnel in Adriyala Undergruond Mine.	Prof. U. K. Singh, CI	ME	272550.50	SCCL
12	Cons/346 0/2016-17	Third Party Sampling of Coal Supplied From CCL Washeries and Mines to SAIL Steel Plants.	Prof. Nikkam Suresh, CI Prof. V. K. Saxena, CO-CI	FME	4582657.86	SAIL
13	Cons/346 1/2016-17	Analysis of Coal Sample from Obara Thermal Power Station.	Dr. Shalini Goutam, CI	FME	392862.00	Obra Thermal Power Project Obra.
14	Cons/342 8/2016-17	Scientific study for designing Blast Rounds to Proeuce Required Sizes of Rocks for Marine and Onshore Facilities Works and Planning for Yield Analysis at Jafrabad Project, Gujrat (PHASE-2)	Prof. VMSR Murthy, CI Dr. B. S. Choudhary, CO-CI	ME	408250.00	Dharti Dredging and Infrastructure Ltd.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
15	Cons/348 3/2016-17	Detailed Mineralogical Characterization of Manganese Ores of MOIL.	Dr. P. R. Sahoo, CI Prof. A. S. Venkatesh, CO-CI	AGL	40250.00	MOIL Ltd. Nagpur
16	Cons/330 0/2016-17	Feasibility Study of STP at West Bokaro Division (WBD)	Prof. S. K. Gupta, CI Dr. Alok Sinha, CO-CI	ESE	858600.00	Tata Steel West Bokaro
17	Cons/348 7/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	23000.00	JRDA Dhanbad
18	Cons/348 8/2017-18	Calibration of three force Measuring devices (100 kN, 500 kN & 2000 kN Capacity of Pre-Stressed Udyog (India) Pvt. Ltd. as per IS:4169:1988 in Compression	Prof. A. K. Mishra, CI	ME	34500.00	Pre-Stressed Udyog (India) Pvt. Ltd. Dhanbad
19	Cons/348 9/2017-18	Learn from Each other (LEO) Workshop, SAIL, Ranchi	Prof. R. Venugopal, CI	FME	57500.00	SAIL
20	Cons/349 0/2017-18	Analysis of Hydraulic Fracturing data and giving report.	Dr. R. K. Sinha, CI	ME	301000.00	Mesy (India) Pvt. Ltd. Lucknow
21	Cons/349 2/2017-18	Determination of Physico-Mechanical Properties of Aggregates of M/s KNIL Supplied by NTPC Lara, CG	Prof. A. K. Mishra, CI	ME	57494.25	NTPC
22	Cons/349 3/2017-18	Overview of Coal Washing	Prof. R. Venugopal, CI Prof. N. R. Mandre, CO-CI Prof. S. Bhattacharya, CO-CI	FME	138000.00	SAIL
23	Cons/349 4/2017-18	Testing of Coal Samples	Dr. Shravan Kumar, CI	FME	32200.00	ECL Salanpur Area
24	Cons/349 5/2017-18	Analysis of Water Samples from Skylark Hotel Pvt. Ltd.	Dr. Vipin Kumar, CI Dr. S. R. Samadder, CO-CI	ESE	11500.00	Skylark Hotel Pvt. Ltd., Dhanbad
25	Cons/349 7/2017-18	Preparation of Technical Feasibility report for the Iind phase expansion plan of Khetri Copper Mine for (a) extending the mine from 0 ML to (-1) 300 ML (b) if, the mine is to be extended from 0 ML to (-1) 180 ML.	Prof. P. Sen, CI Dr. Dheeraj Kumar, CO-CI	ME	1034994.10	SECL
26	Cons/349 8/2017-18	Analysis of Coal Sample from Anpara Thermal Power Station	Dr. Shalini Gautam, CI	FME	93840.00	Anpara Thermal Power Station

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
27	Cons/349 9/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	23000.00	JRDA Dhanbad
28	Cons/350 0/2017-18	Proof Checking of Structural Drawings Based on design for Staff Quarters of Kendriya Vidyalaya, Dehradun.	Dr. S. K. Panda, CI Dr. Sanket Nayak, CO-CI	Civil	49450.00	Kendriya Vidyalaya, Dehradun
29	Cons/350 1/2017-18	Testing of Coal Samples	Dr. Shravan Kumar, CI Prof. N. R. Mandre, CO-CO	FME	174340.00	AKA Logistics Pvt. Ltd.
30	Cons/350 2/2017-18	Study of Impact Assessment of Subsidence due to Underground Mining of Coal Seams in Gare Palma. IV/8 Block.	Prof. U. K. Singh, CI	ME	700173.00	Gare Palma
31	Cons/350 3/2017-18	Preparation of Course Module on Best Blasting Practices and Safety	Prof. A. K. Mishra, CI Prof. D. C. Panigrahi, CO-CI	ME	513398.00	PCDA BR, New Delhi
32	Cons/350 4/2017-18	Monitoring of Ambient Air Quality of Katras Area BCCL as per NAAQS 2009	Dr. M. K. Jain, CI Dr. Suresh Pandian, CO-CI	ESE	229994.25	Katras Area BCCL
33	Cons/350 6/2017-18	Calibration of two force Measuring devices (100 KN) and 2000 kN capacity of Pre-Stressed Udyog (India) Pvt. Ltd. as per IS:4169:1988 in Compression.	Prof. A. K. Mishra, CI	ME	23000.00	Pre- Stressed Udyog (India) Pvt. Ltd. Dhanbad
34	Cons/350 7/2017-18	Monitoring of Air Quality analysis and Water Samples at different point of Washery Chasnalla.	Dr. Suresh PandianE, CI Dr. B. K. Mishra, CO-CI	ESE	172486.00	SAIL Kulti
35	Cons/350 8/2017-18	Consultancy project Ball mill Size Calculations for Limestone grinding under Wet Condition for BHEL.	Prof. S. Bhattacharya, CI Prof. A. K. Mukhopadhyay, CO-CI	FME	2300000.00	BHEL Hyderabad
36	Cons/350 9/2017-18	Scientific Study of Geotechnical Parameters and Determination of RMR of Salanpur III Seam from V Seam Incline of Salanpur Colliery.	Prof. A. K. Mishra, CI	ME	112436.00	Salanpur Colliery, BCCL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
37	Cons/3510/2017-18	Scientific Study of Geotechnical Parameters and Determination of RMR of Salanpur (I) Salanpur II Seam Top from II Seam Top Incline of Salanpur Colliery.	Prof. A. K. Mishra, CI	ME	112436.00	Salanpur Colliery, BCCL
38	Cons/3511/2017-18	Passive, Package and Interconnect Modeling in design the mm-wave Si-CMOS/Bicom products	Dr. Santanu Dwari, CI	ECE	50000.00	Lemon Flip Solutions Pvt. Ltd. Sangareddy
39	Cons/3512/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	126500.00	JRDA Dhanbad
40	Cons/3514/2017-18	Third Party Quality Control/Assurance (TPQA) in Projects Executed by NIT Project Division, CPWD Jamshedpur	Prof. S. Dutta, CI Dr. S. K. Panda, CO-CI Dr. Sanket Nayak, CO-CI	Civil	561608.00	CPWD Jamshedpur
41	Cons/3515/2017-18	Geo-referencing of Approved land use and reclamation plan of Begunia UG Coal Mining Project SAIL into WGS 84 Coordinates and preparation of Shape file.	Dr. Dheeraj Kumar, CI Dr. VVG Kumar, CO-CI	ME	458910.00	SAIL
42	Cons/3516/2017-18	OBR Measurement at Bhanora West Opencast Mine of Sripur Area and Gourandih OC Mine of Salanpur Area, ECL	Dr. Dheeraj Kumar, CI	ME	450000.00	Salanpur Area, ECL
43	Cons/3519/2017-18	Assessment of Ground Water and Surface Water at Muri.	Dr. B. K. Mishra, CI Prof. S. K. Gupta, CO-CI Dr. Alok Sinha, CO-CI	ESE	299000.00	Hindalco Industries Ltd.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
44	Cons/352 1/2017-18	Evaluation of Performance and Behavior of safety Instruments and analysis and Interpretation of Air Samples, Measurement dust Concentration and Noise levels etc. Chasnalla Colliery, SAIL	Prof. D. C. Panigrahi, CI	ME	401212.00	Chasnalla Colliery, SAIL
45	Cons/352 2/2017-18	Evaluation of Performance and Behavior of Safety Instruments of Sodepure Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	12144.00	Sodepur Colliery, ECL
46	Cons/352 3/2017-18	Scientific Study regarding the Surface fire in the leasehold Area of Old Murlidih Colliery WJA, BCCL	Prof. D. C. Panigrahi, CI	ME	686971.00	Murlidih Colliery WJA, BCCL
47	Cons/352 4/2017-18	Functionability tests of SCSRS of Moonidih Colliery, WJA BCCL	Prof. D. C. Panigrahi, CI	ME	61634.00	WJA, BCCL
48	Cons/352 5/2017-18	Functionability test of SCSR'S of Parbatpur Colliery SAIL	Prof. D. C. Panigrahi, CI	ME	20815.00	Parbatpur Colliery, SAIL
49	Cons/352 6/2017-18	Analysis and Interpretation of Mine Air Samples of Satgram Area ECL	Prof. D. C. Panigrahi, CI	ME	11500.00	Satgram Area ECL
50	Cons/352 7/2017-18	Evaluation of performance and Behavior of Safety Instruments of Roybachra Colliery Piparwar Area CCL	Prof. D. C. Panigrahi, CI	ME	57145.00	Roybachra Colliery CCL Piparwar Area
51	Cons/352 8/2017-18	Evaluation of performance and Behavior of Safety Instruments of Kanhan Area WCL	Prof. D. C. Panigrahi, CI	ME	29440.00	Kanhan Area WCL
52	Cons/352 9/2017-18	Evaluation of performance and Behavior of Safety Instruments of Hariagam Colliery ECL	Prof. D. C. Panigrahi, CI	ME	12144.00	Hariaja, Colliery, ECL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
53	Cons/353 0/2017-18	Functionability test of SCSR'S of Bhowrah (N) UG Mine BCCL	Prof. D. C. Panigrahi, CI	ME	27025.00	Bhowrah (N) UG Mine BCCL
54	Cons/353 1/2017-18	Evaluation of performance and Behavior of Safety Instruments of Chinakuri Mine-III ECL	Prof. D. C. Panigrahi, CI	ME	12091.00	Chinakuri Mine III, ECL
55	Cons/353 4/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	23000.00	JRDA Dhanbad
56	Cons/353 5/2017-18	Determination of Bond's Work Index of Sea Water Magnesia Sample.	Prof. S. Bhattacharya, CI	FME	28750.00	SRU Ltd., Ranchi
57	Cons/353 6/2017-18	Storm Water Management Plan for Sanindpur Iron and Bauxite Mine of M/s Rungta Sons (P) Ltd.	Dr. Biswajit Paul, CI	ESE	345000.00	SR Rungta Group Barbuil
58	Cons/353 7/2017-18	Testing of Coal Samples.	Dr. Shravan Kumar, CI	FME	20700.00	ECL Salanpur Area
59	Cons/353 9/2017-18	Determination of Cerchar Abrasivity Index of Some rock samples of Fugro Geotech (India) Pvt. Ltd. Navi Mumbai.	Prof. VMSR Murthy, CI	ME	158700.00	Fugro Geotech (India) Pvt. Ltd. Navi Mumbai.
60	Cons/354 3/2017-18	Air and Mine water Analysis for our two collieries Namely Bararee Colliery and Lodhna, BCCL.	Dr. B. K. Mishra, CI Dr. Suresh Pandian E, CO-CI	ESE	92000.00	Lodhna Colliery, BCCL
61	Cons/354 4/2017-18	Study on the impact of traffic density on ecology and human community.	Dr. Biswajit Paul, CI Dr. Suresh Pandian E, CO-CI	ESE	345000.00	M/s Feegrade & Co(P) Ltd.
62	Cons/354 1/2017-18	Scientific study for designing a suitable method for extraction under surface features GDK-7 LEP RG-II Area SCCL	Prof. U. K. Singh, CI	ME	493319.50	SCCL
63	Cons/354 7/2017-18	Seismic Data Acquisition followed by Processing and Interpretation at Indore Region.	Dr. S. Dutta Gupta, CI Dr. S. K. Pal, CO-CI	AGP	493350.00	Progressive Mechhine Tools
64	Cons/354 8/2017-18	Preparation of Mining Scheme to produce 3000 tpd Ore from existing Tummalapalle mine of UCIL and enhance the Production by 1500 tpd ore.	Prof. Om Prakash, CI Prof. D. C. Panigrahi, CO-CI Dr. B. S. Choudhary, CO-CI Dr. Hemant Kumar, CO-CI	ME	2837201.00	UCIL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
65	Cons/354 9/2017-18	Monitoring of Ground Vibration (One blast) due to deep hole blasting in your Gere Block-1 M/s ILFS Stone Mine Gaya.	Prof. V.M.S.R. Murthy, CI	ME	20000.00	M/s ILFS Stone Mine Gaya.
66	Cons/355 0/2017-18	Monitoring of Ground Vibration (One blast) due to deep hole blasting in your Gere Block-3. M/s NECL Stone Mine Gaya.	Prof. V.M.S.R. Murthy, CI	ME	20000.00	M/s NECL Stone Mine Gaya.
67	Cons/355 1.2017-18	Scientific Study for Establishing best Blasting Practice at Gere (Gaya) Block No.5 Stone Quarry of M/s Mahadev Enclave Pvt. Ltd.	Prof. V.M.S.R. Murthy, CI	ME	394896.00	M/s Mahadev Enclave Pvt. Ltd.
68	Cons/355 2/2017-18	Testing of Construction Material.	Dr. Sankt Nayak, CI Dr. S. K. Panda, CO-CI, Dr. S. Chakraborty, CO-CI, Dr. Tanish, Dey, CO-CI	Civil	23000.00	JRDA Dhanbad
69	Cons/355 4/2017-18	Examinations of the reasons for delay in getting stoping permission from DGMS at Tummalapalle Mine of UCIL.	Prof. OM Prakash, CI Prof. D. C. Panigrahi, CO-CO	ME	897000.00	UCIL
70	Cons/355 5/2017-18	Geo-referencing of Cadastral map showing lease hold area forest area and forest land diversion area within the lease of Rajbar E & D Coal Mine, TVNL into WGS 84 Coordinates.	Dr. Dheeraj Kumar, CI Dr. VVG Kumar, CO-CI	ME	490000.00	Rajbar E & D Coal Mines.
71	Cons/355 6/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Saoner Sub area, WCL	Prof. D. C. Panigrahi, CI	ME	20700.00	Saoner Sub Area WCL
72	Cons/355 7/2017-18	Analysis and Interpretation of Mine Air Samples of Sodepur ® Coalliery, ECL.	Prof. D. C. Panigrahi, CI	ME	27600.00	Sodepur ® Colliery, ECL
73	Cons/355 8/2017-18	Airborne dust Sampling of Ramnagore Colliery, SAIL	Prof. D. C. Panigrahi, CI	ME	23000.00	Ramnagar Colliery, SAIL.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
74	Cons/3559/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Narsumunda Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	32292.00	Narsumunda Colliery, ECL
75	Cons/3560/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of MRS Dhanbad, BCCL	Prof. D. C. Panigrahi, CI	ME	54660.00	MRS-Dhansar, BCCL
76	Cons/3561/2017-18	Evaluation of Performance and Behavior of Mine Ventilation and Safety Instruments of Patansaongi Mines, WCL	Prof. D. C. Panigrahi, CI	ME	26312.00	patansaongi Mines, WCL
77	Cons/3562/2017-18	Proof Checking of Structural Drawings based on Design for Two School Building of Kendriya Vidyalaya at Rangio, Assam and Rohini, New Delhi.	Dr. S. K. Panda, CI Dr. Sanket Nayak, CO-CI	Civil	155250.00	CE Con Engg., New Delhi.
78	Cons/3563/2017-18	Evaluation of performance and behaviour of mine ventilation and safety instruments of Bhatgaon Area, SECL	Prof. D. C. Panigrahi, CI	ME	94420.00	SECL
79	Cons/3564/2017-18	Evaluation of performance and behaviour of mine ventilation and safety instruments of patmohna Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	11500.00	ECL
80	Cons/3567/2017-18	Testing of Coal Samples	Dr. Shravan Kumar, CI	FME	11500.00	M/s Kanha Constructions.
81	Cons/3568/2017-18	Testing of coal Samples Received from Rajganj Thana.	Dr. Shravan Kumar, CI	FME	11500.00	Rajganj Thana
82	Cons/3569/2017-18	Sampling and Grading of SECL Coal Samples (Part B)	Prof. N. Suresh, CI	FME	3501680.00	Ministry of Coal office of the Coal Controller, Kolkata, SECL
83	Cons/3570/2017-18	Technical Studies on Washability of Coal Samples from 8 Different Mines of CCL	Prof. N. Suresh, CI	FME	4139942.00	CCL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
84	Cons/357 3/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI Dr. S. S. Mahapatra, CO-CI	Civil	23000.00	JRDA Dhanbad
85	Cons/357 4/2017-18	Sampling and Grading of CCL Coal Seams (Part B)	Prof. N. Suresh, CI	FME	990860.00	Ministry of Coal office of the Coal Controller, Kolkata, CCL
86	Cons/357 5/2017-18	Sampling and Grading 20000 Tons of Coal Slurry from Dugda Washery	Prof. N. Suresh, CI	FME	115000.00	BCCL
87	Cons/357 6/2017-18	Sampling and Analysis of Moonidih Coal Washery Slurry.	Prof. N. Suresh, CI	FME	92000.00	BCCL
88	Cons/357 7/2017-18	Mineralogical Characterization of Bauxite ore from Utkal Alumina International Ltd.	Dr. P. R. Sahoo, CI Prof. A. S. Venkatesh, CO-CI	AGL	84500.00	Utkal Alumina International Ltd.
89	Cons/357 8/2017-18	Evaluation of Performance and Behavior of Mine Safety Instruments and Analysis and Interpretation of Mine air Samples of Badana Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	39744.00	Badana Colliery, ECL
90	Cons/357 9/2017-18	Continuation of ongoing Schemes of GSI beyond XII Five year Plan.	Prof. S. Mohanty, CI Dr. M. K. Mukherjee, CO-CI Dr. R. Anand, CO-CI Prof. D. C. Panigrahi, CO-CI	AGL	1038400.00	Geological Survey of India, Kolkata
91	Cons/358 0/2017-18	Development of an underwater Drilling and controlled Blasting Methodology for Dismantling concrete Berths (EQ2 to EQ5) and Blast Monitoring at Port of Vishakhapatnam (Task-1)	Prof. V.M.S.R. Murthy, CI	ME	1725000.00	ITD Cementation India Ltd.
92	Cons/358 1/2017-18	Detailed mineralogical Characterization of Managers Ores of MOIL Ltd.	Prof. A. S. Venkatesh, CI Dr. P. R. Sahoo, CO-CI	AGL	322000.00	MOIL Ltd.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
93	Cons/3582/2017-18	Design of Drilling and blasting Pattern with detailed Calculation of explosives and Accessories for controlled blasting of 5 tunnels with field visits to Excavate underground tunnels at Vizag Project PI.	Prof. A. K. Mishra, CI	ME	714000.00	Lt Ltd. ECC Division - SCC Vendor
94	Cons/3585/2017-18	Ecology & Biodiversity (EB) & Soil Conservation (SC) Study of 3 Projects of SECL Jaganathpur OCP, Gevera OC (Exp) Dipkaol Ex of SECL RI-V	Prof. S. K. Maiti, CI	ESE	256125.00	CMPDIL RIV SECL Complex Seepat Road Bilaspur
95	Cons/3586/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	92000.00	JRDA Dhanbad
96	Cons/3587/2017-18	Sampling and Analysis of Coal Samples dispatched from BCCL	Prof. N. Suresh, CI	FME	5139982.00	BCCL
97	Cons/3588/2017-18	Ecology & Biodiversity (EB) Study of 3 Projects of CCL	Prof. S. K. Maiti, CI	ESE	127371.20	CMPDIL, Ranchi
98	Cons/3589/2017-18	EB & SC Study of Jayant OCP & Dudhichua OCP of NCL	Prof. S. K. Maiti, CI	ESE	169847.00	CMPDIL, Ranchi
99	Cons/3590/2017-18	Ecology & Biodiversity (EB) & Soil Conservation (SC) study of Sirmal OCP Lakhanpur Washery (EX) & Garjanbahal OCP of CMPDI-RI-7 (dt. 19.3.2016 to 18.5.2016)	Prof. S. K. Maiti, CI	ESE	165586.25	CMPDIL, Ranchi
100	Cons/3591/2017-18	Ecology & Biodiversity (EB) & Soil Conservation (SC) study of Jagarnath Washery & Utkal D&E coal mines of M/s Nalco (dt. 13.7.2016 & 17.11.2016)	Prof. S. K. Maiti, CI	ESE	165585.00	CMPDIL, Ranchi
101	Cons/3592/2017-18	Evaluation of Performance and Behavior of mine Ventilation and Safety Instruments of Parbelia Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	14444.00	Parbelia Colliery, ECL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
102	Cons/3593/2017-18	Investigation into degree of Gassiness of V seam development district of Bhowrah (North) UG Mine, EJ Area, BCCL	Prof. D. C. Panigrahi, CI	ME	80500.00	Bhowrah (North) UG Mine EJ Area BCCL
103	Cons/3596/2017-18	Offering one week off-campus PDP on Controlled Blasting Management and Safety for Road Construction in Himalayan Territory for JE (Civil) at Rishikesh from 3-7-2017 to 7-7-2017	Prof. A. K. Mishra, CI Dr. B. S. Choudhary, CO-CI Prof. D. C. Panigrahi, Member	ME	913629.00	DGBR, New Delhi
104	Cons/3597/2017-18	Preparation of Mining Scheme to Produce 500 tpd ore on Sustainable manner from existing Bagjata mine of UCIL Jaduguda	Prof. Om Prakash, CI Prof. D. C. Panigrahi, CO-CI Dr. B. S. Choudhary, CO-CI Dr. Hemant Kumar, CO-CI	ME	1912262.00	UCIL
105	Cons/3603/2017-18	Rapid Comprehensive Environmental audit for 4 x 250 MW & 4 x 600 MW TPP at JPL Tamnar	Prof. Gurdeep Singh, CI	ESE	345000.00	Jindal Power Ltd. Raigarh.
106	Cons/3605/2017-18	Calibration of force Measuring devices (500 kN Capacity) of Muva Industries Ltd. as per IS:4169:1988 in Compression.	Prof. A. K. Mishra, CI	ME	11800.00	M/s Muva Industries Ltd.
107	Cons/3606/2017-18	Scientific Study for Establishing Best Blasting Practice at Gare (Gaya) Block No.1 Stone Quarry of M/S Octal Sales Pvt. Ltd.	Prof. V.M.S.R. Murthy, CI	ME	413000.00	Octal Sale Pvt. Ltd. Gaya
108	Cons/3607/2017-18	Scientific Study for Establishing Best Practice at Gere (Gays) Block No.2. Stone Quarry of M/S Pushpa Singh.	Prof. V.M.S.R. Murthy, CI	ME	413000.00	Pushpa Singh Gaya
109	Cons/3608/2017-18	Quotation for testing of LED Street Light.	Dr. Rajeev Kr. Ranjan, CI Dr. Gauri Shankar, CO-CI	ECE	20532.00	EE DMC, Dhanbad
110	Cons/3609/2017-18	Modelling, GIIP Estimation, and Productio Forecasting of North Karanpura CBM, Block.	Rajeev Upadhyay, CI Prof. Ashutosh Kumar, CO-CI Dr. S. Dutta Gupta, CO-CI	PE	991746.00	North Karanpura CBM Block.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
111	Cons/3610/2017-18	TPQC of construction of 120 Seated Class room 36 nos. and 120 Nos. faculty Chambers (G+#) for NIT Jamshedpur.	Dr. S. K. Panda, CI Dr. Sanket Nayak, CO-CI	Civil	1000000.00	CPWD NIT Projecct Division Jamshedpur
112	Cons/3611/2017-18	Determination of Compressive Strength and cerchar Abrasivity Index of Limestone Samples Supplied by MMD Heavy Machinery (India) Pvt. Ltd. Kolkata	Prof. A. K. Mishra, CI Prof. VMSR Murthy, CO-CI	ME	59000.00	MMD Heavy Mechinery (India) Pvt. Ltd. Kalkata
113	Cons/3614/2017-18	Evaluation of Performance and Behavior of SCSR's Samples ECL	Prof. D. C. Panigrahi, CI	ME	149742.00	Intech Safety Pvt. Ltd., Kolkata
114	Cons/3615/2017-18	Evaluation of performance and Behavior of Safety Instruments of Silewara Mine, WCL	Prof. D. C. Panigrahi, CI	ME	14160.00	Silwara Mine, WCL
115	Cons/3616/2017-18	Evaluation of Performance and Behavior of Safety Instruments of Nanda Manufacturing Co. Ltd. Kolkata	Prof. D. C. Panigrahi, CI	ME	11800.00	Nanda Manufactur aring Co.
116	Cons/3617/2017-18	Evaluation of Performance and Behavior of Safety Instruments of Bhowrah (s) Colliery, BCCL	Prof. D. C. Panigrahi, CI	ME	31619.10	Bhowrah(s) Colliery, BCCL
117	Cons/3618/2017-18	Airborne Respirable dust Survey in AMAL NT-ST Colliery, Lodna Area, BCCL	Prof. D. C. Panigrahi, CI	ME	117282.30	AMAL NT-ST Colliery, Lodna Area BCCL
118	Cons/3619/2017-18	Evaluation of Performance and Behavior of Safety Instruments of Phularitand Colliery, BCCL	Prof. D. C. Panigrahi, CI	ME	17698.00	Phularitand Colliery, BCCL
119	Cons/3620/2017-18	Vetting of SOR in Respect of outsourcing work in ECL	Prof. P. Sen, CI Prof. Om Prakash, CO-CI	ME	1475000.00	ECL
120	Cons/3579/2017-18	Continuation of ongoing Schemes of GSI beyond XII Five year Plan.	Prof. S. Mohanty, CI Dr. M. K. Mukherjee, CO-CI Dr. R. Anand, CO-CI Prof. D. C. Panigrahi, CO-CI	AGL	1038400.00	Geological Survey of India, Kolkata

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
121	Cons/3623/2017-18	Testing of Construction Materials	Dr. S. K. Panda, CI Dr. Sanket Nayak, CO-CI	Civil	94400.00	Kamladitya Constructions, PVT. Ltd., Bokaro.
122	Cons/3624/2017-18	Training Strata Control in Underground Coal Mines to be organised 17 - 19 July, 2017 at Ranchi.	Dr. R. K. Sinha, CI Dr. A. K. Verma, CO-CI Dr. G. Budi, CO-CI	ME	141600.00	SAIL Ranchi
123	Cons/3625/2017-18	Testing of Coal samples.	Dr. Sharvan Kumar, CI	FME	17700.00	Salanpur Area, ECL
124	Cons/3626/2017-18	Monitoring of Underwater drilling and controlled blasting Methodology at Port of Visakhapatnam from 1.7.15 to 30.9.15	Dr. V.M.S.R. Murthy, CI	ME	517500.00	Vishakhapatnam Port Trust Civil Engg. Dept.
125	Cons/3627/2017-18	Analysis of Water Quality (M/s CCL)	Prof. S. K. Gupta, CI	ESE	51750.00	CCL
126	Cons/3628/2017-18	Ultimate Analysis of Coal Samples	Prof. V. K. Saxena, CI	FME	36219.00	Mejia Thermal Power Station, Bankura
127	Cons/3629/2017-18	Sampling and Analysis of Madhuban Coal Washery Slurry Part- B	Prof. Nikkam Suresh, CI Dr. Shalini Gautam, CO-CI	FME	81075.00	BCCL Madhuban Coal Washery, Dhanbad.
128	Cons/3630/2017-18	Proximate & GCV Analysis of Samples Received from CCO-Bilaspur (Part - B)	Prof. Nikkam Suresh, CI	FME	576504.00	SECL Bilaspur
129	Cons/3631/2017-18	Sampling and Analysis of Madhuban Coal Washery Slurry.	Prof. Nikkam Suresh, CI, Dr. Shalini Gautam, CO-CI	FME	97898.00	BCCL Koyla Bhawan, Dhanbad
130	Cons/3632/2017-18	Vetting of SOR in Respect of Light Vehicles in ECL.	Prof. Phalguni Sen, CI Dr. R. K. Sinha, CO-CI	ME	413000.00	ECL Sanctoria Burdwan
131	Cons/3633/2017-18	Study of Diesel Particulate matter in Underground Workings of Norwapahar and Turamdih Mine of UCIL.	Prof. R. M. Bhattacharjee, CI Prof. D. C. Panigrahi, CO-CI	ME	1062000.00	Narwapahar Mines East Singhbhum, UCIL
132	Cons/3634/2017-18	Calibration of force Measuring devices of 2000 KN 1000 kN 500 kN & 100 kN capacity of Patil Rail Infrastructure Pvt. Ltd. as per IS:4169:1988 in Compression.	Prof. A. K. Mishra, CI	ME	47200.00	Patil Rail Infrastructure Pvt. Ltd. Purulia.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
133	Cons/3635/2017-18	Grading of 2.4 lakh tons of coal from Dankuni Coal Complex heaps of SECL	Prof. N. Suresh, CI	FME	939504.00	SECL
134	Cons/3637/2017-18	Design and Development of 5 Cum Hydraulic Excavator in Collaboration with HEC Ranchi, (HEC)	Prof. K. Dasgupta, CI Dr. S. K. Ghoshal, CO-CI	MME	324470.50	HEC, Ranchi
135	Cons/3638/2017-18	Study Overburden Dump Reclamaton for Stability Improvement at Gare Palma IV/4, Raigarh, Hindalco.	Dr. Biswajit Paul, CI	ESE	690300.00	Gare Palma Coal Mines,
136	Cons/3640/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Silwara Colliery, WCL	Prof. D. C. Panigrahi, CI	ME	24544.00	Silwara Colliery, WCL
137	Cons/3641/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of B. K. Enterprises, Dhanbad	Prof. D. C. Panigrahi, CI	ME	11800.00	B. K. Enterprises, Dhanbad
138	Cons/3642/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Ningha Colliery, Sripur Area, ECL	Prof. D. C. Panigrahi, CI	ME	43792.00	Ningha Colliery Sripur Area, ECL
139	Cons/3643/2017-18	Full bench test for Self Contained Self rescuer of 30 min duration as per IS 15803 - 2008 of Ana Digi Sales Pvt. Ltd., Bangalore.	Prof. D. C. Panigrahi, CI	ME	92000.00	Ana Digi Sales Pvt. Ltd. Bangalore
140	Cons/3644/2017-18	Analysis and Interpretation of Mine air Samples of Ningha Colliery, Sripur Area, ECL	Prof. D. C. Panigrahi, CI	ME	43792.00	Ningha Colliery, Sripur Area. ECL
141	Cons/3645/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Mekon International, Dhanbad	Prof. D. C. Panigrahi, CI	ME	11800.00	Mekon International, Dhanbad

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
142	Cons/364 6/2017-18	Evaluation of performance of air borne respirable dust concentration for full Shift of 8 hours duration of 5 drill Machines of M/S Revathi Equipment Ltd.	Prof. D. C. Panigrahi, CI	ME	472000.00	M/s Revathi Equipment Ltd., Coimbatore.
143	Cons/364 9/2017-18	Off Campus Learning from each other Workshop on Reduction of fines Generation Through Advanced Blasting Techniques in Iron Ore Mines, from 17 - 19, Aug., 2017.	Prof. V.M.S.R. Murthy, CI Dr. B. S. Choudhary, CO-CI	ME	141600.00	MTI, (SAIL), Ranchi
144	Cons/365 1/2017-18	Studying entire gamut of activities in taking over of ITI, Sikitia Godda from JSPL and recommending for Managing its total affairs towards its Smooth Operation Maintenance & Management under the overall Supervision of ECL.	Prof. V.M.S.R. Murthy, CI Prof. S. K. Sinha, CO-CI Dr. G. Budi, CO-CI Dr. B. S. Choudhary, CO-CI	ME	920000.00	ECL, Ranchi
145	Cons/365 2/2017-18	Development of Framework for Environmental Monitoring (AAQM) Implementation and Control in Line With CPCB Guidelines for Iron Ore Mines for Formento Resources GOA.	Dr. Biswajit Paul, CI Dr. Suresh Pandian E, CO-CI	ESE	2898000.00	COSME COSTA & SON., Goa - 403001
146	Cons/365 3/2017-18	Calibration of force Measuring device of 500 kN capacity of Pre-stressed Udyog (India) Pvt. Ltd. as per IS:4169:1988 in Compression.	Prof. A. K. Mishra, CI	ME	11800.00	Pre-Stressed Udyog (India) Pvt. Ltd. Dhanbad
147	Cons/365 4/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	23600.00	JRDA Dhanbad
148	Cons/365 5/2017-18	Scientific study of Geo-Mining Parameters and Determination of RMR of III Seam, Chandmari Section Bastacolla Colliery.	Prof. A. K. Mishra, CI	ME	125630.00	Bastacolla Colliery, BCCL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
149	Cons/365 7/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO- CI	Civil	70800.00	CPWD, Dhanbad
150	Cons/365 8/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO- CI	Civil	141600.00	CPWD, Dhanbad
151	Cons/365 9/2017-18	Proof Checking of Structural Drawings Based on Design for New Jharkhand Bhawan of Cannaught Place, New Delhi	Dr. S. K. Panda, CI Dr. Sanket Nayak, CO- CI	Civil	118000.00	CE CON Engg., New Delhi
152	Cons/366 0/2017-18	Proximate & GCV Analysis of Samples Received from MMAE, Sasan Power	Prof. N. Suresh, CI	FME	251640.00	CCO CMPDI Complex, Kanke Road Ranchi - 8
153	Cons/366 1/2017-18	Validation of Rohil Exploratory Mining of M/s UCIL Jaduguda	Prof. Om Prakash, CI Dr. Hemant Kumar, CO-CI	ME	861400.00	UCIL Jaduguda
154	Cons/366 3/2017-18	Proximate Analysis of Samples Received from Pakri Barwadih OCP, NTPC	Prof. N. Suresh, CI	FME	12744.00	CCO, CMPDI Complex Kanke Road Ranchi - 8
155	Cons/366 4/2017-18	Development of high Specialty Chemical for Oilfield Application.	Dr. Vikas Mahato, CI Prof. V. P. Sharma, CO-CI	PE	500000.00	Royal Castor Products Ltd., Patan, Gujrat
156	Cons/366 5/2017-18	Proximate 7 GCV analysis of Samples Received from NCL Singrauli	Prof. N. Suresh, CI	FME	229680.00	CCO, CMPDI Complex Kanke Road Ranchi - 8
157	Cons/366 6/2017-18	Determination of Cerchar Abrasivity Index and Cerchar Hardness Index of Some Rock Samples of L & T Construction, Surya Water Supply Scheme Project	Prof. V.M.S.R. Murthy, CI	ME	84960.00	L & T Construction
158	Cons/366 9/2017-18	Testing of Construction Material	Dr. S. K. Panda, CI Dr. Sanket Nayak, CO- CI	Civil	59000.00	JRDA Dhanbad
159	Cons/367 3/2017-18	Scientific study for Widening and Heightening of Marching rout for Introduction of bolter Miner S K Mines SCCL	Prof. U. K. Singh, CI	ME	145358.30	SCCL Kothagudu m

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
160	02.11.17 - 05.11.17	Off campus programme on "Surface and Underground Metal Mining-Some Advanced Aspects" for the Executives of Infosys Limited.	Prof. V. M. S. R. Murthy, CI Dr. Dheeraj Kumar, CO-CI Dr. B. S. Choudhary, CO-CI	ME	0.00	Infosys Limited
161	Cons/367 5/2017-18	Geophysical Exploration for Concealed Chromited deposits Asurabandha Mines M/S Real India Consultancy Ltd.	Dr. G. S. Rao, CI Prof. P. R. Mohanty, CO-CI Prof. Shalivahan, CO-CI	AGP	873200.00	Real India Consultancy Ltd.
162	Cons/367 6/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	11800.00	BCCL
163	Cons/367 7/2017-18	Facilitating the process of carrying out Risk assessment study and preparation of Safety management Plan at Hutti Gold Mine.	Prof. R. M. Bhattacharjee, CI	ME	275580.00	Hutti Gold Mine
164	Cons/367 8/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of MRS Ramgarh	Prof. D. C. Panigrahi, CI	ME	51750.00	MRS Ramgarh CCL
165	Cons/367 9/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments	Prof. D. C. Panigrahi, CI	ME	18880.00	Hariajam Colliery, ECL
166	Cons/368 0/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Basantemata Colliery, BCCL	Prof. D. C. Panigrahi, CI	ME	40002.00	Basantimata Colliery, BCCL
167	Cons/368 1/2017-18	Analysis and Interpretation of Mine air samples of Khoodia Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	11741.00	Khoodia Colliery, ECL
168	Cons/368 2/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Kedla UG Project CCL	Prof. D. C. Panigrahi, CI	ME	17250.00	Kedla UG Project, CCL
169	Cons/368 3/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Kedla UG Project CCL	Prof. D. C. Panigrahi, CI	ME	11983.00	Kedla UG Project, CCL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
170	Cons/368 4/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Tawa Mine, WCL	Prof. D. C. Panigrahi, CI	ME	11800.00	Tawa Mine, WCL
171	Cons/368 5/2017-18	Field Investigations, Modelling and Simulation Studies for designing the Ventilation Systems 15 seam of Moonidih Colliery, Indu Projects Ltd. Hyderabad.	Prof. D. C. Panigrahi, CI	ME	2560600.00	Indu Projects Ltd. Hyderabad
172	Cons/368 6/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Govindpur Project CCL	Prof. D. C. Panigrahi, CI	ME	47672.00	Govindpur Project. CCL
173	Cons/368 7/2017-18	Investigation into degree of Gassiness of Kalimati Seam, Calibration of Ventilation and Safety Instruments and Analysis of air Samples of Kumardhubi Colliery, ECL Sanctoria	Prof. D. C. Panigrahi, CI	ME	215188.00	Kumardhubi Colliery, ECL
174	Cons/368 8/2017-18	Analysis and Interpretation of Mine Air Samples of Chhapapur Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	11322.00	Chhapapur Colliery, ECL
175	Cons/368 9/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Bhatgaon Area, SECL	Prof. D. C. Panigrahi, CI	ME	71047.00	Bhatgaon area SECL
176	Cons/369 0/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Sudamdih Colliery, BCCL	Prof. D. C. Panigrahi, CI	ME	11794.00	Sudamdih Colliery, BCCL
177	Cons/369 1/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Ghushik ® Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	11800.00	Ghushik ® Colliery, ECL
178	Cons/369 2/2017-18	Evaluation of performance and behavior of Mine Ventilation and Safety Instruments of Bishrampur Area, SECL	Prof. D. C. Panigrahi, CI	ME	28320.00	Bishrampur Area, SECL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
179	Cons/369 4/2017-18	Hydrological Study of Ground Water in Bera Colliery, Bastacolla	Dr. Sanjit Kumar Pal, CI Dr. Saumen Miti, CO-CI	AGP	299970.50	BCCL, Bastacolla Area
180	Cons/369 5/2017-18	Testing for Physical Properties of Coarse and fine Aggregates.	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	35400.00	NBCL (India) Ltd., Ranchi
181	Cons/369 6/2017-18	Functional Ability tests of self Rescuers of SECL.	Prof. D. C. Panigrahi, CI	ME	38822.00	Rescuers of SECL
182	Cons/369 7/2017-18	Evaluation of performance and behavior of Mine Ventilation and Safety Instruments	Prof. D. C. Panigrahi, CI	ME	17550.00	Gopalchuk Colliery, BCCL
183	Cons/369 8/2017-18	Sampling and Grading of 0.8 million Ton of Coal Dumps from CCL Mining Areas.	Prof. Nikkam Suresh, CI	FME	5664000.00	CCL, Ranchi
184	Cons/369 9/2017-18	Gravity survey over concealed Chromite Ore deposits in Mahagiri Sukhinda, Odisha.	Prof. Shalivahan, CI Prof. P. R. Mohanty, CO-CI Dr. G. S. Rao, CO-CI	AGP	283932.00	Mahagiri Mines (Chromite) Kaliapani, Odisha
185	Cons/370 0/2017-18	Analysis of the Monitored Blast Data to Verify the Safe Blast Practices, Prediction of PPV and Fragmentation analysis Periodically for 2 years at Navi Mumbai International Airport packages I to IV and Allied Excavation.	Dr. B. S. Choudhary, CI Prof. VMSR Murthy, CO-CI	ME	221639.00	Deeptec Infrastructures
186	Cons/370 1/2017-18	Geo-referencing of Plans showing Lease Boundary, Block Boundary and Pit Boundary of Tasra and Chasnalla Collieries	Dr. VV Govind Kumar, CI Dr. Dheeraj Kumar, CO-CI	ME	287500.00	SAIL
187	Cons/370 2/2017-18	Vetting of Schedule of Rate (SoR) for Overburden Removal & Coal Transportation	Prof. P. Sen, CI Dr. R. K. Sinha, CO-CI	ME	1888000.00	NCL, Singrauli
188	Cons/370 3/2017-18	Evaluation of performance and Behavior of Ventilation and Safety instruments of Bhagaband Colliery, BCCL	Prof. D. C. Panigrahi, CI	ME	120342.00	Bhagaband Colliery, BCCL
189	Cons/370 4/2017-18	Evaluation of performance and Behavior of Ventilation and Safety Instruments of Bishrampur Area, SECL	Prof. D. C. Panigrahi, CI	ME	27730.00	Bisrampur Area, SECL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
190	Cons/370 5/2017-18	Evaluation of performance and Behavior of Ventilation and Safety Instruments of Kanhan Area, WCL	Prof. D. C. Panigrahi, CI	ME	30140.00	Kanhan Area WCL
191	Cons/370 6/2017-18	Evaluation of performance and Behavior of Ventilation and Safety instruments of Silewara Sub Area, WCL	Prof. D. C. Panigrahi, CI	ME	24544.00	Silewara Sub Area, WCL
192	Cons/370 8/2017-18	Environmental Statement of DVC Bermo Mines.	Dr. Biswajit Paul, CI	ESE	153382.00	DVC, Bermo Mines.
193	Cons/370 9/2017-18	Analysis of Mercury Content in 22 Coal Samples.	Dr. B. K. Mishra, CI Prof. A. K. Singh, CO-CI	ESE	129800.00	NCL, Singrauli
194	Cons/371 0/2017-18	Special Methods of Mining for Thick & Steep Coal Seam for SAIL Executives (off Campus) from 21 - 23 June, 2017 at Chasnala.	Prof. R. M. Bhaattacharjee, CI	ME	141600.00	SAIL, Chasnala
195	Cons/348 5/2016-17	Study on Underground coal Mining in CIL - Problem Potential Technology Modernisation Production and Safety - PART-B	Prof. S. Choudhury, CI Prof. R. M. Bhattacharjee, CI Prof. D. C. Panigrahi, CO-CI	ME	13931114.00	CMPDIL, Ranchi
196	Cons/371 2/2017-18	Sampling and prokimate Analysis of 20000 Tones of Coal Slurry from Moonidih Washery	Prof. N. Suresh, CI Dr. Shravan Kumar, CO-CI	FME	57100.00	Project Officer BCCL, Moonidhi Coal Washery
197	Cons/371 3/2017-18	Off-Campus course on Mine Ecology & Environment MTI, SAIL, Ranchi from 11-13, Dec., 2017	Prof S. K. Maiti, CI	ESE	141600.00	MTI, (SAIL), Ranchi
198	Cons/371 4/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Dubeswari Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	19824.00	Dubeswari Colliery, ECL
199	Cons/371 5/2017-18	Field Investigations, Modelling and design of Ventilation System of Sindesar Khurd Mine, Hindustan Zinc Ltd. (3rd year Period their order No. 2014,0029/5100015891 dt. 25.9.2014	Prof. D. C. Panigrahi, CI	ME	2153318	Hindustan Zinc, Ltd.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
200	Cons/371 6/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of MRS-Dhansar, BCCL	Prof. D. C. Panigrahi, CI	ME	53731.00	MRS-Dhansar, BCCL
201	Cons/371 7/2017-18	Prof cheking of Bridge No.5 (PUR) towards Detailed Engineering and Construction Management for the work of Rail Infrastructure for Proposed Amrapali Open Cost (2) Proof checking of Retaining Wall for Bridge No. 2A,3A,4,5 for under Rly loading in connection with construction of Rhy Siding to serve KBUNL Kanti Mazaffarpur.	Prof. S. C. Dutta, CI	Civil	120000.00	Rites Ltd. Kolkata
202	Cons/371 8/2017-18	Rock Mechanics Tests Testing Charges and Cuttability Assessment of Rocks for the specimen of Jhanjra Project.	Prof. V. M. S. R. Murthy, CO	ME	566400.00	Gayatri Projects Ltd, Hyderabad.
203	Cons/371 9/2017-18	Vetting of Rates and Process for Preparation of SOR 2017-19 in respect of Coal transportation from Tippler by 6 wheeler tipper in ECL	Prof. Phalguni Sen, CI Dr. R. K. Sinha, CO-CI	ME	354000.00	ECL
204	Cons/372 1/2017-18	Generation of Production Profile for Deviated Wells for Raniganj Field of ONGC CBM Project	Dr. Rajeev Upadhyay, CI Prof. Ashutosh Kumar, CO-CI	PE	388986.00	ONGC Ltd. , Bokaro
205	Cons/372 2/2017-18	Blast design for conduction controlled blasting with regard to blast induced vibration, control of flying fragments while working on the faces at Manakwas plot No.1 stone mine.	Prof. A. K. Mishra, CI Dr. B. S. Choudhary, CO-CI	ME	530797.00	Kayden Investments Pvt. Ltd., Haryana
206	Cons/372 3/2017-18	Testing of Construction Materials	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	23600.00	Kamladitya Construction Pvt. Ltd. Bokaro

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
207	Cons/372 4/2017-18	Leaching study of fly ash of TRN Energy PVT Ltd. Thermal Power Plant, Raigarh CG	Prof. Gurdeep Singh, CI	ESE	708000.00	TRN Energy Private Ltd., New Delhi.
208	Cons/372 5/2017-18	Determination of Some Physical and Chemical Properties of Quick setting cement capsule of Nilay Narayan Polychem LLP Dhanbad.	Prof. D. C. Panigrahi, CI	ME	17700.00	Nilay Narayan Polychem LLP, Dhanbad
209	Cons/372 6/2017-18	Determination of Physical Properties of Cement Capsule Supplied by Nilay Narayan Polychem LLP Govindpur, Dhanbad	Prof. A. K. Mishra, CI	ME	17700.00	Nilay Narayan Polychem LLP, Govindpur Dhanbad
210	Cons/372 9/2017-18	Water quality analysis of surface and ground water at Muri	Dr. B. K. Mishra, CI	ESE	79296.00	Hindalco Industries Ltd., Ranchi
211	Cons/373 2/2017-18	Water quality Analysis of Surface and Mine Water at Block - B NCL Singrauli.	Dr. B. K. Mishra, CI	ESE	123900.00	NCL, Singrauli MP
212	Cons/373 4/2017-18	Evaluation of performance and behavior of Mine Safety Instruments and Analysis and Interpretation of Mine air Samples	Prof. D. C. Panigrahi, CI	ME	318830.10	Jitpur Colliery, SAIL
213	Cons/373 5/2017-18	Evaluation of performance and behavior of Mine Ventilation and Safety Instruments of Hingula Colliery, MCL	Prof. D. C. Panigrahi, CI	ME	11800.00	Hingula Colliery, MCL
214	Cons/373 6/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments	Prof. D. C. Panigrahi, CI	ME	21712.00	Sooner Sub Area, WCL
215	Cons/373 7/2017-18	Evaluation of performance and behavior of Mine Ventilation and Safety Instruments	Prof. D. C. Panigrahi, CI	ME	192340.00	Kajora Area, ECL
216	Cons/373 8/2017-18	Analysis and Interpretation of Mine air Samples of Parbatpur Colliery, SAIL	Prof. D. C. Panigrahi, CI	ME	187026.46	Parbatpur Colliery, SAIL
217	Cons/373 9/2017-18	Functional Ability tests of self Rescuers of ECL, Sponsored by Intech Safety Pvt. Ltd. Kolkata.	Prof. D. C. Panigrahi, CI	ME	127558.00	Intech Safety Pvt. Ltd., Kolkata

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
218	Cons/374 0/2017-18	Crossing and Ignition Point Temperature of Coal Samples	Prof. D. C. Panigrahi, CI	ME	11800.00	Tata Steel Ltd. Jamadoba
219	Cons/374 1/2017-18	Functional Ability Tests of Self Rescuers of Chasnala Colliery, SAIL	Prof. D. C. Panigrahi, CI	ME	11800.00	Chasnala Colliery, SAIL
220	Cons/374 2/2017-18	Analysis and interpretation of Mine Air Samples	Prof. D. C. Panigrahi, CI	ME	13010.00	K.S.P. Phase-II, CCL
221	Cons/374 3/2017-18	Field Investigations Modelling and Simulation Studies for Designing the Ventilation Systems of all UCIL Mines (part - II 2nd year Work) Jaduguda	Prof. D. C. Panigrahi, CI	ME	849600.00	UCIL Mines (part - II 2nd year work) Jaduguda
222	Cons/364 4/2017-18	Field Investigations, Modelling and Simulation Studies for designing the Ventilation Systems of AIUCIL Mines (Part - I - (Extraman days of 1st year work) Jaduguda.	Prof. D. C. Panigrahi, CI	ME	1033680.00	UCIL Mines (part - I Extra man-days of 1st year work) Jaduguda
223	Cons/374 5/2017-18	Testing of construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	11800.00	M/Subhas Singh Choudhary, Dhanbad
224	Cons/374 6/2017-18	Sample holder design and fabrication consumable Chemicals and elements Test running using 5 different substrate.	Dr. M. R. Singh, CI	AP	590000.00	Tata Steel Ltd., Jamshedpur.
225	Cons/374 7/2017-18	Testing of Lead-Zinc ore of Zawar Mines	Dr. Sharvan Kumar, CI	FME	80000.00	Lead-Zinc Ore, Zawar Mines.
226	Cons/374 8/2017-18	Hydrological Study and Source Sustainability Study of Water Requirement.	Dr. Anshumali, CI	ESE	396900.00	DB Power Ltd., Champa CG
227	Cons/375 0/2017-18	Testing of Coal Sample of ECL Kalipahari, Sripur Area.	Dr. Shravan Kumar, CI	FME	17700.00	ECL Sripur Area, Burdwan
228	Cons/375 1/2017-18	Determination of compressive strength of sandstone samples supplied by Sponsoring agency	Prof. A. K. Mishra, CI	ME	20650.00	Indyu-SCCL-CGME Consortium, Hyderabad.
229	Cons/375 2/2017-18	Testing of Import Consignment of Electrically Calcined Anthracite.	Prof. V. K. Saxena, CI	FME	11800.00	O/o the Dy. Commissioner of Customs, Banskopa, Burdwan.

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
230	Cons/375 3/2017-18	Technical Studies on Washability of Coal Samples from 9 Different Mines of CCL	Prof. Nikkam Suresh, CI	FME	4779000.00	CCL, Ranchi
231	Cons/375 4/2017-18	Technical Studies on Washability of Coal Samples from 2 different Mines of BCCL	Prof. Nikkam Suresh, CI	FME	1062000.00	BCCL, Dhanbad
232	Cons/375 5/2017-18	Calibration of two force Measuring Devices (100 kN, & 2000 kN Capacity) of Muva Industries Ltd. as per IS:4169:1988 in Compression	Prof. A. K. Mishra, CI	ME	24320.00	Muva Industries Ltd., Deoghar
233	Cons/375 7/2017-18	View on Use of Rock of Sedimentary Origin as Coarse Aggregate of Concrete for Industrial Structure	Dr. Rajib Sarkar, CI	Civil	20000.00	M/s Mecon Ltd. Ranchi
234	Cons/375 8/17-18	Grinding of Silica Sand (7 kg) to 600 micron size.	Prof. Nikkam Suresh, CI	FME	29500.00	CDE Asia Ltd.
235	Cons/375 9/2017-18	Health Safety and Environmental Risk Assessment	Dr. Vipin Kumar, CI	ESE	405000.00	Vedanta Ltd., Panaji Goa
236	Cons/376 0/2017-18	No Pollution Certificate for Amendment to consent to operate in respect of Hunantlo Dongor Iron & Mn Ore of Sanguem Taluka Goa.	Prof. Gurdeep Singh, CI	ESE	236000.00	A.X. Pol. Palondicar Dabolim - Goa.
237	Cons/376 4/2017-18	Offering one day off-campus course Management Development programme on Advancement of Automation in Mining Industry for Operations, Logistics and Safety 16 Feb., 2018 at Accenture, Mumbai	Prof. A. K. Mishra, CI	ME	285455.00	Accenture Solutions Pvt. Ltd., Mumbai
238	Cons/376 5/2017-18	Sampling proximate Analysis and GCV determination of 75,000/- Metric tons of Reject Coal of Bhojudih Coal Washery BCCL Dhanbad.	Prof. Nikkam Suresh, CI	FME	323437.00	BCCL Bhojudih Coal Washery
239	Cons/376 6/2017-18	Source sustainability study of Water Requirement.	Dr. Anshumali, CI	ESE	365800.00	RKM Powergen Pvt. Ltd., Chennai.
240	Cons/376 7/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	11800.00	M/s NDC - NECCPL (JV)

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
241	Cons/376 9/2017-18	Analysis of River Water Quality of Muri	Dr. B. K. Mishra, CI	ESE	99120.00	Hindalco Industries Ltd. Ranchi
242	Cons/377 0/2017-18	Laboratory Testing of Rock Samples of Larsen & Toubro Ltd. Construction, Chennai	Dr. G. Budi, CI Prof. VMSR Murthy, CO-CI Prof. A. K. Mishra, CO-CI	ME	1288560.00	L & T Construction, Chennai
243	Cons/377 1/2017-18	Scientific Study Regarding Blast Induced Ground Vibration Control of Flying Fragment and Blasting in the Vicinity of Inhabited Area of M/s Sone Stone.	Dr. B. S. Choudhary, CI Md. Soyeb Alam, CO-CI	ME	345000.00	M/s Sone Stone Choan Sonebhadra, UP
244	Cons/377 2/2017-18	Scientific Study on Strata Monitoring during Extraction of Panel 8A by CM-I & CM-II Panel in Jhanjara Project Colliery.	Prof. A. K. Mishra, CI Prof. R. M. Bhattacharjee, CO-CI	ME	1467199.00	ECL
245	Cons/377 5/2017-18	Equipment Selection for Ball mill grinding circuit for BHEL, Hyderabad.	Prof. S. Bhattacharya, CI Prof. A. K. Mukhopadhyay, CO-CI	FME	1180000.00	BHEL Hyderabad.
246	Cons/377 6/2017-18	Proof Checking of the detailed Structural design and drawings for 3 X 40 MW Rammam Stage III Hydroelectric Project Darjeeling.	Prof. S. C. Dutta, CI	Civil	59000.00	Pradeep Structural Development Pvt. Ltd., Kolkata
247	Cons/377 7/2017-18	Scientific study Regarding Blast Induced Ground Vibration Control of Flying Fragment and Blasting in the Vicinity of Inhabited Area of Dolo Stone Mine of M/s Maa Vindhya Stone Crushing Co. UP	Dr. B. S. Choudhary, CO Md. Soyeb Alam, CO-CI	ME	345000.00	Maa Vindhya Stone Crushing Company Bari Dalla Sonbhadra.
248	Cons/377 8/2017-18	Scientific Study Regarding Blast Induced Ground Vibration, Control of Flying Fragment and Blasting in the Vicinity of Inhabited Area of M/s Anil Kumar Maurya, UP	Dr. B. S. Choudhary, CO Md. Soyeb Alam, CO-CI	ME	345000.00	M/s Anil Kumar Maurya Sonebhadra, UP
249	Cons/377 9/2017-18	Scientific Study Regarding Blast Induced Ground Vibration, Control of Flying Fragment and Blasting in the Vicinity of Inhabited Area of M/s Hansraj Enterprises, UP	Dr. B. S. Choudhary, CO Md. Soyeb Alam, CO-CI	ME	344970.50	M/s Hansraj Enterprises, UP

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
250	Cons/378 1/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Kenda Area ECL	Prof. D. C. Panigrahi, CI	ME	80000.00	Kenda Area, ECL
251	Cons/378 2/2017-18	One day off campus EDP on Recent Advancements in Blasting Technology for Improved Productivity and Safety at Dalli Rajhara Mines, Bhilai Steel Plant on 23-3-2018.	Prof. A. K. Mishra, CI	ME	284538.00	SAIL, Bhilai
252	Cons/378 3/2017-18	Scientific Study for Determination of in-hole VOD of bulk explosives of IBP, IOCL at Mines of Bhilai Steel Plant, SAIL and Determination of Fragmentation Analysis.	Prof. A. K. Mishra, CI	ME	412797.00	SAIL, Bhilai
253	Cons/378 4/2017-18	Testing of Construction Material	Dr. Sanket Nayak, CI Dr. S. K. Panda, CO-CI	Civil	23600.00	M/s Kamaladitya Construction Pvt. Ltd. Bokaro.
254	Cons/378 5/2017-18	Evaluation of performance and Behavior of Mine safety Instruments and analysis and Interpretation of Mine air Samples of Ramnagar Colliery, SAIL.	Prof. D. C. Panigrahi, CI	ME	214052.00	Ramnagar Colliery, SAIL
255	Cons/378 6/2017-18	Analysis and Interpretation of Mine air Samples of Parbalia Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	23600.00	Parbalia Colliery, ECL
256	Cons/378 7/2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Chinakuri Mine - III, ECL	Prof. D. C. Panigrahi, CI	ME	13216.00	Chinakuri Mine-III, ECL
257	Cons/3788 /2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Phularitand Colliery, BCCL	Prof. D. C. Panigrahi, CI	ME	15596.00	Phularitand Colliery, BCCL
258	Cons/3789 /2017-18	Evaluation of Performance and Behavior of Mine Ventilation and Safety Instruments of Tawa-II Mine, WCL	Prof. D. C. Panigrahi, CI	ME	11800.00	Tawa-II Mine, WCL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
259	Cons/3790 /2017-18	Analysis and Interpretation of Mine air Samples of Mithani Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	13800.00	Mithani Colliery, ECL
260	Cons/3791 /2017-18	Analysis and Interpretation of Mine air Samples of Dubeswari, Colliery, ECL	Prof. D. C. Panigrahi, CI	ME	12216.00	Dubeswari Colliery, ECL
261	Cons/3792 /2017-18	Evaluation of Performance and Behavior of Mine Ventilation and Safety Instrument of Roy Bachhara Colliery, CCL	Prof. D. C. Panigrahi, CI	ME	49796.00	Roy Bachhara Colliery, CCL
262	Cons/3793 /2017-18	Determination of Density of Coal sample of VI seam of Amal S.P Colliery of Eastern Jharia Area, BCCL	Prof. D. C. Panigrahi, CI	ME	17700.00	SP Colliery of Eastern Jharia Area, BCCL
263	Cons/3794 /2017-18	Functional Ability test of self rescuers of ECL, Sactoria.	Prof. D. C. Panigrahi, CI	ME	66552.00	Intech Safety Pvt. Ltd., Kolkata
264	Cons/3795 /2017-18	Functional Ability tests of self rescuers of in Tech Safety Pvt. Ltd. Kolkata.	Prof. D. C. Panigrahi, CI	ME	11800.00	Tech Safety Pvt. Ltd., Kolkata
265	Cons/3796 /2017-18	A study of performance and Behavior with respect to a few parameters of Dust Suppressant (Dust Loner) of Sudha Industries, Kolkata	Prof. D. C. Panigrahi, CI	ME	94400.00	Sudha Industries, Kolkata
266	Cons/3797 /2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Saoner Subarea, WCL	Prof. D. C. Panigrahi, CI	ME	21712.00	Saoner Subarea, WCL
267	Cons/3798 /2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Silwara Subarea, WCL	Prof. D. C. Panigrahi, CI	ME	14868.00	Silwara Subarea, WCL
268	Cons/3799 /2017-18	Evaluation of performance and Behavior of mine safety Instruments Analysis and Interpretation of Mine air Samples Measurement of air borne respirable dust concentration and Study of Noise level Around different Machines and Mining Operations of Jitpur Colliery, SAIL	Prof. D. C. Panigrahi, CI	ME	315998.00	Jitpur Colliery, SAIL

Sl. No.	Project Number	Title of the Project	Coordinator & Team Members	Name of the Department	Received Value	Sponsoring Agency
269	Cons/3800 /2017-18	Investigation into degree of Gassiness of one Seam Pandaveswar Colliery, ECL Sanctoria	Prof. D. C. Panigrahi, CI	ME	97200.00	Pandaveswar Colliery, ECL, Sanctoria
270	Cons/3801 /2017-18	Evaluation of performance and Behavior of Mine Ventilation and Safety Instruments of Patansongi, WCL	Prof. D. C. Panigrahi, CI	ME	24544.00	Patansongi, WCL
271	Cons/3802 /2017-18	Analysis and Interpretation of Mine air Samples of Tetulmari Colliery, BCCL	Prof. D. C. Panigrahi, CI	ME	17700.00	Tetulmari Colliery, BCCL
272	Cons/3803 /2017-18	Preliminary Investigation of the IOCL Pipe line at Asansole West Bengal.	Dr. Sanjit Kumar Pal, CI	AGP	30000.00	National Institute of Rock Mechanics, Ministry of Mines Govt. of India.
273	Cons/3804 /2017-18	Off campus course on Surface and underground Metal Mining-some Advanced Aspects for the Execitives of Infosys Ltd. 21.11.2017 to 5.11.2017	Prof. V. M. S. R. Murthy, CI Prof. Dheeraj Kumar, CO-CI Dr. B. S. Choudhary, CO-CI	ME	816480.00	Infosys Ltd.
274	Cons/3805 /2017-18	Tird party Sampling of Power coal Transported from different subsidiaries of CIL to Various Power Consumers PART-A	Prof. Nikkam Suresh, CI	FME	220100.00	Cil, Kolkata
275	Cons/3780 /2017-18	Scientific Study to Prepare and formulate Strata Control & Monitoring Plan as per Reg. No. 123 CMR 2017 for Seam V, Jhilimili Underground Mine, SECL	Prof. U. K. Singh, CI	ME	526988.00	SECL, Korea (CG)

5.1 Professional Development Programmes

IIT (ISM) has been contributing for up-gradation of knowledge and expertise of executives of different companies by offering professional development programmes in its core areas of competence. Over the years, it has established excellent credentials in this area of activity. The Continuing Education wing of Executive Development Centre organized a wide range of activities towards bridging the gap between Industry and academia.

During the year 2017-18, a total of seventy nine (64) Professional Development Programmes have been conducted for executives of various sectors viz. Government, Public and Private companies. Number of executives trained was 1381 (i.e.19453 participant-days) with revenue generation of Rs. 791.88 Lakhs.

A list of Professional Development Programmes organized at the institute during the financial year 2017-18 is given in Table 5.2.

Table 5.2: Professional Development Programmes organized at IIT (ISM) during the financial year 2017-18:

Sl. No	Course Number and period	Programme	Coordinator (S)	No. of participant	Weeks	Participant s weeks	Executive days	Amount (Rs.)	Name of the Department
1	Cons/3486/2017-18 4 - 8 April, 2017	Medical Imaging Techniques and Applications	Dr. Sushila Maheshkar, CI	22	1	22	154	54000.00	CSE
2	Cons/3533/2017-18 14 - 21 April, 2017	Developing Strategic Attributes in Evolving Business Scenario.	Prof. Satish K. Sinha, CI Prof. D. C. Panigrahi, CO-CI	19	1	19	133	1475735.00	EDC
3	Cons/3505/2017-18 (8 - 12 May, 2017)	Dynamical Systems Theory & Applications.	Dr. B. K. Kushvah, CI Dr. M. K. Singh, CO-CI	33	1	33	231	231800.00	AM
4	Cons/3540/2017-18 17-19 May, 2017 at Kolkata	Occupational Health, Safety & Environment.	Prof. A. K. Pal, CI	17	3 days	17	119	414244.10	ESE
5	Cons/3572/2017-18 12 - 14 May, 2017	Mechanical Testing of Advanced Materials for Mining and Mineral Industries	Dr. K. K. Singh, CI	60	3 days	60	420	290500.00	Mechanical
6	DST/24/AM/2017-18 15 - 26 May, 2017	Refresher Course on Crustal Strength Rheology and Seismicity	Dr. M. K. Singh, CI Prof. S. Mohanty, CI	34	2	68	476	599625.00	AM
7	Cons/3520/2017-18 7 - 11 June, 2017 at Kolkata	Environmental Clearance Procedures and Impact Assessment for Mining Projects. At Kolkata	Dr. M. K. Jain, CI Dr. Vipin Kumar, CO-CI	14	1	14	98	333000.00	ESE

Sl. No	Course Number and period	Programme	Coordinator (S)	No. of participants	Weeks	Participant s weeks	Executive days	Amount (Rs.)	Name of the Department
8	Cons/3613/2017-18 8 May,2017 to 9 June, 2017	Intensive Training Programme for Executives of (E & M) Carde of Coal India Ltd.	Prof. A.K. Mukhopadhyay, CI Dr. A. S. Hati CO-CI	26	5	130	910	3176726.00	MME
9	Cons/3612/2017-18 8 May,2017 to 9 June, 2017	Intensive Training Programme for Executives of (Excavation Carde) of Coal India Ltd.	Prof. K. Dasgupta, CI Dr. K. Priya Ajit, CO-CI	28	5	140	980	3421089.00	MME
10	Cons/3532/2017-18 7 - 9 June, 2017	Conceptual Big Data	Dr. D. Ramesh, CI	29	3 days	29	203	151000.00	ECE
11	Cons/3538/2017-18 12 - 16 June, 2017	Hydraulics in Underground Mining Equipment.	Prof. K. Dasgupta, CI Dr. Niranjana Kumar, CO-CI	9	1	9	63	327750.00	MME
12	Cons/3571/2017-18 16 - 23 June, 2017	Developing Strategic Attributes in Evolving Business Scenario.	Prof. Satish K. Sinha, CI Prof. D. C. Panigrahi, CO-CI	29	1	29	203	1613600.00	EDC
13	Cons/3546/2017-18 19 - 22 June, 2017	Electrical Safety In Mines & Future Prospects	Dr. Nitai Pal, CI Prof. P. K. Sadhu, CO-CI	41	4 days	41	287	979611.00	EE
14	Cons/3545/2017-18 22 - 24 June, 2017	Role of e-Sensors in Water and Air Quality Monitoring.	Dr. S. K. Raghuvanshi, CI Dr. B. K. Mishra, CO-CI	0	0	0	0	46500.00	ECE
15	Cons/3662/2017-18 28 - 30 June, 2017	Knowledge of Management for Executive of Coal Sector.	Dr. Bibhas. Chandra, CI	9	3 days	9	63	185000.00	MS
16	Cons/3583/2017-18 3 - 5 July, 2017 at Kolkata	Principles of Reservoir Geomechanics and Wellbore Stability Analysis.	Prof. Rima Chatterjee, CI	9	3 days	9	63	195500.00	AGP
17	Cons/3650/2017-18 26 June to 07 July, 2017	Safety in Mines - Management & Technology.	Prof. R.M. Bhattacharya, CI Prof. D. C. Panigrahi, CO-CI	25	2	50	350	1899770.50	ME
18	Cons/3584/2017-18 3 - 5 July, 2017 at Kolkata	Electrical Drive and Control for Open Cast Mining Machinery.	Dr. Tanmoy Maiti, CI Dr. A. S. Hati, CO-CI	21	3 days	21	147	593546.50	MME
19	Cons/3553/2017-18 3 - 6, July, 2017	CFD Analysis of Heat Transfer and Fluid Flow Problems Using FEM and FVM,	Dr. Subhankar Sen, CI	53	1	53	371	284500.00	Mechanical
20	Cons/3496/2017-18 (3 July to 11 Aug., 2017)	Six weeks Course on Advances in Mine Surveying Technology.	Dr. Dheeraj Kumar, CI Shri Vasant G. K. Villuri, CO-CI	28	6	162	1176	3621995.00	ME

Sl. No	Course Number and period	Programme	Coordinator (S)	No. of participants	Weeks	Participants weeks	Executive days	Amount (Rs.)	Name of the Department
21	Cons/3731/2017-18 19 - 21 July, 2017	Palletization: Principles and Practice.	Dr. S. Soren, CI Prof. R. Venugopal, CO-CI	12	3 days	12	84	283200.00	FME
22	Cons/3595/2017-18 17 - 23 July, 2017	1 Week Training Programme on "Oil & Gas Well Drilling Technology and New Trends"	Prof. C. K. Jain, CI Dr. S. Datta Gupta, CO-CI	38	1	38	266	303500.00	AGP
23	Cons/3601/2017-18 24 - 28 July, 2017	Laser Applications in Manufacturing and Material Processing.	Dr. A. K. Das, CI	12	1	12	84	196000.00	Mechanical
24	Cons/3599/2017-18 24th - 26th July, 2017 at IIIF, Kolkata	Pollutions in Industrial Environment, Analysis and their Remediation with Green Techniques.	Dr. Swapan Dey, CI	9	3 days	9	63	195000.00	AC
25	Cons/3594/17-18 3 - 7 Aug., 2017	Mathematical Modelling of Elastodynamic Problems.	Dr. Abhishek Kr. Singh, CI	17	3 days	17	119	188884.00	AM
26	Cons/3622/2017-18 2 - 11 Aug., 2017	Sustainable Coal Mining Practices' for the students of University of South Florida-St. Petersburg, USA	Prof. VMSR Murthy, CI Dr. A. K. Pal, CO-CI Dr. A. K. Verma, CO-CI	8	2	16	112	711458.00	ME
27	Cons/3602/2017-18 7 - 11 Aug., 2017	Tribology and Lubrication Technology in Mining Industry	Dr. Subrata Kr. Ghosh, CI	28	1	28	196	758596.00	Mechanical
28	Cons/3604/2017-18 7 - 9 Aug., 2017	Mining Equipment Safety Practices.	Dr. LA Kumarswamidhas, CIDr. Ajit Kumar, CO-CI	17	3 days	17	119	401874.60	MME
29	Cons/3542/2017-18 18 - 22 Aug, 2017	Nonlinear Analysis and Optimization.	Dr. Anurag Jayswal, CI Dr. Akhilesh Prasad, CO-CI	46	1	46	322	194000.00	AM
30	Cons/3672/2017-18 31 July to 01 Sept., 2017	Five weeks Intensive Training Programme for Executives of E & M Cadre from CIL	Prof. A. K. Mukhopadhyay, CI Dr. Ananda Shankar Hati, CO-CI	28	5	140	980	3510335.00	MME
31	Cons/3565/2017-18 3rd July 2017 to 22nd Sept., 2017	12 weeks Competency Development of Reservoir Engineers	Prof. V. P. Sharma, CI Prof. Ashutosh Kumar, CO-CI Prof. Rajiv Upadhyay, CO-CI	20	12	240	1680	13310400.00	PE
32	Cons/ 3598/17-16 21 Aug., - 15 Sept., 2017	Four weeks PDP on "Petroleum Engineering" for the Executive of Reliance India Ltd.	Prof. S. Laik, CI Prof. V.P. Sharma, CO-CI Prof. A. K. Pathak, CO-CI	15	4	60	420	3540000.00	PE

Sl. No	Course Number and period	Programme	Coordinator (S)	No. of participants	Weeks	Participants weeks	Executive days	Amount (Rs.)	Name of the Department
33	Cons/3720/2017-18 25 - 30 Sept. , 2017	Drilling & Blasting Techniques for Surface & Underground Excavations. For NHPC Executives.	Prof. V. M. S. R. Murthy, CI Dr. B. S. Choudhary, CO-CI	20	1	20	140	933120.00	ME
34	Cons/3648/2017-18 04 - 19 Oct., 2017	Underground Coal Mining Technology and Safety for the Officers of Barapukuria Coal Mining Company Ltd. Bangladesh	Prof. R. M. Bhattacharjee, CI Prof. D. C. Panigrahi, CO-CI	9	2	18	126	1214257.00	ME
35	Cons/3636/2017-18 9 - 14, Oct., 2017	Coal Washery-Equipment & Practices.	Dr. Niranjan Kumar, CI Dr. Ajit Kumar, CO-CI	12	3 days	12	84	196000.00	MME
36	Cons/3674/2017-18 12 - 13 Oct, 2017	Maintenance of HEMM	Dr. Jayanta Das, CI Dr. S. K. Ghosh, CO-CI	14	2 days	14	98	200000.00	MME
37	Cons/3656/2017-18 30.10.17 to 04.11.17	Maintenance and Troubleshooting of Hydraulic Systems used in HEMM.	Prof. K. Dasgupta, CI Dr. Jayanta Das, CO-CI	22	1	22	154	783245.00	MME
38	Cons/3647/2017-18 06 - 17 Nov., 2017	Two weeks Training Programme on "Mineral Resource Evaluation" for MECL executives.	Prof. B. C. Sarkar, CI	14	2	28	98	1132800.00	AGL
39	Cons/3668/2017-18 14 - 16 Nov., 2017	Hazard Identification and Risk Assessment in Blasting Operations for Improved Productivity and Safety in Mines.	Prof. A. K. Mishra, CI Prof. R. M. Bhattacharjee, CO-CI	16	3 days	16	112	531000.00	ME
40	Cons/3761/2017-18 23 Oct, 17 to 24 Nov, 17	Five weeks Intensive Training Programme for Executives of E & M Cadre from CIL	Prof. A. K. Mukhopadhyay, CI Ajit Kumar, CO-CI	24	5	100	840	3008858.00	MME
41	Cons/3762/2017-18 23 Oct, 17 to 24 Nov, 17	Intensive Training Programme for Executives of (Excavation Carde) of Coal India Ltd.	Prof. K. Dasgupta, CI Dr. Jayanta Das, CO-CI	10	5	50	350	1253691.00	MME
42	Cons/3639/2017-18 09 Oct., 2017 to 29.Dec.,2017	12 weeks Competency Development of Reservoir Engineers.	Prof. V. P. Sharma, CI Prof. Ashutosh Kumar, CO-CI Prof. Rajiv Upadhyay, CO-CI	20	12	240	1680	13310400.00	PE
43	DST/25/AM/2017-18 23 - 27 Oct., 2017	Inverse problems in fuzzy approximation spaces with applications in computer vision.	Dr. S. P. Tiwari, CI	21	1	21	147	611000.00	AM

Sl. No	Course Number and period	Programme	Coordinator (S)	No. of participants	Weeks	Participants weeks	Executive days	Amount (Rs.)	Name of the Department
44	DST/26/AM/2 017-18 23 - 27 Oct., 2017-18	Insight into Fuzzy Modeling: Reasoning in Fuzzy Natural Logic and its Applications.	Dr. S. P. Tiwari, CI	17	1	17	119	617000.00	AM
45	DST/27/AM/1 7-18 From 1 - 5 Dec., 2017	Nonlinear Analysis and Optimization.	Dr. Anurag Jayswal, CI	22	1	22	154	363500.00	AM
46	04 - 08 Dec, 2017	Knowledge Management for Executives of Coal Sector.	Dr. Bihas Chandra, CI	18	1	18	126	362496.00	MS
47	Cons/3756/201 7-18 11-15 Dec, 2017	Project Management with Application Software.	Dr. Sandeep Mondal, CI Dr. Niladri Das, CO-CI	8	1	8	56	330370.50	MS
48	Cons/3727/201 7-18 04 - 16 Dec., 2017	Two weeks Controlled Blasting Management and Safety for Road Construction in Himalayan Territory	Prof. A. K. Mishra, CI	14	2	28	196	1471998.00	ME
49	Cons/3671/201 7-18 17 - 21 Dec, 2017	Electrical Safety and Protection in Mines.	Dr. Nitai Pal, CI Prof. P. K. Sadhu, CO-CI	28	1	28	196	689970.50	EE
50	Cons/3835/201 8-19 18 - 22 Dec., 2017	Communication and Leadership Development for Executives of Coal Sector.	Dr. Bihas Chandra, CI	28	1	28	196	604800.00	MS
51	Cons/3667/201 7-18 From 27 - 29, Dec., 2017	Environmental Management Special Emphasis on Water Resources Near Industrial Area at Kolkata.	Dr. P. K. Singh, CI Prof. A. K. Singh, CO-CI	43	3 days	43	301	492582.00	ESE
52	Cons/3670/201 7-18 26 - 30 Dec, 2017	Current Trends in Lightwave Technology	Dr. S. K. Raghuvanshi, CI	10	1	10	70	176500.00	ECE
53	28 - 30 Dec., 2017	Advances in Water Quality Assessment and its Management for Rural Water Supply Schemes.	Prof. S. K. Gupta, CI	30	3 days	30	210	0.00	ESE
54	Cons/3728/201 7-18 15 - 19 Jan, 2018	Programmable Logic Controller Programming Troubleshooting & Industry Applications	Dr. Tanmoy Maiti, CI Dr. A. S. Hati, CO-CI	11	1	11	77	307560.00	MME

Sl. No	Course Number and period	Programme	Coordinator (S)	No. of participants	Weeks	Participants weeks	Executive days	Amount (Rs.)	Name of the Department
55	Cons/3730/17-18 15 - 19 Jan, 2018	Material Science Engineering, Failure Analysis & Maintenance of Mechanical Components used in Mining Industries.	Dr. R. R. Das, CI Prof. A. K. Mukhopadhyay, CO-CI	17	1	17	119	262368.00	MME
56	Cons/3837/2018-19 22/01/2018 to 27/01/2018	Behavioral Dimensions of Effective management in Coal Sector.	Dr. Bihas Chandra, CI	26	1	26	182	561600.00	MS
57	Cons/3733/2017-18	Application of Modern Surveying Techniques (Total Station, Gnss, Remote Sensing and GIS)	Prof. Dheeraj Kumar, CI	15	1	15	105	450000.00	ME
58	Cons/3836/2018-19 29 Jan, to 2 Feb., 2018	Managerial Capability enhancement for Executives of Coal Sector.	Dr. Bihas Chandra, CI	22	5 days	22	154	475200.00	MS
59	05 - 07 Feb., 2018	Contracts and Materials management in Mining Industry at Kolkata	Dr. Niladri Das, CI Prof. Chandan Bhar, CO-CI	17	3 days	17	119	354394.00	MS
60	Cons/3707/2017-18 From 08 Jan - 30 March, 2018	12 weeks Competency Development of Reservoir Engineers.	Prof. V. P. Sharma, CI Prof. Ashutosh Kumar, CO-CI Rajiv Upadhyay, CO-CI	17	12	204	1428	3771280.00	PE
61	Cons/3763/2017-18 5 - 23 March, 2018	Specialized Training Programme in Petroleum Engineering.	Prof. Ashutosh Kumar, CI Shri Rajiv Upsfhyss, CO-CI	16	3	16	336	1062000.00	PE
62	DST/28/CSE/2017-18 10 - 14 Feb., 2018	Security of e-Systems and Networks	Dr. Sachin Tripathi, CI Dr. Arup Kr. Pal, CO-CI	15	1	15	105	599000.00	ECE
63	Cons/3768/2017-18 21 - 24 March, 2018	Condition Monitoring and Failure Analysis of Mechanics.	Dr. Sachin Kr. Singh, CI Dr. Shibayan Sarkar, CO-CI	11	4 days	11	77	138000.00	ECE
64	Cons/3773/2017-18 24 - 28 Jan, 2018	PDP on Coal to Chemicals	Dr. Suman Dutta, CI Dr. D. K. Sandilya, CO-CI	58	5 days	58	406	39500.00	Chem

6. INTERNATIONAL RELATIONS & ALUMNI AFFAIRS

The principal activities undertaken in international collaborations are as follows:

6.1 International Relations:

Academic and Research Collaborations established with foreign universities during 2017-18:

- VSB- Technical University of Ostrav, Czech Republic
- Institute of Technology Petronas SDN BHD, Malaysia
- Verkis , Iceland
- RPM Global, USA
- Mazoon College, Muscat, Oman
- CTIF Global Capsule (CGC), Asrhus University, Herning, Denmark

Membership of Indo-European Heritage Network:

IIT (ISM), Dhanbad became the member of the prestigious Indo-European Heritage Network of 19 leading Technical Higher Education Institutions, who are jointly engaged in collaborations through their research and academic activities.

Indo-Australian Collaboration initiative:

Her Excellency, Ms. Harinder Sidhu, Australian High Commissioner to India, Ms Hilary McGeachy, First Secretary, Australian High Commission, Ms Michelle Mannok, Head of Government Relations, Europe, Africa & Asia, Orica and a local representative of Orica visited IIT (ISM), Dhanbad on 17th February, 2017. Her Excellency, Ms. H. Sidhu inaugurated the Centre of Excellence in Mining Technology and visited Virtual Reality Simulator Laboratory, Seismological Observatory, Central Research Facility and other important laboratories and facilities of the Institute.

International Student/Faculty/Administrative Staff Exchange projects:

- One mobility under Erasmus Plus Programme to University of Maribor, Sovenia was finalized.
- Mr. Raj Bahadur Bharti, Department of Mechanical Engineering went to Politecnico di Torino, Italy for One Year during September 2017-August 2018.
- Mr. Shubham Krishna, Department of Applied Mathematics went to IMT Atalantique University, France for four months during January-April 2018. Mr. Akkli Viswanath Gowd, Deptt. of Applied Physics visited National Chiao Tung University, Taiwan for a period of six months during March-September, 2018

New Admission

- Five foreign students were admitted in M.Sc. Tech. Applied Geology and M.Tech Fuel and Mineral Engineering through ICCR Sponsorship.
- In the year 2017-18, international students' strength in campus increased to 74.

Other International Activities:

IIT(ISM) Dhanbad has executed the responsibilities related to Co-organizing Internal Conference of ICMEM 2018 of Slovakia through editing and reviewing of technical papers to be published in Springer Verlag Lecture notes included in Web of Science database.

6.2 Alumni Affairs:

- Inder Mohan Thapar Research Award has been finalized with six research awards and conferred to the following students of UG and PG programmes and Research scholars in Mining Engineering, Petroleum Engineering, Environmental Science, Fuel & Mineral Engineering, Applied Physics and Humanities and Social Sciences branches.

Inder Mohan Thapar Research Awardee(s):

- Mr. Nilanjan Pal, Petroleum Engineering
- Mr. Sahil Sardana, Mining Engineering
- Ms. Manisha Mondal, Applied Physics
- Mr Jitendra Ahirwal, Environmental Science & Engineering
- Mr. Saroj Kr. Sahoo, Fuel and Mineral Engineering
- Mr. Sahel Md Delabul Hossain, Humanities and Social Science

- ISMAANA Awards were instituted by ISM Alumni Association of North America Chapter. Each student is awarded with a merit certificate and a cash prize of Rs.41, 000/-. For the year 2017, following meritorious students received the award:

Manjit K. Memorial Scholarship (ISMAANA) Awardee(s):

- Mr. Ajay Gupta, 1st Yr. B.Tech (Petroleum Engineering)

Srimati Sushila Devi Tuli Memorial Scholarship (ISMAANA) Awardee(s):

- Mr. Anukalp Kumar, 1st Yr. B.Tech (Petroleum Engineering)

Dipak and Chitra Sarkar Scholarship (ISMAANA) Awardee(s):

- Mr. Rajnish Kumar, 1st Yr. B.Tech (Electronics Engineering)

Peggy and Avinash Ahuja Scholarship (ISMAANA) Awardee(s):

- Mr. Lalit Kumar Maholia, 1st Yr. B.Tech (Mining Engineering)
- Mr. Aryan Gaurav, 1st Year. Integrated M.Tech (Mathematics and Computing)
- Mr. Ronal Gaonkhwar, 3rd Year B.Tech (Petroleum Engineering)
- Mr. Pediredla Manoj Kumar, 3rd year B.Tech (Petroleum Engineering)
- Mr. Kunchakuri Hitesh, 3rd Year, B.Tech. (Electrical Engineering)

Naresh Vashisht Scholarship (ISMAANA) Awardee(s):

- Mr. Anoop Singh, 4th Year, B.Tech (Mining Machinery Engineering)
- Mr. Vivek, 4th Year, B.Tech (Mining Engineering)
- Ms. Anchal Patel, 4th Year, B.Tech (Environmental Engineering)
- Mr. Vikrant Singh Bais, 4th Year, B.Tech (Engineering Physics)

Industry Institute Interaction and Basant 2018

- ISMAA and IIT(ISM) Dhanbad jointly organized Industry Institute Interaction 2018 **on the topic “Adaptive Technologies for Sustainable Growth”** on 3rd February, 2018 at GJLT. Representatives from Industry had interactive sessions with the alumni, faculty and students of the Institute. More than hundred delegates participated in the interaction program and four speakers delivered their addresses during the session.
- Alumni Reunion BASANT-2018 was organized by the Institute on 4th February, 2018. About 40 delegates from 1968 batch (Golden Jubilee) and more than 100 alumni participated in the meet. Fest and Cultural program were held with enthusiastic participation from the students and alumni of the institute and following award have been conferred during Basant- 2018

Basant Samman Awardees:

- Mr. Sunil Duggal, CEO and Whole-time-Director, Hindustan Zinc Limited
- Mr. Ajay Kumar Dwivedi, Director (exploration), Oil and Natural Gas Corporation Limited
- Prof. V. K. Srivastava, Former Faculty, Deptt, of Mining Engineering, IIT(ISM) Dhanbad
- Prof. L. N. Upadhyay, Former Professor, Department of Applied Mathematics

Distinguished Alumnus Awardees:

- Prof. A. K. Singh, Formerly, CMD, CMPDI & Professor(Rajeev Gandhi Chair), ESE
- Dr. Kalachand Sain, Senior principal, Scientist & Head Seismic Group, CSIR
- Mr. Rajat Bhargava, IAS, Special Commissioner to the Govt. of Andhra Pradesh
- Prof. Mihir K. Sinha, Founder IFTC, LLC, NJ, USA

Bhaskar Bhattacharjee Memorial Distinguished Alumnus Awardees:

- Mr. P. K. Sarkar, Director-General of Mines Safety, DGMS
- Mr. Gopal Singh, Chairman, Coal India Limited and Chairman cum Managing Director, Central Coalfields Limited.

Nagendra Kumar memorial Award of Excellence Awardees:

- Prof. Om Prakash, Formerly Chairman cum Managing Director, SECL and Professor (NMDC Chair), ME
- Shri Anil Kumar Jha, chairman cum managing Director, Mahanadi Coalfields Limited

7. STUDENTS ACTIVITIES

Students were involved in organizing various academic and extracurricular activities in association with International Societies viz. Society of Petroleum Engineers (SPE), Society for Mining, Metallurgy and Exploration (SME), Society for American Association of Petroleum Geologists (AAPG), Institute of Electrical and Electronics Engineers (IEEE), Association for Computing Machinery (ACM), Society of Exploration Geophysicists (SEG), Society for European Association of Geoscientists and Engineers (EAGE), Optical Society of America (OSA), International Society of Optics & Photonics (SPIE), and American Society of Mechanical Engineers (ASME).

7.1 Technical Activities

- Technical & Cultural Fest “KHANIJ-2018” was organised by Department of Fuel & Mineral Engineering for Introduction of Freshers with the alumni of the Mineral Engineering Society of FME and lectures were delivered by eminent industry professionals.

7.2 Sports and Co-Curricular Activities

The institute organized various co-curricular activities such as NCC, NSS, NSO, Yoga, etc. Special welfare measures were taken to help academically weak SC/ST students by arranging special classes beyond academic hours and special counseling by teachers. The students were involved in organization of Technical, Cultural and Sports events, viz. Srijan, Concetto, Parakram, Annual Sports, etc. Students were encouraged to manage their campus affairs through the Students’ Society in a democratic manner.

Srijan 2018

Srijan, an annual Socio-cultural festival of IIT (ISM), Dhanbad was held from 30th March to 1st April, 2018. Dr. V.K Singh, Associate Professor, Dept. of Applied Physics was Convenor and Dr. Abhishek Kumar Singh, Assistant Professor, Dept. of Applied Mathematics was Co-Convenor who coordinated this mega event with ISS Representative Mr. Sourav Kumar and Executive Head Mr. Rishav Raj to make it a grand success.

- This year Srijan was marked by the presence of Bollywood Star and Playback Singer Meet Bros along with Khusboo Grewal, a popular singer in Bollywood.
- DJ Tejas, Bass Pandits, Zephyrtone and Bodhi Route Band gave their enthralling performance in this Fest.
- Srijan also hosted various social events like Padman Challenge to create awareness for Sanitary Pads among the poor people.
- Campus Princess was organised in partnership with Miss India Organisation and The Times of India group which will be treated as a preliminary round for Miss India Auditions.
- Fest was graced by the presence of eminent personalities from different walks of life and participants from many premier Institutes.

Cyber Society & Robotics Club

The Cyber Society and Robotics Club of Indian Institute of Technology (Indian School of Mines), Dhanbad was actively involved in creating Cyber and robotic related awareness among the students of the institute through various workshops and events during the academic session 2017-2018. All such workshops and events were selected that benefitted the student of all branches of the school. The society provided the students a wonderful platform for mutual learning and discussions led by senior students. This helped in forming a strongly connected network among the students for knowledge exchange and discussions.

A brief summary of the events held during this period is given below:

Month	Activities
September 2017	Introduction to Programming in Python' held on Sept 10, 2017-Around 120 students participated in this program.
October 2017	Design and code of a member portal for Cyber Labs and its testing Administrative Portal for Cyber Labs Member Monitoring System for Cyber Labs
December 2017	Design and basic architecture of a new project called Buzzlogs. Discussion on use cases and features of BuzzLogs. Addition of new members to Cyber Labs.
January 2018	Project Distribution to students Basics of Computer Vision and its limitations Interfacing between software and hardware in any project Discussion of three approaches to solve the automation problems
February 2018	1. Basics of Arduino: Hardware, Basic programs, Possible applications. 2. Hacking the phone screen lock using Arduino. 3. Idea of automating door latches using an Arduino 4. Basics of Raspberry Pi: Hardware, Installation and its enormous applications. 5. Making choice of Arduino or Raspberry Pi for your project, hence covering the basic difference between Micro-controller and Micro-processor. 6. Various Projects and discussions
March 2018	DigiBoard, Iteration 1.0-Discussion over the working and implementation of the Digital Notice Board. 2. Finalizing the prototype of the Shuttle bus updation and data transfer scheme. TASKS: Module breakup of the proposed working of the Board. Manual input by the user Control of the timer programming. Arduino multiplexing

The Photography Society

A brief summary of the events held by Photographic during this period is given below:

Sl. No.	During/ on	Activity held
1	July 2017	Advance Studio Lighting Workshop and Fashion Photography Workshop was organized from 29 th to 30 th July, 2017.
2	August 2017	Nikon FX camera demonstration cum workshop was organized on 8 th August, 2017.
3	August 2017	First photo walk of the session with first year students was organized on 13 th August, 2017.
4	August 2017	Basic Photography Workshop in association with Canon was organized on 26 th August, 2017.
5	August 2017	Mobile Photography Contest organized by FotoFreaks was organized on 31 st August, 2017.
6	September 2017	Introduction to the new entrants was held on 12 th September, 2017
7	October 2017	Review Session on the assignment given to new entrants on Durga Puja pictures was convened on 6 th October, 2017.
8	October 2017	A session on hands-on practice with DSLR camera was held on 17 th October, 2017.
9	December 2017	A discussion on basic picture editing and photography exhibition was organized on 08 th December, 2017.
10	January 2018	A session on camera hardware was held on 09 th January, 2018.
11	January 2018	A photo walk inside the campus was organized for all the students on 11 th January, 2018.
12	January 2018	An official screening of the Srijan'17 after-movie, which was shot and edited by FotoFreaks was held on 25 th January, 2018.
13	January 2018	Workshop on post processing in Adobe Photoshop was convened on 27 th January, 2018.
14	February 2018	The annual photo exhibition "FOTOMELA" was organized from 2 nd to 3 rd February, 2018.
15	March 2018	The club members covered all the events of "Srijan", which was held during 29 th to 31 st March, 2018.

The Cultural Scientific Literary Society (CSLS)

The Cultural Scientific Literary Society (CSLS) has been an active student's society of Indian Institute of Technology (Indian School of Mines) Dhanbad. This society consists of 03 clubs namely Drama Club, Dance Club and Literary Club. Apart from conducting the regular sessions and events by various clubs within the campus, about sixty (60) number of students of this society have attended the Inter IIT Cultural meet at IIT Kanpur during 28.12.2017 to 30.12.2017.

The **Drama Club** conducted many activities from April 2017 to March 2018:

- A Hindi play "**Jab Sheher Humara Sota Hain**" was performed on **08/04/2017** in OLHC, IIT (ISM) Dhanbad. This play was written by **Piyush Mishra**.
- Another English play "**The Imaginary Invalid**" was performed by B. Tech. students of Drama Club on **08/09/2017** in GJLT, IIT (ISM) Dhanbad and it was appreciated by IIT (ISM) student's crowd. This play was written by **Moliere**.
- A Hindi play "**Abdulla Deewana**" was performed on **09 October, 2017** in GJLT, IIT (ISM) Dhanbad. This play was written by **Shri Laxminarayan Lal**.
- An English play named "**Buried Child**" was performed by B. Tech. students in **GJLT, IIT (ISM) Dhanbad** on **22nd March, 2018**. This play is written by **Sam Shepard**. It was an English play set in the decade of 1960, based on saga of buried memories, intertwined with insanity, darkness and dismay.

The following events were organized by **Dance Club** of CSLS:

- Two days dance workshop "**Hit the Beat**" for first year students was organized on **01.09.2017** and **02.09.2017** in Student Activity Center (SAC). A total of six sessions (03 hours each) were conducted in a span of 02 days which prepared students for giving auditions of membership of Dance club of IIT (ISM) Dhanbad.
- Solo dance competition "**Kryptoes**" for first year students was organized on **16.10.2017** in Penman Auditorium. The winner, the runner up and the second runner up received Cash prizes of **Rs 1500/-, Rs 1000/- and Rs 500/-** respectively.

The following events were organized by **Literary Club** of CSLS:

- A motivational lecture on "**Fly High Forever**" was delivered by a speaker from outside (Mr. Jeevan Rao) in Student Activity Center in the month of **August-2017**. A total of about **600** students attended the lecture in four different sessions (held in two days). The lecture was focussed on timeless wisdom, tips to create a balance between personal and academic life, secret of happiness and improving performance in all domains of life.
- "**Personality Development Tests**" were conducted for students to test their Character, Quality and Competence during **September-2017** in various sessions at Student Activity Center.
- Another six session course on "**Transform Yourself**" was organized in Student Activity Center during **September-2017**. In this course debates, group discussions and presentations by senior students were delivered.

A number of cultural programmes were organized under the banner of "**Ek Bharat Shresth Bharat**" (**EBSB**) at the Institute level. Total Seven (07) programmes under EBSB series were organized by IIT (ISM) Dhanbad from December-2017 to March-2018 in Penman Auditorium and

GJLT with Coordination of Dean of Student Welfare - Prof. J. Manan, Associate Dean (Student Welfare) - Prof. A. K. Pathak, Associate Dean (Hostel Management) - Prof. G. N. Singh, Cultural Society President - Dr. S.K. Sharma, Music Society President - Dr. S. Mukhopadhyay and IIT (ISM) Students Society Representative - Mr. Saurav Kumar and Mr. Rochak Gill. A number of faculty members from various departments and wardens of various hostels were present in these programmes.

- The first cultural programme under EBSB was performed by students of **Telangana & Haryana** states to showcase their cultures and tradition. The programme was organized on **10th Dec, 2017 (Sunday)** at 6.30 P.M. in Penman Auditorium.
- The second cultural programme of the series was organized on **13.01.2018 (Saturday)** at 6.30 P.M. in Penman Auditorium between students of **Andhra Pradesh & Punjab** states.
- The third cultural programme of the series was organized on **27.01.2018** at 6.30 P.M. in Penman Auditorium between students of **Uttarakhand & Karnataka** states.
- The fourth cultural programme of the series between students of **Rajasthan & Assam** states was organized on **11.02.2018 (Sunday)** in Golden Jubilee Lecture Theatre.
- The fifth cultural programme of the series was organized on **10.03.2018 (Saturday)** in Penman Auditorium between students of **Jharkhand & Goa** states.
- The sixth cultural programme of the series was organized by IIT (ISM) Dhanbad on **11.03.2018 (Sunday)** in Penman Auditorium between students of **Bihar, Tripura & Mizoram** states.
- The seventh cultural programme of the series was organized by IIT (ISM) Dhanbad on **24.03.2018 (Saturday)** in Golden Jubilee Lecture Theatre between students of **Maharashtra & Odisha** states.

Music Society

The activities of the Music Society are given below:

During/ on	Activity held
29 th July, 2017	Performed at the Cultural night of 1 week induction program of the newly admitted first year students
15 th August, 2017	Participated in the program of Independence Day celebration
18 th August, 2017	Performed at the Cultural night, AAPG Annual meet 2017
26 August, 2017	Performed at the Cultural night, Khanan '17
27 th August, 2017	Performed at Global Village, AIESEC IIT(ISM) Chapter
10 th September, 2017	Organized the cultural program Alive (musical concert)
15 th October, 2017	Organized the program of Induction of the first year students into the music club
31 st October, 2017	Active performance in the celebration ceremony of Rashtriya Ekta Divas
24 th November, 2017	Cultural function in Workshop program of the Central Library of IIT(ISM) Dhanbad
8 th December, 2017	Performance on foundation day ceremony (Felicitation program for Mr. Suthirtha Bhattacharya)
28 th - 30 th December, 2017	Performance at Inter IIT Cultural meet
13 th January, 2018, 27 th January, 2018, 10 th March, 2018, 11 th March, 2018, 24 th March, 2018, 07 th April, 2018	Students of Music Society in collaboration with other societies of IIT(ISM) Dhanbad - participated in programs of " Ek Bharat Shrestha Bharat " to highlight the cultural aspects of various states (pair wise) of India, like Haryana+Telengana, Punjab+Andhra Pradesh Uttarakhand+Karnataka Maharashtra,Odisha Jharkhand, Bihar, Gujarat etc
26 th January, 2018	Participated in the program of Republic Day celebration
31 st January, 2018	Organized in association with SPICMACAY, a musical performance by Ustad Johar Ali Khan (violin)
03 rd February, 2018	The classical Kathak dance program of Shri Amitabha Dutta and troupe was organized during the musical events of IIIA-2018
04 th February, 2018	The musical program of Smt. Sudeshna Ganguly and Shri. Emon Chatterjee was organized during the musical events of BASANT-2018.
15 th & 16 th March , 2018	Classical dance performance by Smt. Amita Dutta was organized in the cultural events of the 4 th International Conference on Recent Advances in Information Technology RAIT – 2018.
18 th March, 2018	Actively participated in KHANIJ 2018
30 th March – 01 st April, 2018	Organized the cultural and musical events of Srijan 2018

Sports and Physical Education Centre

Under the banner of Sports and Physical Education Centre, coaching camps were organized in different games like Cricket, Athletic, Basketball, Football, Volleyball, Squash, Boxing/Wushu, Karate, Chess, Carom and Yoga under supervision of expert Coaches. Regular practices in other Sports like Gym, TT, Badminton, Tennis, Chess, Carom, Snooker etc. were organized throughout the year. Co-curricular Activities marks under NSO (National Sports Organization) and Yoga were awarded to all under graduate students on the basis of coaches' assessment, result of Inter Hostel GC/Open competitions, record of participation in extra mural competitions etc.

Sports and Physical Education Centre organised its 2nd Inter Hostel General Championship-2018 from 9th March to 9th April, 2018; This year we witnessed participation of 620 approx. students (boys) & 100 approx. students (girls) and 50 approx. staff (men & women) in the games like Cricket, Tennis, Boxing, Squash, Gym, Weight Lifting, Football, Basketball, Volleyball, Badminton, Table Tennis, Athletics, Carom, Chess, Snooker, Karate which were held at Lower Ground, Upper Ground, Sports Complex, Student Activity Centre (SAC), Squash Complex. Finally the closing ceremony of the championship was held on 12th April 2018 at 7:00 PM at the Sports Complex.

In the closing ceremony, prizes & trophies were awarded to the winners by Prof. Rajiv Shekhar, Hon'ble Director IIT(ISM) in presence of Dr. Bobby Antony, President, SPEC, Shri D N Acharya, Sports Officer and many distinguished faculty & guest.

Results of the 2nd Inter Hostels General Championship are as follows:

Sl. No.	Games	Date	Results
1	Swimming Competition	29 th October 2017	The 3 rd IIT(ISM) Open Swimming Championship was held on 29 th Oct. 2017 for the staff, dependents under four age group 8 to 10 Years., 11 to 13 Years., 15 to 17 Years and above 18 Years. The student participated as B. Tech 2 nd Year, B. Tech 3 rd Year, B. Tech final Year, M.Sc. M. Sc Tech, MBA, M. Tech & RS.
2	Cricket	1 st to 3 rd Dec. 2017	<ul style="list-style-type: none"> Winners - Jasper Hostel Runners-up – Topaz Hostel
3	Lawn Tennis (M)	9 th to 11 th March 2018	<ul style="list-style-type: none"> Winners – Amber Hostel Runners-up – Jasper Hostel
4	Lawn Tennis (W)	9 th to 11 th March 2018	<ul style="list-style-type: none"> Winners – Opal Hostel Runners-up – Rosaline Hostel
5	Weight Lifting (M)	9 th to 11 th March 2018	<ul style="list-style-type: none"> Winners – Jasper Hostel Runners-up – Diamond Hostel
6	Badminton (M)	9 th to 11 th March 2018	<ul style="list-style-type: none"> Winners - Topaz Hostel Runners-up – Diamond Hostel
7	Badminton (W)	9 th to 11 th March 2018	<ul style="list-style-type: none"> Winners - Rosaline Hostel Runners-up – Ruby Hostel

8	Basketball (M)	16 th to 18 th March 2018	<ul style="list-style-type: none"> • Winners – Diamond Hostel • Runners-up – Sapphire Hostel
9	Basketball (W)	16 th to 18 th March 2018	<ul style="list-style-type: none"> • Winners – Rosaline Hostel • Runners-up – Opal Hostel
10	Squash (M)	16 th to 18 th March 2018	Open Single Winner – Mr. Ajeet Singh, Int. M.Tech. 4 th Year, Diamond Hostel Runner up – Mr. Mohit Sharma, Amber Hostel
11	Squash (W)	16 th to 18 th March 2018	Open Single Winner – Ms. Ayushi Agarwal, Rosaline Hostel Runner up – Ms. EktaPanjwani, Rosaline Hostel
12	Football	16 th to 18 th March 2018	<ul style="list-style-type: none"> • Winners – EDC • Runners-up – Topaz Hostel
13	Chess (M)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners – Topaz Hostel • Runners-up – Amber Hostel
14	Chess (W)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners – Rosaline Hostel • Runners-up – Opal Hostel
15	Volleyball (M)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners - Amber Hostel • Runners-up – Emerald Hostel
16	Volleyball (W)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners - Opal Hostel • Runners-up – Rosaline Hostel
17	Table Tennis (M)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners – Jasper Hostel • Runners-up – Amber Hostel
18	Table Tennis (W)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners – Opal Hostel • Runners-up – Rosaline Hostel
19	Karate (M)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners – Amber Hostel • Runners-up – Jasper Hostel
20	Karate (W)	23 rd to 25 th March 2018	<ul style="list-style-type: none"> • Winners – Opal Hostel • Runners-up – Ruby Hostel
21	Boxing (M)	6 th to 8 th April 2018	<ul style="list-style-type: none"> • Winners – Emerald Hostel • Runners-up – Diamond Hostel
22	Boxing (W)	6 th to 8 th April 2018	<ul style="list-style-type: none"> • Winners – Opal Hostel • Runners-up – Ruby Hostel
23	Snooker (M)	6 th to 8 th April 2018	<ul style="list-style-type: none"> • Winners – Topaz Hostel • Runners-up – Amber Hostel
24	Snooker (W)	6 th to 8 th April 2018	<ul style="list-style-type: none"> • Winners – Rosaline Hostel • Runners-up – Ruby Hostel
25	Handball	6 th to 8 th April 2018	<ul style="list-style-type: none"> • Winners - Amber Hostel • Runners-up – Emerald Hostel

89TH ANNUAL SPORTS MEET-2018

89th Annual Sports Meet was inaugurated by Hon'ble Director Prof. D. C. Panigrahi, IIT(ISM), Dhanbad on 19th January, 2018 in presence of Prof. J Manam, DSW, Col M K Singh, Registrar, Dr. B. K. Antony, President SPEC and many other distinguished faculty members, Officers and staff. The whole programme was witnessed by about five thousand students and other spectators.

In the closing ceremony Prof. D. D.Misra, Chairman BOG, IIT(ISM), was the Chief guest Prof. D. C. Panigrahi, Director, IIT(ISM), Col(Retd)M. K. Singh, Registrar have given the prizes. Prof. J. Manam, DSW, Prof. Gurdeep Singh, Dr. B. K. Antony and many other distinguish guests were present.

The two-day sports meet witnessed 19 Olympic and 07 number Non-Olympic events.

Results:

Best Athlete Men - G. Sai Srinivas, B.Tech Final Year (3 gold + 1 gold each in 4x100 & 4x400 relay)

Best Athlete Women - Arti Kumari, B.Tech 1st Year (3 gold with new meet record in 200m, 400m & 800 m) jointly with Poonam Hansdah, B.Tech 3rd year (3 gold with the new meet record in shot put, discus and javelin throw)

Best Team MEN - B.Tech Final year with 47 point

Best Team WOMEN - B.Tech 1st year with 37 point

STAFF MEET

Best Athlete Men- Dr. Abhishek Kr. Singh, Applied Mathematics

Best Athlete Women - Ms Nilu Kumari, IRAA

MEN'S GROUP

EVENT: 100M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
35	AakashvNirmal	17MB000094	11.84	1	MBA
01	AshutoshKujur	2013JE0673	12.02	2	B.Tech Final Year Including 5th Year Integrated
198	Samit Kumar Tudu	17JE003053	12.22	3	B.Tech 1st Year Including Preparatory

EVENT: 200M

Chest No.	Name	Admn. No.	Position	Group/Branch
31	G.Sai Srinivas	14JE000063	1	B.Tech Final Year Including 5th Year Integrated
34	Vivek Kumar Singh	16MC000230	2	M.Sc. Tech.
57	Dharavath.Rajesh	16JE002456	3	B.Tech 2nd Year

EVENT: 400M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
31	G.Sai Srinivas	14JE000063	55.28	1	B.Tech Final Year Including 5th Year Integrated
58	DhanrajWavare	17MT002047	56.65	2	M.Phil, M.Tech. & Research Scholar
57	Dharavath.Rajesh	16JE002456	57.17	3	B.Tech 2nd Year

EVENT: 800M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
21	Zacharia Nhial	16IB000053	2:17.50	1	BE (Combined)
39	Navaneeth Jhambre	16JE001991	2:18.13	2	B.Tech 2nd Year
314	Dhananjoy De	17MT002229	2:20.69	3	M.Phil, M.Tech. & Research Scholar

EVENT: 1500M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
314	Dhananjoy De	17MT002229	4:52.10	1	M.Phil RS
39	NavaneethJhambre	16JE001991	4:52.29	2	B.Tech 2 nd Year
279	Kaushik Bhomik	16MT000853	5:09.75	3	M.Phil, M.Tech. & RS

EVENT: 5000M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
314	Dhananjoy De	17MT002229	19:56.20	1	M.Phil, M.Tech. & RS
39	Navaneeth Jhambre	16JE001991	20:00.59	2	B.Tech 2nd Year
30	Nganaomi Khangrah	17MC000323	20:11.59	3	M.Sc. Tech.

EVENT: LONG JUMP

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
243	Bala Mani Kumar	16JE002306	5.80m	1	B.Tech 2 nd Year
125	Chetan Kumar	16MT001323	5.77m	2	M.Phil, M.Tech. & RS
01	Ashutosh Kujur	13JE02454	5.63m	3	B.Tech 5 th Year

EVENT: 110M HURDLE

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
13	Allada Leela Ananth Kumar	16JE002576	19.35	1	B.Tech 2nd Year
341	Ajeet Singh	14JE000492	21.06	2	B.Tech Final Year Including 5th Year Integrated
353	Atul Solanki	16JE002208	21.63	3	B.Tech 2nd Year

EVENT: 400M HURDLE

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
31	G.Sai Srinivas	14JE000063	1:05.56	1	B.Tech Final Year Including 5th Year Integrated
125	Chetan Kumar	16MT001323	1:06.15	2	M.Phil, M.Tech. & RS
13	Allada Leela Ananth Kumar	16JE002576	1:06.28	1	B.Tech 2nd Year

EVENT: HIGH JUMP

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
984	Rangawala Ashish	16JE002245	1.55m	1	B.Tech 2 nd Year
198	Samit Kr. Tudu	17JE003053	1.45m	2	B.Tech 1 st Year
384	SayantanSaha	17MC000332	1.30m	3	M.Sc Tech

EVENT: TRIPPLE JUMP

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
1	AshutoshKujur	2013JE0673	12.02m	1	B.Tech Final Year
125	Chetan Kumar	16MT001323	11.39m	2	M.Phil, M.Tech. & RS
624	Abhishek Katta	15JE001334	10.42m	3	B.Tech 3rd Year

EVENT: SHOT PUT

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
53	Seth Oppong	17ID000007	10.14m	1	M.Phil, M.Tech. & Research Scholar
412	Subha Ranjan Paul	12DR0158	9.32m	2	M.Phil, M.Tech. & Research Scholar
56	Vallapureddy Vineeth Reddy	16JE002619	8.42m	3	B.Tech 2nd Year

EVENT: DISCUS THROW

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
422	V. Phaneendra Babu Ela	15JE001680	24.95m	1	B.Tech 3 rd Year
53	Seth Oppong	17ID000007	24.35m	2	M.PhilM.Tech
14	V Prasad Naik	16JE002671	23.35m	3	B.Tech 2 nd Year

EVENT: JAVELINE THROW

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
14	V Prasad Nayak	16JE002671	42.00m	1	B.Tech 2 nd Year
46	Pankaj Poonia	15JE001016	36.30m	2	B.Tech 3 rd Year
267	Rajeev Kumar	17JE002750	33.00m	3	B.Tech 1 st Year

EVENT: 4 X 100M RELAY

Sl. No.	Name & Admn. No.	Position	Group/Branch
1	Abhishek Choudhary	1	B.Tech Final Year Including 5th Year Integrated
	G Sai Srinivas		
	Akshay R		
	Ashutosh Kujur		
2	D Rajesh Naik	2	B.Tech 2 nd Year
	Nila Kumar		
	V Prasad		
	Saptarishi		
3	Alok Anand	3	M.Sc. Tech 2 nd Year
	Alok Kumar		
	Vivek Kr. Singh		
	Lal Mohan Hembram		

EVENT: 4 X 400M RELAY

Sl. No.	Name & Admn. No.	Time/Distance	Position	Group/Branch
1	G Sai Srinivas	3:58.38 (NMR)	1	B.Tech Final Year Including 5th Year Integrated
	Abhishek Choudhary			
	Akshay R			
	Ashutosh Kujur			
2	D Rajesh Naik	4:01.56 (BPR)	2	B.Tech 2 nd Year
	Nila Kumar			
	V Prasad			
	Saptarishi			
3	Alok Anand	4:32.76	3	M.Sc Tech
	Alok Kumar			
	Lal Mohan Hembram			
	Vivek Kr. Singh			

EVENT: 4 KM FAST CYCLE RACE

Chest No.	Name	Admn. No.	Position	Group/Branch
359	Raman Chal	16DR000260	1	M.Phil, M.Tech. & RS
340	Raghvendra Pratap Singh	15JE001431	2	B.Tech 3rd Year
124	Balusu Siddhartha	15JE001738	3	B.Tech 3 rd Year

WOMEN'S GROUP**EVENT: 100M**

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
361	Swetangini Panda	17MC000316	15.02 (NMR)	1	M.Sc. Tech.
286	Kanchan Rajoriya	16JE002106	15.12 (BPR)	2	B.Tech 2nd Year
741	Prateeka Rawat	17JE003012	16.41	3	B.Tech 1st Year Including Preparatory

EVENT: 200M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
38	Arti Kumari	17JE003281	32.25 (NMR)	1	B.Tech 1st Year Including Preparatory
361	Swetangini Panda	17MC000316	34.96	2	M.Sc. Tech.
286	Kanchan Rajoriya	16JE002106	36.03	3	B.Tech 2nd Year

EVENT: 400M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
38	Arti Kumari	17JE003281	1:14.75 (NMR)	1	B.Tech 1st Year Including Preparatory
534	Sudheera Kadapaka	17JE003140	1:31.23	2	B.Tech 1st Year Including Preparatory
606	Priya Mondal	16JE002463	1:32.35	3	B.Tech 1st Year Including Preparatory

EVENT: 800M

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
38	Arti Kumari	17JE003281	3:01.34 (NMR)	1	B.Tech 1st
84	Mona Kumari	17JE003071	3:38.99 (BPR)	2	B.Tech 1st
282	Vislavanth Shirisha	17JE003107	3:39.32 (BPR)	3	B.Tech 1st

EVENT: LONG JUMP

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
361	Swetangini Panda	17MC00031	3.77m (NMR)	1	M. Sc. Tech
741	Prateeka Rawate	17JE003012	3.50m	2	B. Tech 1 st /Prep
386	Lakhi Gogoi	16MC000228	3.47m	3	M. Sc. Tech

EVENT: SHOT PUT

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
52	Punam Hansdah	14JE000139	7.36m	1	B.Tech 3rd Year
210	Aishwarya Singh	16MC000281	6.31m	2	M.Sc. Tech.
428	Archana Tripathi	17MT002180	5.85m	3	M.Phil, M.Tech. &RS

EVENT: DISCUS THROW

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
52	Punam Hansdah	14JE000139	16.80m (NMR)	1	B. Tech 3 rd
428	Archana Tripathi	17MT002180	16.10m (BPR)	2	M.Phil, M Tech & RS
617	Ankita Bhattacharya	16MC00293	11.75m	3	M Sc Tech.

EVENT: JAVELINE THROW

Chest No.	Name	Admn. No.	Time / Distance	Position	Group/Branch
52	Punam Hansdah	14JE00139	16.45m (NMR)	1	B. Tech 3 rd
428	Archana Tripathi	17MT002180	11.90m	2	M.Phil, M.Tech. & RS
210	Aishwarya Singh	16MC000281	10.20m	3	M. Sc Tech

EVENT: 4 X 100M RELAY

Sl. No.	Name & Admn. No.	Time/Distance	Position	Group/Branch
1	Mona	1:05.97	1	B.Tech 1 st Year
	Arti Kumari			
	Kalpana			
	Pratika			
2	Neha Pandey	1:11.30	2	M.Sc Tech 1 st Year
	Sohini Dasgupta			
	Suetangini Panda			
	Reecha Sonawal			
3	Ananda	1:13.75	3	M.Phil, M.Tech. & RS
	Bhaswati Singh			
	Pranita Boro			
	Rukmani Singh			

EVENT: 2 KM FAST CYCLE RACE

Chest No.	Name	Admn. No.	Position	Group/Branch
594	Srilekha Paul	17MT001553	1	M.Phil, M.Tech. & RS
36	Komal	17MB000108	2	MBA
610	Shabnam Sabih	17MT001763	3	M. Sc Tech

PHYSICAL EFFICIENCY TEST

Physical Efficiency Test was conducted for all under graduate students (1st & 2nd year) for awarding CCA marks w.e.f. 23rd Jan. to 14th April 2018. Near about **2500 students** were tested, tabulated and awarded marks for CCA.

SPECIAL SESSIONS

- **Celebration of International Day of Yoga**

The International Day of Yoga had been celebrated on 21st June 2017 at Lower Ground & SAC where 2000 (approx.) participants took part. The programme included e-Essay competition, poster & audio-visual exhibition and a mass yoga session.

To mark the international day of yoga celebration, a fifteen (15) days pre yoga session was also organized with series of programmes like drawing/painting competitions, Prabhat Feri, Yoga awareness classes, Essay Competitions, Exhibition etc. at different locations of Dhanbad.

- **Induction Programme for new entrants through JEE (Advanced) 2017**

Successfully organized Sports and Physical Education Aptitude and Yoga Classes for B.Tech. 1st year students during the induction programme from 26th July to 29th July 2017. Apart from different Physical and Yoga activities, height & weight of near about 850 students were tested.

- **Independence Day Run:**

On the Independence Day, 15th August, Sports and Physical Education Centre had organised Independence Day Run for the Students, Teachers, Officers, Staff members and Children of IIT(ISM). Hon'ble Director Prof. D. C. Panigrahi had given away the prizes to the recipients.

- **National Unity Day**

On the occasion of National Unity Day different events had been organised to mark the birth anniversary of Sardar Vallabhbhai Patel on 31.10.2017 like Run for Unity at IIT(ISM) campus and Drama, Song, Essay & Elocution competition at Student Activity Centre (SAC).

- We have organised Regular YOGA classes at Student Activity Centre in the evening for the students who opted Yoga as co-curricular activity under a yoga expert Shri Ajay Kumar. Inter year and open Yoga competitions were also organised during March-April 2018 and the winners were given prizes.

- **Routine Yoga Session**

A routine yoga session has been continued for the residents of IIT(ISM) and citizens of nearby area of IIT(ISM) at SAC from Tuesday to Sunday in the morning hours (05.30AM to 06.30 AM).

- A special NSO programme was organized round the year in the morning and evening session where our regular Coach Shri N. K. Sadhukhan along with experts from outside taught different skills of Sports and Games like Basketball, Volleyball, Football, Badminton, Cricket, Athletics, Table Tennis, Tennis, Judo/Karate etc. apart from physical conditioning.
- Swimming Classes for students (boys & girls), employees and their dependents have been organised regularly in the morning and evening. Near about 400 members have learnt swimming skills under the supervision of swimming experts.
- Regular Basketball practices were organized under part-time coach Shri Kallol Samanta.
- Boxing/Wushu classes were organized under part-time Coach Shri Sashi Kant Pandey.
- Regular Squash practices were also organized under part-time Coach Shri Abhisekh Pandey.

- Regular Athletics practices were organized under our regular Coach Shri N. K. Sadhukhan along with part-time coach Ms. Sujapa Thakur.
- Regular Cricket practices were organized under part-time coach Shri Kishor Kumar.
- Regular Football practices were organized under part-time coach Shri Ranjit Thakur.
- Karate classes were organized regularly under part-time Coach Shri Ranjit Kesri.

Teams Participation in Extramural Competitions

- **Our Body Building team** comprising of 9 students (men) with Gym trainer had participated in **Jr. & Sr. Mr. Jharkhand State Body Building Championship** 2016 -2017 held at Deoghar organized by Jharkhand Body Building & Fitness Association on 2nd April 2017. Our student Shri Khemchand Joya won the title of Mr. Jr. Jharkhand in the said state body building championship.
- **IIT(ISM) Aquatic team** comprising of 19 participants (M&W) and 03 nos. officials participated in Inter IIT Aquatic meet held during 1 - 4 October 2017 at IIT Madras.
- IIT(ISM) contingent comprising of 125 participants and 06 nos. officials in the games of Cricket, Football, Basketball(M&W), Volleyball(M&W), Athletics(M&W), Table Tennis(M&W), Tennis, Badminton(M&W), Squash(M&W) & Chess participated in **52nd Inter IIT Sports meet** held during 15-23 Dec.2017 at IIT Madras. During the sports meet Mr. Ashutosh Kujur, B.Tech final year has won **Bronze Medal** in the Long Jump event.
- IIT(ISM) Staff team comprising of 24 participants in the games of Cricket, Athletics(M&W), Badminton(M&W), Tennis, Table Tennis participated in **24th Inter IIT Staffs Sports meet** held during 25-30 Dec.2017 at IIT Madras.
- IIT(ISM) contingent comprising of 04 participants with Gym Trainer participated in **Mr. Jharkhand Junior & Senior Bodybuilding Championship** – 2018 held during 17-18 March 2018 at Koderma, Jharkhand. In which 120 participants from Jharkhand had participated in the said event in different categories. The list of winners are as bellow:

Junior Category:

Weight Category	Name	Position
60-65 kg	Vikas Jaiswal, B.Tech.	2 nd
65-70 kg	Rohit Pratyush, M.Tech	1 st
70-75 kg	Aakash Nirmal, MBA	2 nd
75 kg above	Vishal Kumar, B.Tech	2 nd

Senior Category:

Weight Category	Name	Position
60-65 kg	Vikas Jaiswal, B.Tech.	4 th
65-70 kg	Rohit Pratyush, M.Tech	2 nd
70-75 kg	Aakash Nirmal, MBA	4 th
80 kg above	Vishal Kumar, B.Tech	2 nd

7.3 Extracurricular Activities of Students:

Department of Applied Geology

- Ms. P. Sahoo is a Team Member of Women Basketball Team, IIT (ISM), since 2017.

Department of Applied Geophysics

- Mr. Alok Kumar Routa participated in Rural & Swadeshi Startup Meet, IIT Delhi on 2017.

Department of Applied Mathematics

- Mr. Saurabh Kumar Represented IIT(ISM) Dhanbad in Inter-IIT sports meet 2018 and won bronze medal in inter hostel badminton tournament.
- Mr. Aayush Ahuja, being a Panel Member of Cyberlabs (Cyber Society, IIT(ISM)-Dhanbad), organized a series of Software and Hardware based workshops and regular sessions on Machine Learning and Hardware during 2017-2018. He was also the Co-Founder of DANHIM (Skating and Skateboarding group of IIT(ISM)-Dhanbad) and increased its popularity from 3 people to now 75+ people in campus.
- Mr. Pyarelal Mahawar was one of the organizers Umeed 2017 and 2018 (An inter school competition conducted all over Dhanbad by FFI). He was also a volunteer in blood donation camp conducted by the NGO FFI (FAST FORWARD INDIA).
- Mr. Ayush Somani was involved in several Technological activities like being one of the organizers of HACKFEST-2018, SIAM Coding Contest and SAM. As a part of the NGO FFI (FAST FORWARD INDIA), he acted as a Bloodline Volunteer and organized Blood Donation Camp. He was also one of the organizers of Umeed 2k18, the Annual Fest of FFI. He also participated in Inter Hostel Football & Badminton Competition (Amber Hostel). He has also garnered ample interest in the field of photography. He participated and was selected in 'Fotomela-The annual photography exhibition by FotoFreaks'. He has also received Certification of Basic Photography by University of Michigan. He runs a YouTube channel by the name "Cheesy Tooth" and is also one of the organizers of Photography and Videography in 'Srijan-The cultural fest of IIT(ISM)'. He is also a Core member of Designing Team, Photography Team for Society of Industrial and Applied Mathematics (SIAM ISM Chapter).
- Mr. Atul Kumar participated in HACKFEST-2018 in which he secured 22nd rank and got a certificate of participation. He also Participated in Inter Hostel Football Competition (Amber Hostel) and was one of the organizers of buzzer quiz event and Rubik's cube workshop under SIAM-student chapter IIT (ISM) Dhanbad.
- Mr. Mohit Kumar Jain was a Volunteer at 'KARTAVYA- A student run NGO' and also a member in organizing Team of SIAM's events. He was a part of organizing 'PRAKASH- an annual cultural fest of Kartavya', 2018, some events in 'Concetto- The Techno-management fest of IIT(ISM)' and several events conducted by SIAM.
- Mr. Naman Gupta was a member of Designing head of Udaan – Career cell Art Club, 2018.
- Mr. Nitish Maheshwari was one of the organizers of Photography and Videography in 'Srijan-The cultural fest of IIT(ISM)', 'Fotomela-The annual photography exhibition by FotoFreaks', Photography at all the Cultural and Technical events of IIT(ISM) and 'Basic Photography workshop', 'Advanced Photography Workshop', 'Fashion Photography Workshop' under the name of FotoFr.
- Mr. Puneet Garg was a Bloodline Volunteer and organized Blood Donation Camp. He was also one of the Event organizers of Umeed 2k18, The Annual Fest of NGO FFI (Fast Forward India) during 2017-18. He also organized SIAM TRADING GAME as a part of SIAM ISM Chapter.
- Mr. Saket Gupta was one of the organizers of Umeed, the annual fest of NGO FFI (Fast Forward India). He also opened a new chapter under FFI, Lakshya. He made an app for farmers, under HackFest2k18 and also organized Buzzerquiz under SIAM IIT(ISM).

- Mr. Sai Teja Chandragiri has been a part of Mailer Daemon since 2017.
- Mr. Rajat Agarwal has been a part of Photography, Cultural Fest and NGO's since 2018.
- Mr. Vishal Kumar has obtained 3rd prize under Dance category in streetbeats and hustlehurd.

Department of Applied Physics

- Mr. Mandira Majumder obtained 1st position in patriotic song competition on the occasion of National Unity Day on 2017. He also gained 1st position in singing competition (AAROH) at Srijan (Annual Socio-Cultural fest).
- Ms. Trupti Ranjan Das has been an active participant in Drama direction, standup comedy, drama and acting at various functions of Physics department, IIT(ISM) and regional community functions.
- Ms. Sanchari Banerjee performs welcome song at every inaugural official function of IIT(ISM). She also performs at cultural evening of various conferences organized by departments like Applied Physics, Petroleum Engineering, Computer Science, Mining Machinery and Electronics Engineering.
- Mr. Akhilesh Kumar Pathak has been an official member and active worker of OSA since 2017.
- Ms. Moutusi De has been an official member and active worker of OSA since 2017.
- Ms. Sugandha Das has been an official member and active worker of OSA since 2017.
- Ms. Tulika Khanikar has been an official member and active worker of OSA since 2017.
- Mr. Gourav Banerjee has participated in 33rd Inter IIT Aquatic meet in water polo event at IIT Madras on 2017. He obtained 2nd position in 3rd IIT (ISM) swimming competition in 100m freestyle swimming on 2017.

Department of Civil Engineering

- Mr. Sudhansh Dua obtained 1st position in Power lifting competition, IIT(ISM), Dhanbad on 2017. He also participated in 16th Junior Mr. Jharkhand and 16th senior Mr. Jharkhand on 2017 and achieved 2nd and 3rd position respectively. He was also appointed as the Brand Ambassador for 1 year period at GEN-X Sports Nutrition, India on 2017. Apart from these, he also obtained 2nd position in Muscle man of Jharkhand state body building championship on 2017. He won the title of Mr. IIT(ISM), Dhanbad on 2018 at Body building competition held in IIT(ISM), Dhanbad. He obtained 2nd position in weight lifting competition at Inter hostel sports general Championship on 2018. He also obtained 2nd position in Open Mr. Deoghar Bodybuilding championship at Deoghar District Body Building Association on 2018.
- Mr. Alaukik Singh, Mr. Malik Shujat Mushtaq, Mr. Sumit Kumar, Mr. Anurag Krishna, Mr. Akshay Jain and Mr. Amit Gupta were CES Core Committee Members during 2017-18 for conducting Civil Engineering Society (CES) Events.
- Mr. Amit Gupta secured 1st position as a part of ADC the Drama club of IIT(ISM), Dhanbad at Inter IIT cultural meet Kanpur.
- Mr. Vaishnav Gangasagar and Mr. Chandra Sekhar Das won 2nd prize in face painting competition at Srijan cultural fest on 2018.
- Mr. Vaishnav Gangasagar secured 3rd position in Squash at Inter Hostel Sports Championship on 2018. He represented Dhanbad at Jharkhand state squash Championship on 2018. He also represented IIT(ISM), Dhanbad in Squash Championship held at Inter IIT sports meet on 2018.
- Mr. Aval Singhal represented IIT(ISM), Dhanbad in Parliamentary debate competition held at Inter IIT meet at Bombay on 2018. He represented IIT(ISM), Dhanbad in poetry slam competition at Inter IIT meet at Kanpur on 2018.
- Mr. Atul Tamta received 3rd prize in 'unplug:The singing competition' at Srijan cultural festival on 2018. He represented IIT(ISM), Dhanbad in musical band competition at Inter IIT cultural meet on 2018.
- Mr. Shivam Singh Chauhan, Mr. Rohan Jethwani, Mr. Abhijeet Kumar and Mr. Tushar Gupta organized 'Truss The frame' event at Concetto Technical Fest on 2018.
- Mr. S.S. Parivel, Mr. Naveen Budania, Mr. Rohit Soni and Mr. Sumit Kumar organized 'Tech-Triathlon' event at Concetto Technical Fest on 2018.

- Mr. Rohan Jethwani and Mr. Tushar Gupta were Official Photographers of Srijan cultural fest on 2018.
- Mr. Rohan Jethwani and Mr. Tushar Gupta organized Fotomela'18 the photography exhibition and competition of IIT(ISM) Dhanbad on 2018.
- Mr. Rohit Tosawara obtained 2nd position in Handball as an active member of the team in Inter-hostel sport competition IIT(ISM) Dhanbad on 2018.
- Mr. Ish Kumar obtained 2nd position in Powerlifting men's (65kg) competition IIT(ISM), Dhanbad on 2018. He also secured 2nd positions in Men's physique competition and Mr. IIT(ISM), Dhanbad competition respectively on 2018.

Department of Computer Science & Engineering

- Students from CSE and other Departments of IIT(ISM) B. Tech, M. Tech, Ph.D. actively participated in Cultural (Music, Dance program), panel discussion etc. and a number of programs: " Ek Bharat Shreshtha Bharat" to showcase the culture of various states Hariyana, Punjab, Telengana, Andhra Pradesh, Karnataka, Goa, Bihar, Jharkhand, Assam, Mizoram, Manipur, Odisha, Maharashtra etc. These programs are organized throughout the year.
- Ms. Sukla Saha, JRF, ESE actively participated in the cultural program of the 4th International Conference on Recent Advances in Information Technology RAIT 2018, IIT(ISM) Dhanbad during March 15-17, 2018.

Department of Electronics Engineering

- Mr. Kapil Gangwar reached the Finals of the Technical Event: TATA Crucible Hackathon at NIT Jamshpur on 2018. He funded for a project (startup) from CIIE by the name "Healing Health" on 2018. He was a Coordinator of Spectrum 2K18 and Spectrum 2K17: Annual fest of Department of Electronics Engineering on 2017. He was also ranked in top 50 in National Scholarship Examination (NSE) -2017.
- Mr. Asutosh Rout obtained 3rd positions in HackFest 2017 (Technical) and HackFest 2018 (Technical) respectively. He reached the finals of TATA Crucible Hackathon at NIT Jamshpur (Technical) on 2018. He funded for a project (startup) from CIIE by the name "Healing Health" on 2018. He was a Coordinator of Concetto 18 (Technical Fest). He was also a Volunteer of an NGO named Kartavya on 2017.
- Ms. Bharti Lala was the Content Writer of SEE Annual Magazine on 2018.
- Mr. Rahul Sridhar was the Event Coordinator and Winner of Inter Hostel General Championship Lawn Tennis 2018. He was a Lead Web Developer of TEDx IIT Dhanbad on 2017. He obtained 3rd position in HackFest 2018. He was one of the Event Coordinators of Spectrum'17 (Annual Technical fest of Department of Electronics Engineering) on 2017. He was one of the event organizers and participants of Group Dance, SRIJAN IIT(ISM) on 2017. He secured 3rd position in Group Dance, SRIJAN IIT(ISM) on 2018. He also attained a position among the Top 6 and Participation Certificate in Group Dance (Springfest (IIT Kgp)) on 2018.
- Mr. Vishnu Teja Moluguri secured 1st position in circuit debugging : Spectrum 2017 and 3rd position in Inter year Yoga competition 2017.
- Mr. Mratyunjay Kag was one of the Content Writers of SEE Annual Magazine, 2018.
- Mr. Vatsal Srivastava was ranked among top 5 in Hackfest 2018 IIT ISM Dhanbad on 2018. He was one of the coordinators of Concetto, IIT Dhn, 2017. He was also one of the coordinators and core members of Music Club, IIT Dhanbad, 2017-19.
- Mr. Avinesh Kumar achieved 5th (finals) position in Data Tales: Machine Learning competition by Analytics Vidhya , GLIM Chennai (Technical) on 2018.
- Mr. Chetan Yadav was one of the organizers of Annual Sports Meet 2018, IIT Dhanbad.
- Mr. Soovam Biswal was the Finalist of Technical Event: TATA Crucible Hackathon at NIT Jamshpur, 2018. He funded for a project (startup) from CIIE by the name "Healing Health" on 2018.
- Mr. Vaibhav Bose was the winner of Srijan Unplugged (Music competition), 2017.
- Mr. Ayush was one of the Members (Designer & Photographer) of Society of Electronics Engineers since 2016. He was also one of the Designers in the I/O MAG: The Annual Magazine of Dept. of Electronics

Engg., 2018. He was the Designing Head of Concetto 2K17-18. He was also the Designing & Photography Head of TedX IIT Dhanbad 2017. He was the Official Photographer of Srijan 2017 & Srijan 2018. He was the organizer of Fotomela: The Photography Event of IIT Dhanbad, 2017. He was also Sponsorship Coordinator of Fotomela: The Photography Event of IIT Dhanbad, 2018.

- Mr. Pranjal Arusia was one of the Volunteers of Fast Forward India, student run NGO since 2016. He was also the President of Fast Forward India, student run NGO, 2017-18.
- Mr. Anish Mehta was the Event Organizer of ToastMasters Impromptu Public Speaking Challenge, 2018. He was also 2nd Runners-up in ToastMasters International Speech Contest (Club Level), 2018.
- Chanchal Dutta was one of the organizers of Spectrum 2k17- Annual fest of department of electronics engineering, 2017. Chanchal was the winner of Group Dance (Srijan 2017) and one of the Organizers of Spectrum 2k17- Annual fest of department of electronics engineering. Chanchal was also the winner of Group Dance (Srijan 2017) and secured 2nd position in Circuit debugging: Spectrum 2018. Chanchal is one of the Coordinators of Spectrum 2K18- Annual Fest of Dept. of Electronics Engg. and Kryptoes 2k17 (Dance competition), and also, one of the Volunteers of NGO FFI (Fast Forward India).
- B. Raghu Vamsi was the Web developer and Marketing Head of AIESEC IIT ISM Dhanbad, 2017. Raghu was also a Delegate at HPAIR International Conference, 2017 and Core Committee President of October Leadership Conference, 2017.
- Mr. Sai Ruthvik was one of the Event Coordinators of Concetto 2018 and secured 3rd position in Hackfest 2018.
- Mr. Nisheeth Srivastava secured 2nd position in a competition organized by a start-up (Criollo Automobile), 2018.
- Mr. Ujjwal Agrawal was one of the Open Source Contributors of Google Summer of Code (Wikimedia Foundation), 2018. He was the Co-founder of Codenically (www.codenically.in), 2017-18. He is also the Technical head of Spectrum 2K18- Annual Fest of Dept. of Electronics Engg. and FoodO in 2018. He secured 2nd position in (Circuit Debugging) Spectrum 2K17- Annual Fest of Dept. of Electronics Engg., 2017.
- Mr. Soumya Raj won bronze medals in state taekwondo championship, 2018 and Aahvan (DTU intercollege sports meet), 2018 respectively. He was the co-coordinator of inter hostel sports meet, 2018. He secured 1st position in inter hostel boxing, 2018. He also re-initiated a club named E- cell genesis on 2017.
- Mr. Pankaj Poonia secured 2nd position in Annual sports meet (Javelin throw), 2017. He was the coordinator of Athletics Team, 2017. He was also one of the organizers of Annual sports meet, 2018. He won a silver medal at Annual sports meet (Javelin throw), 2018.
- Mr. Piyush Barskar was one of the organizers of Spectrum 2K17, Core Team Member of SEE, 2018 and Coordinator Spectrum 2K17.
- Mr. Anubhab Chaudhuri was the Runners up in Triathlon - Spectrum 2k17. He also secured 1st position in Circuit Debugging - Spectrum 2k18.
- Mr. Vipul Aggarwal secured 10th position in Nationwide Education and Scholarship Test- 2017.
- Mr. Vaibhav Bhandari was one of the Promotional Coordinators of Fotomela: The Annual Photography Exhibition of IIT(ISM) Dhanbad, 2018. He was the Official Photographer of Srijan 2017 & Srijan 2018. He was the Designing Coordinator of Concetto 2017-18. He was also the Designing & Photography Head of TEDx IIT Dhanbad 2017. He was one of the Organizers of Fotomela: The Annual Photography Exhibition of IIT(ISM) Dhanbad, 2017. He was also a Volunteer of Fast Forward India – NGO since 2015.
- Mr. Yash Pangoria was the Runner-up in Triathlon - Spectrum 2k17. He also secured 1st position in Circuit Debugging - Spectrum 2k18.
- Mr. Rahul Gupta was the Winner of Inter IIT Cultural meet -IIT Kanpur: Dramatics competition, 2017. He was the runners-up in Alcheringa-Annual cultural fest: Dramatics competition, 2017. He was also the Director of the Play: Buried Child- Play by Sam Shepard at GJLT IIT(ISM) Dhanbad, 2018.
- Mr. Shashank Sharma was one of the Organizers of SPECTRUM 2k17: Annual fest of Department of Electronics Engineering. He was the Joint Secretary of Society of Electronics Engineers (S.E.E) since 2017. He was one of the Coordinators of SPECTRUM 2k18: Annual fest of Department of Electronics

Engineering. He was also one of the Volunteers of 3rd International Conference on Microwave and Photonics (ICMAP)-2018.

- Mr. Devesh Pandey secured 2nd position in Circuit Debugging- Spectrum 2k17. He was also one of the Volunteers of Kartavya (NGO) since 2017.
- Mr. Abhishek Kumar was one of the members of Blood donation camp organized by FFI-Bloodline, 2017. He acted as one of the promoters of Concetto, 2017. He was also one of the Volunteers of UMEED - annual fest of FFI, 2017.
- Ms. Punam Hansdah secured 4th position in 16th Youth Volleyball league Championship, 2017. She was also the Captain and secured 3rd position in 17th Senior Division Volleyball League Championship, 2017. She obtained the Best Athlete Award in Annual Sports Meet 2017 and 2018. She was also the Captain of Inter IIT Sports Meet 2017 (Volleyball). She was the Winner in the Inter Hostel Sports General Championship 2018, (Basketball). She was also the captain and runners-up in Inter Hostel Sports General Championship 2018 (Volleyball). She was one of the Volunteers of Kartavya NGO since 2014.
- Mr. Dheerendra Kumar Choudhary secured 2nd Position in Triathlon- Spectrum 2k17. He was also the Winner of Treasure Hunt - Applied Geology Dept., 2017.
- Mr. Prashant Kumar Prajapati was a Student Developer at Google Summer of Code 2018 (BU/XIA Foundation). He secured 5th place in Machine Learning competition by Analytics Vidhya, GLIM Chennai, 2018. He also secured 3rd Place in Game of Codes - Concetto 2017-18. He was the Web Developer of TEDx IIT Dhanbad, 2017.
- Mr. Sai Pradyumna Chermala secured 5th position in Hackfest 2018. He also secured a position in the Top 40 in DL3: Deep Learning Challenge, Hackerearth, 2018.
- Mr. Katta Venu Madhav was the winner of quizipad (event organized by SIAM chapter IIT(ISM) Dhanbad), 2017. He was also one of the coordinators of spectrum-2k17.
- Mr. Devender Butani was the Content Creator of Inspirational World Quotes, 2016-18. He was also the Content Creator of Foodcham Technologies Pvt. Ltd, 2017-18.
- Mr. Abhishek Chaudhary was one of the Organizers of Spectrum 2K17. He also secured 1st Position in Treasure Hunt: Dept. of Applied Geology, 2017.
- Mr. Kunal Singhal was one of the Coordinators of treasure hunt in spectrum'18.
- Mr. Surya Omesh was a Delegate at Harvard Project for Asian and International Relations, at ICC Sydney, 2017. He was also a Panel Member of Sankalp Se Siddhi - New India – 2022 on 2017. He secured 5th Position in Hack Fest 2018 and was the Winner of the Inter Hostel General Championship Chess 2018. He was also the Web Developer and Tech Lead of FoodO (www.foodo.co.in), 2018.
- Mr. Raghav Verma secured 5th position in Hack Fest 2017. He was also a participant in Inter Hostel General Championship football, 2017-18.
- Ms. Akanksha Sahay was the Finalist of TATA Crucible Hackathon at NIT Jamshedpur, 2018.
- Yojana Juadi was one of the Event coordinators of Concetto 2018. Yojana also participated in Inter IIT sports meet 2k17 and has been a volunteer of Kartavya: an NGO since 2015.
- Mr. Saket Saurav has been a volunteer of Kartavya: an NGO since 2015. He was one of the organizers of Spectrum 2K17. He was also the Semifinalist in IIT(ISM) Premier League, 2017.
- Mr. Amit Kumar Ray is working on Yoofix Digital Media Company web ordering system (Intern in Indonesia), 2018.
- Mr. Abhinav Anand was one of the Volunteers of An Art of Living -Sri Sri Ravishankar, 2018.
- Mr. Pankaj Kumar was one of the Coordinators of Prakash-Annual Day of Kartavya on 2018 and Kartavya -student run NGO since 2015.
- Mr. P Novel Singh has been a Volunteer of Kartavya-Student run NGO since 2015. He also acted as Headship of Center Management Team Kartavya since 2017. He was also one of the Coordinators of Prakash-Annual Day of Kartavya, 2018.
- Mr. Prabhat Kumar was one of the Volunteers of Kartavya: NGO since 2015.

Department of Environmental Science and Engineering

- Mr. Atul Kumar got first prize in Swachhta Survekshan Quiz, 12th August 2017.
- Mr. Jaydev Kumar Mahato organized “Winter Cup Cricket Tournament 2017”.

Department of Fuel & Mineral Engineering

- B. Tech (Mineral Engineering) students organized Technical & Cultural Fest “KHANIJ-2018”.

Department of Management Studies

- Mr. Sonu Kumar Das was the 1st Runner-up in IIT(ISM) open chess championship, 2017.

Department of Petroleum Engineering

- Mr. Sumit Lohiya was the President of SPE Student Chapter, 2017-18.
- Mr. Gaurav Gupta was the Vice President of SPE Student Chapter, 2017-18.
- Mr. Nitin Goyal was the General Secretary of SPE Student Chapter, 2017-18. He is interested in Photography, Writing poems.
- Mr. Aman Kumar was the Membership Chair of SPE Student Chapter, 2017-18.
- Mr. Ambuj Kumar was the Treasurer of SPE Student Chapter, 2017-18.
- Mr. Panjwani Ekta Haresh was the Chapter Officer of SPE Student Chapter, 2017-18.
- Mr. Yashwant Gaur was the winner of Inter house games- Handball, Hindi Literature, 2017-18.
- Mr. Sahil Sinha was the Head membership chair of SPE and treasurer of FIPI SC, 2018.
- Mr. Vishal Kumar was one of the Organizers of Kavyanjali, Srijan-2017.
- Mr. Mayank Ankit Lal successfully organized Quiz competition with participation from other IITs, 2017.
- Mr. Agosh Baranwal was one of the coordinators of TEDx IIT Dhanbad (2017) and brought the TEDx brand back to college after two years.
- Mr. Harshita Saumya secured 1st portion in Drama competition at Inter IIT festival'17.
- Mr. Snehal Kumar Sinha represented IIT (ISM) in SPARDHA- IIT(BHU) annual sports fest, 2017.
- Mr. Nitesh Kumar was the First Runner up in HSSE Videography Competition SHELL DAY 2017.
- Mr. Gaurav Kr Singh was the President of FIPI Society-IIT(ISM) Chapter, 2017.
- Mr. Rajat Agrawal was the Vice President of FIPI Society-IIT(ISM) Chapter, 2017.
- Mr. Ritesh Parashar was the B. Tech IInd Year Representative of FIPI Society-IIT(ISM) Chapter, 2017.
- Mr. Anmol Bhargava was the M. Tech Representative of FIPI Society-IIT(ISM) Chapter, 2017.
- Mr. Adhip Dutt won Dhanbad district prize in Basketball, 2017.

8. DEPARTMENTAL ACTIVITIES

8.1 Best Practices

Department of Applied Chemistry:

- Facilitating the researchers of outside/other departments in the analysis of their samples.
- Organizing lectures/seminars frequently and inviting the eminent scientist/industrialist/researchers to deliver talks.
- Delivering Quality Teaching & Research Outputs.
- Organizing short-term courses, guest lectures, workshops, and conferences on regular basis
- Promoting national/international collaborations in research.
- Encouraging faculty members to actively engage in research projects and publishing their research work in refereed International journals.

Department of Applied Mathematics:

- Organizing a number of training programmes, seminars, workshops for researchers and teachers from other institutes and organizations.
- Conducting lectures by eminent scientists and different events under Society of Applied Mathematics (SAM).
- Organizing Alumni-student interaction through Skype.

Department of Applied Physics:

- Weekly seminars by faculty, research scholars and students.
- Organization of seminar talks by experts of various research areas at regular intervals under the auspices of Society of Applied Physics.
- The establishment of Society of Applied Physics to promote science and disseminate knowledge among students.
- Time-to-time invitation to local school students to the department and encouraging them for scientific innovation
- Organizing short-term courses, guest lectures, workshops, and conferences on regular basis.

Department of Civil Engineering:

- Encouraging faculty members to actively engage in research projects and publishing their research work in refereed International journals.

Department of Computer Science and Engineering:

- Delivering Quality Teaching & Research Outputs.
- Conducting Hands-on practical & project works.
- Organizing short-term courses, guest lectures, workshops, and conferences on regular basis.
- Organizing various technical events to promote competitive & healthy environment among the students.

Department of Electronics Engineering:

- The use of assignments for Departmental Core subjects with assistance of PG research scholars
- A plethora of events organized under Society of Electronics Engineering under the banner of “Spectrum” with Technical Quizzes, Circuit Design competition, invited lectures from Industry/Academia
- Placement Talks by Final Year students
- Training and awareness seminar/workshop for nearby school students under the scheme Rashtrya Avishkar Abhiyan (RAA).

Department of Environmental Science and Engineering:

- The Department has the State-of-the-art facilities in its laboratories for air, water, soil, microbiology, noise and GIS etc. for practical and hands on Summer Training cum Internship for students in various industries such as Chemical, Petroleum, Pulp & Paper, Textiles Industries, Metallurgical, Mining and Allied Industries, Energy sectors, etc.
- The Department has an Environmental Information System on Mining Environment (MINENVIS) with a distinctive web-site: <http://www.ismenvis.nic.in> and maintains a database management system to cater the requirements of various users/ stakeholders of the mineral industry and regularly publishes Newsletters and Monographs. The ENVIS has been upgraded to “A” category by Ministry of Forestry & Environment and climate change , GOI.
- The Department has been accredited by NABET, GOI, and also satisfied by ISO: 9001 (2008) and OHSAS:18001(2007).
- Innovations in academic program: (a) Creation of an ambiance of academic excellence that is conducive to growth of innovative research and support to industry; (b) Special emphasis to the post-graduate and research programs; and (c) Strengthening of Ph.D. program.
- Facilitating the researchers of outside/other departments in the analysis of their samples.
- Job function of faculty and staff has been redefined in terms of creative work rather than dissemination of existing knowledge.
- Each of the faculty members of the Department has been nominated as faculty adviser of the students for their personal counseling.

Department of Fuel and Mineral Engineering:

- Organising guest faculty lectures by inviting expert from industry which can improve the placement opportunities of students.
- Under the banner of Mineral Engineering Society the students organise one day workshop”KHANIJ-2017” by inviting the distinguished alumni who can support the department for R & D projects and placements.

Department of Humanities of Social Sciences:

- Orienting the UG and PG level courses towards skills and personality development.
- Exposing students to interpersonal skills with special emphasis on character/personality building among the students.
- Inculcating values and ethics in the students through workshops and interactive programmes.

Department of Management Studies:

- The department draws inputs from top industries for designing its course curriculum and teaching methodologies by inviting functionaries to BOCS meetings and general interaction seminars which facilitates in having market savvy curriculum and course pedagogy in sync with markets. The department collaborates with foreign universities to get a global flavour.
- The department organizes various co-curricular activities like quadragenial lecture series wherein top academic and industry experts along with senior bureaucrats are brought in to interact with the students and faculty members on various critical management issues. To create awareness on values and ethics in business practices, the department organizes workshops and seminars regularly.
- The faculty members uses various pedagogical tools used in top B-Schools like case discussion, role plays and simulation techniques to bring out the best among the students.
- The department has been organizing MBA Programme and EDP courses for the working executives for better industry academia interactions.

Department of Mechanical Engineering:

- Encouraging students to take part in technical competition of national/international importance by actively involving and guiding students providing available infrastructure and workmanship.
- Encouraging students to attend national and international seminars/ conferences/symposium and to present paper both for general forum and student's level competitions.
- Inculcating student's innovative minds in computational research work through latest softwares like FEM, CFD, CATIA, COMSOL, and MATLAB.
- Encouraging students to organize technical competitions in the campus where students from various Institutions from India can participate.
- Encouraging students to carry out research work in leading laboratories of premier institutes in Europe & Australia.
- Encouraging faculty members to collaborate with the leading research lab of Europe and publish joint papers.
- Organising collaborative of International Conferences in the continent of Europe with the Institute as a co-partner.
- Three research scholars have spent months in those European laboratories and came out with SCIE and SCOPUS publications.

Department of Mining Engineering:

- Most of the teaching in mining engineering, tunnelling and underground space technology, geomatics and opencast mining is backed by practical case examples generated from different R&D and Industry-sponsored Projects undertaken.
- Students are actively involved in live projects for their B.Tech.(Projects), M.Tech.(Dissertation) and Ph.D.(Thesis).
- Field excursions to different mines, research organizations and Resuce establishments
- Specialized Excursion for metal mines

Centre of Excellence in Safety, Occupational Health and Disaster Management (CoESOHDMD):

- To train the students both on theoretical and practical aspects of Mining Engineering, so that they can be absorbed by the best companies of the country and abroad.
- To create the vibrant atmosphere in the laboratories and it is used for 365 days of the year by the students, researchers and the industry.
- To bring the practical experience gained through solving the real life problems of the industry to the classroom to generate the interest of the students.

Department of Petroleum Engineering:

- Facilitating the researchers of outside/other departments in the analysis of their samples.
- Organized various technical and social events under Petroleum Engineering Society.
- Organized various social events and awareness programmes under National Services Scheme.
- Promoting national/international collaborations in research.
- Organization of short course by experts of various research areas
- Delivering Quality Teaching & Research Outputs

8.2 Major Experimental/Research facilities at the Departments

Department of Applied Chemistry

Type (Equipment / Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Surface Area Analyzer Nova 3200 e; Quantachrome	Research and Teaching purpose	Dept fund	18.00	2013
Equipment	FTIR and accessories Agilent carry 600	Research and Teaching purpose	Dept fund	37.00	2015
Equipment	GC Agilent 7890 B	Research purpose	DST project	15.00	2015
Equipment	TPR/TPD Chemisorption Equipment	Research purpose	DST project	21.00	2015
Equipment	Gas phase reactor Chemito	Research purpose	DST project	13.00	2015
Equipment	DLS analyzer, (Horiba Instruments, Japan)	For measurement of particle size and zeta potential	SERB, DST, New Delhi	17.6	2016
Equipment	Microwave Synthesizer, (Sineo, China)	For polymer synthesis	WTI, DST, New Delhi	9.5	2016
Equipment	Rotary Evaporator (Eyela)	For solvent removal	SERB, DST, New Delhi	5.1	2013
Equipment	Low temperature reactor (Eyela)	For chemical reactions at -80 °C	SERB, DST, New Delhi	5.7	2013
Equipment	Fluorometer, Perkin elmer- LS-55	Analysis of photoluminescence	SERB	14.5	2014
Equipment	Electrochemical workstation: USD 15100	Electrochemical studies	DST(SERB)	USD15100/-	2015
Equipment	Extruder (FlytechEngg)	Polymer Blending	DST	8.24	2014
Equipment	Compression Molding (ASI Sales)	Composite Fabrication	DST	2.9	2015
Equipment	Electrospinning Unit (Physics Equipment)	Nanofiber Making	IIT(ISM)	7.5	2016
Software	Materials Measurement Software	Microwave Absorption Measurement	DRDO	7.0	2018
Equipment	Gas Chromatograph	Research, Monitoring the reaction	SERB, DST	14.10	2016
Equipment	GC-MS (Gas chromatograph-mass spectrometer)	Research, Monitoring and identification the reaction mixture	SERB, DST	25.5	2017
Equipment	FT-IR	Teaching and research	Dept. of Applied Chemistry	12	2016

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
EPMA	CAMECA SX-5	Mineral Chemistry, Monazite dating, X-Ray mapping, Imaging (CL, SEM, BES)	ISM-CRF	11.00	2014
Petrological cum biological microscope with phase difference and DIC + Stereozoom binocular microscope	Axio Imager M2m+Discovery V20	Thin section of rocks and Nannoplankton study + Foraminiferal study	MoES	45.00	2016
FESEM with EDS, EDSD and CL	Supra 55	Imaging, EDS, EBSD and CL	IIT(ISM) CRF fund	450.00	2013
Equipment	Leica DM2709 with Dell Desktop	Coal Petrography	Deptt. Fund	Euro 28100.00	2015
Equipment	Leica DM750 R Student Microscope (Five Nos)	Coal Petrography	Deptt. Fund	Euro 29400.00	2015
Equipment	Buehler Petrothin Thin Sectioning System	Teaching and Research	DST-FIST	USD 20364.58	2016
Equipment	Trinocular Polarizing Microscope (orthoscopic and conoscopic) with Transmitted & Reflected Light illumination system, Scientific Digital Camera. Image Analysis Software and Automatic point Counting System. Heating and Freezing Stage	Fluid inclusions petrography/characterization & micro-thermometric analysis	Institute fund	Euro 44733.00	2013
Equipment	Dual Frequency RTK DGPS System	Collection of spatial data and its real time analysis	DST (128)/2015- 2016/447/AGL	16.80	2017
Equipment	Table Top Specimen Cutter Labotom 5, Struers	For cutting rock and ore samples for petrographic study	FIST	10.00	2015
Equipment	Grinder Polisher Tegramin, Struers	For grinding and polishing of petrographic thin sections for microscopic and EPMA studies	FIST	14.00	2016

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Student Petrological Microscope (08 Nos.) Leica	For petrographic studies during practical classes of Optical Mineralogy, Mineralogy, Igneous, Metamorphic and Sedimentary Petrology	Department Fund	16.00	2017
Equipment	Biological Microscope Trinocular	Microscopic study of rock and mineral thin sections	SERB (DST)	1083800.00 JPY	2016

Department of Applied Geophysics

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Capillary Pressure Measurement System	CPS-2K	Capillary Pressure measurement of rock samples	DST-FIST	18 lakh	2016
Geosoft Oasis Montaj(Advanced License 2)	Software Version No: 8.4	Research/Gravity Modeling for Ph.D. Dissertation and Project Works/Gravity data mapping, analysis and crustal and lithosphere modelling	Department of Science & Technology, Govt. of India, New Delhi	15.02 lakhs	2014
(a)CMG- DM2453-EAM HAA (Serial No:5/19/A459) (b) CMG- 3T (Serial No: T37228)	Broadband Seismometer	Monitoring of local, regional and teleseismic earthquake events. Preparation of local earthquake bulletin	FIST Project, Department of Science & Technology, Govt. of India, New Delhi	16.68 lakhs	2012
Geophysical Quantitative Interpretation Laboratory	NA	Quantitative and computational Interpretation of geophysical/geological data	Institute Fund TEQIP-II Fund	6.00 lakhs	2016
Software taken from Ikon Science renewal basis	Ikon Science RokDoc software	Rock Physics and Geomechanics study	Academic License (free of cost)	NA	2017
Software taken from IHS Kingdom Suit renewal basis	IHS Kingdom Suit	Seismic Interpretation purposes	Academic License (free of cost)	NA	2017
Geosoft Research Advanced license and GMSYS-3D	Single User	Gravity and Magnetic Data Analysis	MOES Project Fund	17.14 lakhs	2016
Ground Penetrating Radar (GPR)	Ground Penetrating Radar (GPR)	Geotechnical Application	AGP Fund and UGC Fund	24.80 lakhs	2017

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Arc GIS Master Lab Kit GIS Analysis	Arc GIS Master Lab Kit	Mineral Potential Mapping	Institute Fund	18.20	2017
Geophysical Inversion Laboratory	NA	Under Graduate and Post Graduate Student's Practical and Teaching	Institute Fund	21.64	2016
Combined ERT, GPR and SRT method	Low frequency Geophone / Surfseis	Coal mine void detection, coal mine hazard/ water inundation and seam mapping	DST Fund	15.0	2014
Combined Remote sensing,-GIS Gravity, Magnetic, VLF, ERT , GPR and SP	Magnetometer	Chromite and Kimberlite mapping	NRSC, ISRO	12.0	2017
Software	Geosoft Oasis montaj Advanced Research & GM- SYS 3D Modelling Research License	Gravity and magnetic modeling Image enhancement analysis of gravity and magnetic data Source-depth estimation of potential field data	DST-SERB	10.00	2017

Department of Applied Mathematics

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	HPC Workstation Supermicro SXS-&046	High-Performance Computing/Parallel Computing	DST FIST Govt. of India	5.40	2016
Equipment	High End Workstation Supermicro	High-Performance Computing/Parallel Computing	SERB Govt. of India	5.53	2017

Department of Applied Physics

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Cary Eclipse Fluorescence Spectrophotometer (Agilent Technology)	Photoluminescence Studies	DST	17.50	2016
Equipment	Scanning Probe Microscope (Model: Dimension Icon and Multimode 8 with Controller – Nanoscope V, Bruker)	Research (Imaging and spectroscopy of physical properties of surfaces in micro to nano scale)	Institute fund (CRF)	215.00	2014
Upconversion spectrometer	Zolix Omini Lamda 3008	Upconversion emission measurements	DST, New Delhi	7.00	2018
CCD spectrometer	Avantes ULS-CCD	Emission/absorption measurement	CSIR, New Delhi	5.00	2016
Equipment	Potentistate/Galvanostat	Characterization	DAE BRNS	6.00	2015
Equipment	FCS setup (Home made)	Research & Development	FRS grant from institute and Department fund	10.00	2017

Department of Civil Engineering

Type (Equipment / Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipme nt (Rs. In lakhs)	Year of Installation
Equipment	Hydraulic Universal testing Machine (100T Capacity) Model: EFH/1000/2E/FR	For universal testing	Dept. fund	100.00	2015
Equipment	Compression Testing Machine	Compression Testing	Dept. fund	60.00	
Equipment	Rapid Chloride penetration test	Measuring Chloride ingress in concrete	Dept. fund	10.00	
Equipment	Carbonation chamber	Measuring CO ₂ ingress in concrete	Dept. fund	9.00	
Equipment	Table top digital triaxial shear apparatus	To find shear strength parameters of soil	Institute	12.86	
Software	Plaxis 2D	Geotechnical FE analysis software	Institute FRS Project	7.11	
Equipment	Drop-Weight Test set-up (Fabricated)	Experimental Setup for Study of Failure Behaviour of Solids under Vertical Impulsive Force	Institute Fund (FRS)	7.98	2017
Equipment	Laser Curtain sensor and High Speed Strain Gauge Input Board	Velocity and Strain measurement in dynamic experiments	DST (SERB)	6.25	2018

Type (Equipment / Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipme nt (Rs. In lakhs)	Year of Installation
Software	Midas GTS NX	Research	DDF	11.34	2015
Software	EDEM 2018	Research	DST. Project Number - DST(SERB) 139/2016- 2017/466/CE	9.99	2017
Equipment	Cyclic Actuator 20 kN capacity	Model testing	FRS Project. No – FRS/(79)/2014- 2015/CE	8.38	2016
Equipment	Water absorption and permeability of concrete instrument.	Required for Use in Concrete Laboratory in Dept. of Civil Engineering.	Deptt. Fund	5.4	2014
Software	ANSYS software (Academic Research Mechanical Version 16.0 – Unlimited Nodes).	Required for Execution of FRS sponsored R&D project.	Institute Fund	5.06	2014
Equipment	Fabricated High Payload Vibration Shake Table.	Required for Execution of SERB sponsored R&D project.	SERB, Govt. of India	12.77	2016
Equipment	Shrinkage and Restrained Measurement Instrument of Concrete.	Required for Use in Concrete Laboratory in Dept. of Civil Engineering.	Deptt. Fund	7.65	2016
Equipment	Experimental Set up for Testing and Characterization of Masonry Wall.	Required for Use in Concrete Laboratory in Dept. of Civil Engineering.	Deptt. Fund	9.52	2016
Equipment	Dynamic Response Monitoring System.	Required for Use in Concrete Laboratory in Dept. of Civil Engineering.	Deptt. Fund	15.6	2017
Equipment	Bi-axial Shake Table	Required for Use in Concrete Laboratory in Dept. of Civil Engineering.	Deptt. Fund	130.67	2018
Equipment	Open channel apparatus for hydraulic flume	H & HM Lab	Deptt. Fund	5.38	2014
Software	ARC GIS Software	Required to execute DST project	DST (SERB)	6.99	2017
Software	Oasys-LSDYNA	Required to execute FRS sponsored R&D project	FRS Fund	8.13	2017

Department of Computer Science & Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Software	Monosek	Academic & Research Purpose	Meity	17.92	2016
Software	MATLAB Tool Boxes	Academic & Research Purpose	Meity	11.18	2016
Software	QualNet	Research	DST	7.02	2016
Software	MATLAB Tool Boxes	Academic & Research Purpose	ISEA Project Phase II, MeitY	11.18	2016

Department of Chemical Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Rotational Viscometer with accessories	For Experimental Purpose	Department Fund	7.14	2012
Equipment	Particle Size Analyzer Zetasizer (Part No.- Zen 1690)	For Experimental Purpose	Department Fund	12.23	2012
Equipment	Dy-Noy Tensiometer with accessories Model No.- DSA 15S	For Experimental Purpose	Department Fund	6.72	2013
Equipment	Vario Micro Cube for CHNS Analysis	For Experimental Purpose	Department Fund	25.66	2013
Equipment	Vario TOC with accessories	For Experimental Purpose	Department Fund	14.83	2013
Equipment	Totally Microprocessor Controlled PC Based Gas Chromatograph along with all accessories	For Experimental Purpose	Department Fund	11.43	2013
Software	CHEMCAD with all accessories	For Experimental Purpose	Department Fund	6.03	2013
Software	ANSYS Academic Research CFD Version 14.5	For Experimental Purpose	Department Fund	8.44	2013
Software	Matlab Software	For Experimental Purpose	Department Fund	15.29	2014
Equipment	Milli-Q Integral 5S KIT with all accessories	For Experimental Purpose	Department Fund	9.57	2014

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.) / Software (Version No.) / any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Modular Compact Rheometer with accessories MCR102	For Experimental Purpose	TEQIP Fund	32.32	2015
Software	ASPEN Software Package (5 years License terms & 150 Simultaneous User)	For Experimental Purpose	Department Fund	6.31	2015
Equipment	Quaternary UHPLC System along with all accessories	For Experimental Purpose	Department Fund	16.61	2015
Equipment	Analzer TGA Thermostep SL No.- 5151150219	For Experimental Purpose	Department Fund	13.29	2015
Equipment	Evolution Spectrometer with all accessories	For Experimental Purpose	Department Fund	6.56	2015
Equipment	Particle Size Analyzer Ship (Surcharge; Shipping/Freight Charges)	For Experimental Purpose	Department Fund	22.94	2015
Equipment	KEITHLEY High Precision Programmable DC Source Meter with all accessories Model: 2410	For Experimental Purpose	FRS Project Fund	5.39	2015
Equipment	Planetary Ball Mill with accessories Model No.: EGOMA E1-100	For Experimental Purpose	Department Fund	9.54	2016
Equipment	High Performance Bench-Top Fourier Transform Infra-Red Spectrophotometer with accessories	For Experimental Purpose	TEQIP	16.38	2016
Equipment	NETEL Microprocessor Based Gas Chromatograph	For Experimental Purpose	FRS Project	9.27	2016
Equipment	Atmosphere Controlled Muffle Furnace	For Experimental Purpose	Departmental Fund	5.49	2018

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Laboratory Wind Tunnel	For studying the aerodynamics of fan blades. It is also used for Practical Classes of B. Tech & M. Tech Mining students	PCRA, New Delhi Project Fund	16.07	2012
Laboratory Set up	Breathing simulator and other accessories	For Practical Classes of B. Tech & M. Tech Mining students and for evaluation of performance of Safety instruments used in Mines	Institute Fund	43.08	2012
Laboratory Set up	Test Setup for Evaluation for CO2 Absorbent System in the Mine Rescue Apparatus.	For Practical Classes of B. Tech & M. Tech Mining students and for evaluation of performance of CO2 Absorbent used Mine Rescue Apparatus.	TEQIP-II Project Fund	8.44	2014
Laboratory Set up	Microprocessor test jig for sampling and Analysis of different gases measurement in dynamic Breathing Resistance and other Parameter during Practical Performance test and other Rescue Apparatus.	For Practical Classes of B. Tech & M. Tech Mining students. Used for Practical Performance test of Self Rescuers and other Rescue Apparatus used in Mines.	TEQIP-II Project Fund	26.10	2015
Equipment	Thermal Property Analyzer (Hot Disk TPS 2500 S)	For determining the thermal conductivity, thermal diffusivity and specific heat capacity of various materials	CSIR, New Delhi Project Fund	53.00	2017
Laboratory Set up	Gamma Ray Spectrometer Systems and other accessories	To measure the external Gamma radiation in Uranium mines	DST-SERB Project Fund	10.43	2018

Department of Electrical Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Hybrid Off-grid Power Supply System for Remote Areas	For PG laboratory work and Research purpose	University Grants Commission	5.98	2016
Controller	DS1103	For generating control signal for the external Hardware.	TEQIP-II	14.00	2014
Experimental Set up	DSP Based Three-phase Permanent Magnet Synchronous Motor Drive Set up	To perform the experiment of three-phase Permanent Magnet Synchronous Motor.	Deptt. Fund	5.00	2015
Equipment interfaced with software	Real time monitoring, control and protection of power system Test Bench 1) Source Panel 1 No. 2) Pi Section Panel 1 No. 3) Load Panel 1 No. 4) PSDC Hardware 1 No. 5) Software for PSDC 1 No.	The experimental set up will be used for conducting experiments on power system (i) monitoring, (ii) control and (iii) protection of transmission lines for the following subjects: Switchgear and Protection Practical (B. Tech Electrical Engg.) Advanced Power System Lab (M. Tech Power System Engg.). Power System Stability study for research purpose.	IIT (ISM) FRS Project (Institute Fund)	9.72	2017

Department of Electronics Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Software	1) Opti spice software version 3.0.0.42 - 1 no 2) Opti grating software version: 4.2.269 - 1 No. 3) Opti Fiber software version 2.1.1.147 – 1No.	For UG & PG Lab.	Plan fund	13.12	2012
Software	Material Studio 6.0 Academic Bundle -1	For UG & PG Lab.	Plan fund	9.82	2012
Equipment	Fiber communication kits modules	For UG & PG Lab.	Plan Fund	11.86	2013
Equipment	i) Eleven Lab PCB Fabrication Machine -1 no ii) Ureka Forbes vacuum cleaner – 1 no. iii) Bits stater- 23 nos	For research.	TEQIP-II Fund	9.6	2013
Equipment	i) Nano board NB-2 ii) attium designer custom board implementation iii) Xilinx vertex 4 DB 46 daughter board iv) university trainer kit v) Nano board NB3000	For research.	TEQIP	6.96	2013
Software	Perpetual License of CST Studio Suite TM educational Licence	For research.	Project fund	17.94	2013
Equipment	NI USRP with accessories. NI-USRP -2922 400MHZ to 4.4 GHZ Software Radio Kit Part No.78191501 – 2 Nos. 400MHZ, 1200 HZ 144MHZ Tri Band vertical Antenna part No.781915-01 - 2 nos. 2.4 and 5 GHZ Dual Band Vertical Antenna part no. 781913-01 - 2 Nos. USRP MIMO Syne and Data cable 0.5 M , part No. 781916-01 - 1 No.	For research.	Project fund	5.46	2013
Software	NI Lab view software 1 No. Part No. 777455	For UG & PG Lab.	Plan fund	6.41	2014
Software	1. R Self CAD V 9.0 GUI Software with full wave add-on module singal user mode locked Academic License – 1 No, 2. R Soft CAD V 9.0 GUI Software with FEMSIM add. On module single user node locked Academic License – 1 No.	For UG & PG Lab.	Plan fund	11.24	2014

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Software	SIL VACO Full TCAD Omni Bundle (Single Licence) - 1	For UG & PG Lab.	Plan fund	12.80	2014
Software	Optsim V2013 12-1, single user node locked Academic Licence	For research.	Plan fund	7.93	2014
Equipment	Network Analyser consisting of Option 411, Ethernet connectivity – 01 Option 15: Vector Voltmeter -01 Option 19 : High accuracy power meter - 1 Option 501 : Distance Demain precision N (M) open/short/load-1 Precision Adaptor-1 True-RMS USB power sensor -1 Cable-2	For research.	Project fund	USD= 8211.00	2014

Type (Equipment / Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applicati ons	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installati on
Equipment	Agilent make E4982ALCR Meter: 1MHZ to 3GHZ- 01 No. Consisting of : Agilent E498 A calibration Kit – 1 Test fixture sbrid -1 Coaxial Adaptor -1 Test Fixture for diff. sample Agilent 16196A parallel electro SMD – 1 No. High Temperature Component fixture - 1 No.	For research.	Project Fund	28	2014
Equipment	External cavity Tuneable Laser Source with controller -1 Set	For UG & PG Lab.	Plan fund	11.07	2014
Equipment	1) Control level control Trainer -1 2) Temperature control trainer – 1 no. 3) PC based Flow control trainer – 1 no. 4) PC based presser control trainer -1 no.	For UG & PG Lab.	Plan fund	13.76	2015
Equipment	i) ZVH 81309.6800.28 ZVH8 Cable& ANT. Tester 8 GHZ Ser : 115254 with built in option – 1 No. ii) ZVH-K42 1309.6846.02 ZVH-K42 Vector Network Analysis – 1 No. iii) FSH-Z28.1300.7810.03 FSH-Z28 Load/short/open 8 GHZ Ser : 103481 – 1 No. iv) ZV-Z191 1306.4507.24 ZV-Z191 RF cable N(M)-N(M)610MM Ser : 101653,101654-2Nos	For research.	Project Fund	5.85	2015
Equipment	1) Agilent N5221A 10 MHZ to 13.5 GHZ PNA Network Analyser with 2 ports, single source with configurable set Sr. No. MY51411167 – 1 No. 2)Agilent N5221A-010 Timr Domain -1 No. 3)Agilent N522IA Noise Figure Measurement using standard Receivers -1 No. 4) Agilent 85520A Calibration kit 4 in 1, open, short, load and Through, DC to 26.5 GHZ, 3.5 MM (M) Sr. N. DE52110109 – 1 No. 5)Agilent U2000A USB Sensor 10MHZ to 18GHZ Sr.No. HY5505001 6)Sucotest 18A RF Cable- 4 Nos. 7)Product No.22542399 N(Male /SMA(Mail)- 1No.	For research.	Project Fund	36.55	2015
Equipment	Agilent N 9925A Fieldfox handheld M-Wave vector Network Analyser Sr.No. MY53104398 - 1 No.	For research.	Project Fund	7.1	2015

Type (Equipment / Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applicati ons	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installati on
Equipment	DSO X2022A 2-Channel 200 MHZ - 15 Nos	For UG & PG Lab.	Plan fund	14.10	2015
Equipment	95% Reflectivity FBG with FC Connector	For research.	Project fund	14.2	2016
Equipment	DSO X3054A Oscilloscope 4-channel 500MHz	For research.	TEQIP Project Fund	5.13	2016
Equipment	Vector Network Analyzer 14 GHZ with following Option under capacity of 6 GHZ key sight N9916A 14 GHZ fox main Analyzer optional - 8 Nos.	For research.	DST fund	15.76	3.3.16
Equipment	DSCOX2022A Oscilloscope 2 Channel 200 MHz	For UG & PG Lab.	Plan fund	9.42	2016
Equipment	PLC and SCAD based control loop	For research	Project Fund	7.92	2016
Equipment	Cadence university UG Bundle(10 user for three years)	For UG & PG Lab.	TEQIP Project Fund	7.91	2017
Equipment	RF absorber for Anechoic chamber Model: JVMFU24,JVMFU18,JVMFU12, JVMFU9	For research	Project Fund	13.03	2017
Equipment	Xilinx -7 FBGA DSP Kit with high speed analog integrantis	For research	Project Fund	5.65	2017
Equipment	i)85052D Economy Mechanical calibration kit, DC to 26.5GHz 3.5mm HSN No.9030- 1EA ii)U8481A Power sensor USB average Thermocouple 10MHz to 18GHz-1EA	For research	Project Fund	5.28	2018
Equipment	i)Work station with 2 processors, Model:HPZ640 S/N:SGH752RYPT ii)Work station with 1 processor,Model:HPZ640 S/N:SGH752RYPS iii)Monitor model: HP Elite display E24243 S/n:6CM7330CYG,3CQ72821P3 iv)UPS Model:BR1500G-IN S/n:B21736010910,B21734018859	For research	Project Fund	5.31	2018
Equipment	Desktop computer with pre loaded operating systems, make: Lenovo Model: Tinkcentre M910 Sl.no.PG015NGG R&G	For UG & PG Lab.	Plan Fund	17.61	2018
Software	Cadence university bundle 3-analog and digital FE & BE for UG Bundle 10 user license.	For UG & PG Lab.	Plan Fund	10.03	2018

Department of Environmental Science and Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Gas Chromatography-Mass Spectrometry GC Model No.- Trace 1300 MS Model No- TSQ Duo TrippleQuadrupole.	GC-MS is useful for quantitative studies that involve identifying whether or not specific substances are present in a sample and is also used for structural elucidation, which provides information about fragmentation patterns.	DST-FIST Fund	56.2	2018
Equipment	Fluorescence Microscope Leica DM3000	A phase contrast fluorescence microscope will facilitate live cell imaging and finds application in intracellular signaling.	DST-FIST Fund	12.00	2018
Equipment	Real Time PCR QuantStudio™ 5	Real time PCR system is an instrument facilitating gene expression analysis.	DST-FIST Fund	16.72	2017
Equipment	CS 300 Electro-Chemical	Electrochemical process	DDF	5.18	2017
Equipment	Ambient CO Analyser Model: APM A 370 Sl. No. SYNSB 286	CO measurement in Air	DDF	5.07	2017
Equipment	CO analyzer (ambient air monitoring)	Measurement of CO in ambient air	ESE Plan Fund	845000.00 (JPY)	2017
Equipment	i. Ozone (O3) Analyser ii. Internal Pump Ozone Analyser iii. Canister (3lt.) 3 port Valve with Gauge	Ozone Measurement	DDF	9.85	2016
Equipment	Ozone analyzer (ambient air monitoring)	Measurement of ozone in ambient air	ESE Plan Fund	9.85	2016
Equipment	Shimadzu UV-VIS Spectrophotometer (Model UV1800 with accessories)	For Observance of OD	DDF	5.50	2015
Equipment	High Performance Liquid Chromatograph (HPLC)	Determination of Organic and other compounds in micro level	DDF	28.00	2015
Software	LCA Software	To study the environmental life cycle assessment of any substance present in environment.	DDF	7.42	2014
Software	Arc GIS Software	To study the remote sense image	DDF	9.98	2014
Equipment	Micro analytical balance	To weight any element up to 0.000001 gm	DDF	9.07	2014
Equipment	Microwave digestion system	For digestion of liquid and solid samples for heavy metal analysis	DDF	20.00	2014
Equipment	IAQ VOC meter	Air pollution lab/ Real time monitoring of ambient & indoor concentrations of VOC, carbon dioxide, temperatures and relative humidity	DDF	5.01	2014

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	GRIMM real-time portable aerosol monitor	Air pollution lab/ Simultaneous Measurement of 32 size ranges of Ambient Particulates	DDF	17.50	2014
Software	TNT mips verion 2014 consisting of (USB Hardware Lock)	GIS, Image Processing , Lidar Processing, 3D Analyser, Terrior Analysis, Water shed Analysis ,Web Services.	DDF	7.35	2014
Software	Are GIS Master Labkit Ver 10 Latest (which Including Arc GIS desktop, basic (ABL view) Arc GIS for Desktop standard (Arc Editor) Arc GIS Desktop Advanced (Arc Info)	Image Processing	DDF	9.98	2014
Equipment	Micro Analytical Balance	Weighing	ESE Plan Fund	9.07	2014
Software	LCA software	For Life Cycle Assessment	ESE Plan Fund	7.42	2014
Software	Trazer (Traffic analyzer and Enumerator) Software	Traffic count	ESE Plan Fund	6.33	2013
Equipment	Grimm, Portable Aerosol Spectrometer/ Dust Monitor	Measurement of particulate matter in ambient air	ESE Plan Fund	21200.00 (euro)	2013
Software	Rolta Geomatica Total educational Suit -5 user	GIS Lab	Dept fund	4.22941	2013
Equipment	Indoor air quality VOC meter TechmVK USA	Volatile Organic Matter Measurement	DDF	5.01	2012
Equipment	Fine Particulate Sampler	Particulate Matter Concentration measurement	DDF	15.19	2012
Equipment	Indoor air quality VOC meter	Measurement of VOC and CO2 in ambient air	ESE Plan Fund	9042.80 (USD)	2012

Department of Fuel and Mineral Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Thermal Analyser Model No: STA 449F3 Jupitor F013	TGA/DTA/DSC Thermal analysis for research	SAP/DSA Phase-II	Euro 48,980.25	2013
Equipment	Atomic Absorption Spectrophotometer Model No. ICE 3300AA Spectrophotometer	Laboratory class/ research	Under TEQIP-II	25,53,320	2013
Equipment	Wet High Intensity Magnetic Separator Make:Star Trace	Laboratory class/ research	Under TEQIP-II	6,61,200.00	2013

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Laser Diffraction Based Particle Size Analyser	Particle size analysis for Research work experiments	Departmental Plan Fund	GBP 19,475	2014
Equipment	Coal Abrasion Index Apparatus Model:TR-49	Laboratory class/ research	Departmental Plan Fund	6,39,750.00	2015
Equipment	Sample Divider Model: PSO-M	Laboratory class/ research	Project No. FRS (66)/13-14/FME	5,55,796.00	2016
Equipment	Ultra Centrifugal Mill Model No. ZM200	Laboratory class/ research	R&D Project No. DST (102)/2014-2015/389/FME	7,50,000.00	2016
Equipment	Millipore Water System M/s MERCK	Laboratory class/ research	Departmental Plan Fund	9,99,836.00	2016

Department of Mechanical Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Software	Visual Studio Professional MSDN(Academic Version)	Writing programme in C, C++, JAVA	Institute Fund	5.3538	2016
Equipment	Fully computerized 4-Cylinder, 4-S Petrol Engine Test Rig	UG/PG Practical purposes	Institute Fund	9.00	2012
Equipment	Jet Plate Solar Air Heater	PhD research work	UGC Major Project	7.00	2012
Equipment	Chevron Type Plate Heat Exchanger with al instrumentation	PhD research work	Institute Fund	16.00	2014
Software	ANSYS Academic Research CFD Version 15	Research and other PG CFD Practical purposes	Institute Fund	13.00	2015
Equipment	Cylindrical Parabolic Concentrating Solar Water Heater	PhD research work	Institute Fund	6.00	2017
Equipment	HMT High Precision NH22 Lathe	Machining operations	Institute Fund	10.71	2013
Equipment	MIG/MAG ,TIG and MMA Welding Machine	Multipurpose welding machine	Institute Fund	6.40	2015
Equipment	CNC Cutting System	Profile Cutting	Institute Fund	6.70	2015
Computer Hardware and Software	Planetary Ball Mill	Making nano powders	Institute Fund	13.15	2017
Equipment	Die sinking EDM, Sparokonix made	Used for machining of hard to cut materials	TEQIP-II	11.00	-
Equipment	Ferrogaph with Image Analysis Software	Research	DST	21.90	2014
Equipment	Temperature Controlled viscometer	Research	DST	14.49	2014

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.) / Software (Version No.) / any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment with software	Piezo electric based force sensor transducer, amplifier data acquisition system & software	To fabricate experimental set up	Mech. Engg. Deptt. Fund	11.97	2013
Equipment	EDM Sparkonix with accessories	To conduct experiment and for research works	TEQIP	9.01	2014
Equipment	Metallurgical Microscope with standard accessories	For experimentation and research work	Mech. Engg. Deptt. Fund	39.93	2012
Equipment	Micro hardness tester	For experimentation and research work	Deptt. (workshop) Fund	5.72	2014
Equipment	Planetary Ball mill	For experimentation and research work	Deptt. (workshop) Fund	13.15	2016
Equipment & Software	4-channel FFT analyzer with accessories and Software Photon+ (B&K)	For acquiring Vibration data and FRF for experimental modal analysis	DST Project	11.00	2015
Equipment & Software	2-channel Hand Held Noise analyzer with accessories and software (B&K 2270)	Noise and vibration analyses	TEQIP -II	15.00	2014
Equipment	Machine fault Simulator	For completing DST project, Simulating different rotating machine faults	DST(SERB)	17.60	2018
Software	Matlab	Teaching and Research	Mech. Engg. Deptt. Fund	14.05	2018
Equipment	Laser vibrometer	Research, remote measurement of vibration	Mech. Engg. Deptt. Fund	13.00	2014
Equipment	High speed camera (1)	High speed photography of drop impact, evaporation, and shedding	DST SERB (GOI)	7.88	2017
Equipment	Thermographic camera	Measurement of surface temperature of drops in impact and evaporation research	DST SERB (GOI)	6.32	2017
Equipment	High speed micro machining setup (Not applicable)	Micro machining of hard metals/ceramics	FRS of IIT ISM Dhanbad	7.00	2018

Department of Mining Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.) / Software (Version No.) / any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Software	ANSYS Academic Research software (includes AutoDyn)	Dynamic modelling of blasting	CIL, S&T	7.0	2017
Equipment	NaI(Tl) gamma spectrometry system and accessories (GR611M)	To measure the different radioactive properties of the rock and soil samples	DST (SERB)	10.43	2018
Equipment	Cavity Scanner	Cavity monitoring	FIST	61560 USD	2014
Equipment	Slim borehole scanner	Cavity monitoring and determination of void volume below ground	FIST	43000 Euro	2013

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Computerized miniature rock drilling setup (Sj Value)	For comprehensive drillability assessment of rocks for Drill/TBM selection	Plan funds	8.5	2017
Equipment	Thermal Property Analyzer (Hot Disk TPS 2500 S)	For determining the thermal conductivity, thermal diffusivity and specific heat capacity of various materials	CSIR, New Delhi	53	2017
Equipment	Gyromat-3000	Orientation and Alignment Survey of Underground Mines and Tunnels	FIST, DST, GoI	150	2014
Software	DATAMINE STUDIO 3	Mine Planning and Design	TEQIP-II	8.11	2014
Equipment	Digital Level DNA	Precise Levelling woks	Institute Fund	10.6	2014
Equipment	Topcon Reflectorless TS, DS-101AC	Surveying and monitoring applications	Institute Fund	9.45	2014
Software	SARScape	Remote Sensing Microwave Datasets processing and interpretation	Institute Fund	8.45	2015
Software	ArcGIS	GIS Modelling	Institute Fund	9.5	2015
Equipment	Leica Total Station TS15I	Surveying and Monitoring applications	TEQIP-III	15.40	2015
Equipment	Leica viva GS16 GNSS	Surveying and Monitoring applications	TEQIP-III	13.40	2017
Equipment	NaI(Tl) gamma spectrometry system and accessories (GR611M)	To measure the different radioactive properties of the rock and soil samples	DST (SERB)	10.43/-	2018
Equipment	Laboratory Wind Tunnel	For studying the aerodynamics of fan blades. It is also used for Practical Classes of B. Tech & M. Tech Mining students	PCRA, New Delhi Project Fund	16.07	2012
Laboratory Set up	Breathing simulator and other accessories	For Practical Classes of B. Tech & M. Tech Mining students and for evaluation of performance of Safety instruments used in Mines	Institute Fund	43.08	2012
Laboratory Set up	Test Setup for Evaluation for CO2 Absorbent System in the Mine Rescue Apparatus.	For Practical Classes of B. Tech & M. Tech Mining students and for evaluation of performance of CO2 Absorbent used Mine Rescue Apparatus.	TEQIP-II Project Fund	8.44	2014

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Laboratory Set up	Microprocessor test jig for sampling and Analysis of different gases measurement in dynamic Breathing Resistance and other Parameter during Practical Performance test and other Rescue Apparatus.	For Practical Classes of B. Tech & M. Tech Mining students. Used for Practical Performance test of Self Rescuers and other Rescue Apparatus used in Mines.	TEQIP-II Project Fund	26.10	2015
Equipment	Thermal Property Analyzer (Hot Disk TPS 2500 S)	For determining the thermal conductivity, thermal diffusivity and specific heat capacity of various materials	CSIR, New Delhi Project Fund	53.00	2017
Laboratory Set up	Gamma Ray Spectrometer Systems and other accessories	To measure the external Gamma radiation in Uranium mines	DST-SERB Project Fund	10.43	2018
Equipment	DPM Personal Monitor	Real time monitoring of DPM exposure	ISM	15.09	2017

Department of Mining Machinery Engineering

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	Supply, Installation, Commissioning of Hydraulic Valves and Accessories for upgrading the existing Hydraulic Test Set-up	Teaching and Research	Deptt. Plan Fund	9.10	2016
Software	Lab view 2014	Teaching & Research	Institute fund	6.4	2014
Software	Automation Studio 6.2	Teaching & Research	TEQIP fund	3.63	2017
Equipment	NI-Crio Controller	Teaching & Research	Institute fund	6.41	2015
Equipment	Desktop for CAE Lab	Teaching & Research	Institute fund	20.9	2015
Equipment	Energy efficient Hydraulic Test set-up	Teaching & Research	DST/SERB	15.0	2018
Equipment	Wind tunnel	Flow induced vibration	DST	6.10	2015
Equipment	Rotary screw compressor	Performance test	Plan fund	6.10	2015
Equipment	VIBRATION ANALYSER	Measure flow induced vibration	DST	6.70	2015
Software	STAD PRO	Structural analysis	Plan fund	15.11	2015
Software	ABAQUES 16.14	Finite element analysis	Plan fund	7.95	2017
Equipment	One variable displacement and two fixed displacement bent axis hydro-motor with amplifier card	Modification of existing test set up for UG/PG and research scholars	Deptt. Fund	9.70	2015
Equipment/Sensor	Torque sensor	Modification of existing test set up for UG/PG and research scholars	Deptt. Fund	10.05	2016
Software	P-SIM Software – 5 (Five) Users	Teaching & Research	TEQIP Fund	9.5	2016
Equipment	Advanced HIL real-time power electronics hardware	Teaching & Research	TEQIP Fund	30.14	2015

Type (Equipment/ Software/ Other)	Name of Equipment (Model No.)/ Software (Version No.)/ any other	Purpose/ Uses / Key Applications	Name of Funding Agency/ Institute Fund / Deptt. Fund/DDF/any other	Cost of Equipment (Rs. In lakhs)	Year of Installation
Equipment	High pressure porosimeter (AMP-60K-A-1), PMI, USA	For Porosity Estimation	FIST	33.55	2017
Lab	Reservoir Characterization Centre	To equip undergraduate and post graduate students with the knowledge and skill of Reservoir Modelling and Simulation	Institute Fund	10.5	2016
Equipment	Core Flooding Setup	To study the organic solid deposition in reservoir conditions	Petroleum Engineering Department Fund	5.24	2016
Equipment	Two phase relative permeameter RPM-100M, PMI, USA	For Permeability Estimation	FIST	26	2016
Equipment	Hydrodynamic experimental set up and Gas Booster	For hydrodynamic analysis of drilling fluids, used by M. Tech and PhD students.	DST	11.70	2015
Equipment	Set Up for Scale Deposition Studies	To study on the scale deposition in Flow Lines	ISM	5.72	2015
Equipment	Proximate Analysis	For determination of ash, volatile, moisture content in the coal and shale, used by M. Tech and PhD students.	TEQIP-II	15.62	2015
Equipment	Mini Frac set up	Fracturing fluids analysis by applying on the core at reservoir conditions, used by M. Tech and PhD students	CSIR	9.34	2014
Equipment	Gas Chromatography	Typical uses of GC include testing the purity of a particular substance, or separating the different components of a mixture. M. Tech, PhD students use this instrument.	MOC, GOI	12.85	2013

8.3 Important Collaborative Work

Department of Applied Chemistry

Organization/ Laboratory	City, Country	Nature of Interaction
Department of Inorganic Chemistry and Chemical Engineering	Netherland	India-Netherland bi-lateral project (Team leader)
Council for Scientific and Industrial Research, Pretoria, South Africa	Pretoria, South Africa	Collaborative research work
SMST, IIT Kharagpur	Kharagpur, India	Collaborative research work, Cell study
Prof. Carlos J. Gómez García Universidad de Valencia, Spain	Valencia, Spain	Research and Development
Dr. T. K. Panda IIT Hyderabad	Hyderabad, India	Research and Development
Pohang Accelerator Laboratory, POSTECH, South Korea	Pohang, South Korea	Collaborative work in the use of synchrotron beam line for small molecule diffraction experiment
JNCASR	Bangalore, India	Collaborative work for data collection
Chonbuk National University, Prof. J. H. Lee	South Korea	Joint research work and publication in the field of Supercapacitor, Joint Research proposal submission under Indo-Korea Scheme (Not Approved).
University of Illinois at Chicago, Prof. V. Berry	USA	Joint INDO-US project under Indo-U.S. Science and Technology Forum (IUSSTF) on development of 2D nanomaterials for Energy Storage (Approved)
University of Texas at Austin, Prof. D.Akinwande	USA	Joint INDO-US project under Indo-U.S. Science and Technology Forum (IUSSTF) on development of 2D nanomaterials for Energy Storage (Approved)
Uppsala University , Dr. N. Jena	Sweden	Joint research work and publication theoretical Chemistry for supercapacitor.
Department of Chemistry, KU Leuven	Leuven, Belgium	Collaborative research work

Department of Applied Geology

Organization/ Laboratory	City, Country	Nature of Interaction
IISC Bangalore	India	Field sampling, technical discussion, publication
IIT-Kharagpur	-do-	Stable Isotope analysis, publication
PRL-Ahmedabad	-do-	Stable Isotope, radiogenic isotopes, geochemical work, publication
Pondicherry University	-do-	-do-

NIO-Goa	-do-	S-isotope analysis, publication
University of Walaongon,	Australia	SHRIMP U-Pb dating (zircon), publication
Colorado State University	USA	Re-Os dating
Central Institute of Mining and Fuel Research, Dhanbad	Dhanbad, India	Adsorption of methane on various geological materials
Northern Carbon Research Laboratories, Newcastle upon Tyne, UK	Newcastle upon Tyne, UK	CO ₂ adsorption on various geological materials
Hokkaido University, Japan	Japan	Kerogen Petrology
University of Queensland, Australia	Australia	Gas analyses
Geological Survey of India(GSI)	Ranchi, India	Collaborative Field season program(FSP) for the year 2018-19 to develop a geological traverse for the International geological Congress(IGC) to be held at New Delhi during Feb-March 2020.
University of South Florida	USA	Collaborative research work, analysis
University College London	London, UK	Interaction on Shale Gas and Hydrocarbons
Dr. S. Nickovic, WMO, Geneva, Switzerland and Belgrade, Serbia And Dr. A. Vukovic, University of Belgrade, Serbia	Geneva, Switzerland and Belgrade, Serbia	Remote sensing and modeling of dust storms. High resolution Dust source mask.
Dr. G. Asrar, Pacific Northwest National Laboratory Richland, WA, USA	Richland, USA	Himalayan Snow and Glacier cover and Impact of climate change.
Prof. M. Kafatos & Dr. H. El-Askary, Chapman University, CA, USA	Orange, USA	Remote sensing characterization of African and Asian dust storms.
Prof. W. Sprigg, Univ. of Arizona and Dr. J. Luvall, NASA/NSSTC Huntsville, AL, USA	Tucson, Arizona and Huntsville, USA	Development of pollen source mask and multi-species pollen phenology using hyperspectral and super-spectral satellite and ground measurements.
Dr. S. Singh, AGL, ISM Dhanbad	Dhanbad, India	Mineral/Gold exploration using hyperspectral satellite observations over Singhbhum region, Jharkhand
Department of Earth Science, Pondicherry University	Puducherry, India	Availed laboratory facilities and held discussions.
Centre for Earth Science, IISc. Bangalore	Bengaluru, India	Availed laboratory facilities and held discussions.
CSIR-National Geophysical Research Institute, Hyderabad	Hyderabad, India	Availed laboratory facilities and held discussions.
National Centre for Earth Science Studies, Thiruvananthapuram	Thiruvananthapuram, India	Availed laboratory facilities and held discussions.
Prof. N. S. Kanouo, Department of Mineral Processing, Faculty of Mine and Petroleum Industries,	University of Maroua, Maroua-Cameroon	Availed laboratory facilities and held discussions.

Organization/ Laboratory	City, Country	Nature of Interaction
CSIR National Geophysical Research Institute	Hyderabad, India	Data Sharing
IIT(ISM) Dhanbad and M/s Schlumberger India for Reservoir Characterization Centre	IIT(ISM) Dhanbad and M/s Schlumberger India	The Reservoir Characterization Centre is jointly running by Department of Applied Geophysics and Department of Petroleum Engineering. M/s Schlumberger has been provided industry based high end advanced modeling software for R&D activity purposes.
Department of Applied Geophysics, IIT(ISM) Dhanbad and NDR, DGH, India	NDR, DGH, India	NDR (National Data Repository), DGH has been provided the restricted and limited Geoscientific dataset to Department of Applied Geophysics for research work.
CSIR National Geophysical Research Institute	Hyderabad, India	Data and Knowledge Sharing
Indian Institute of Geomagnetism (Autonomous DST Laboratory)	New Panvel, India	Data and Knowledge Sharing
Geological Survey of India (GSI)	Bangalore, India	Knowledge Sharing
NRSC, ISRO	Hyderabad , India	Scientific / academic
NHPC Limited	Faridabad	Scientific / academic
Department of Archaeology, University of Calcutta	Kolkata	Scientific / academic
Geological Survey of India	Kolkata	Scientific / academic
WIHG, Dehradun	Dehradun	Joint research collaboration
ISR, Gandhinagar	Gandhinagar	Joint research collaboration
SAC, ISRO,	Ahmedabad	Joint research collaboration
NGRI ,	Hyderabad	Joint research collaboration
Baylor University and University Of Texas at Austin, USA	Waco and Austin, USA	Research Collaboration

Organization/ Laboratory	City, Country	Nature of Interaction
Faculty of Military Science, Stellenbosch University, PrivateBagX2, Saldanha7395, South Africa.	South Africa	Collaborative Scientific Research work
Mechanical Engineering Department, Prince Mohammad Bin Fahd University, Al-Khobar-31952, Kingdom of Saudi Arabia.	Kingdom of Saudi Arabia	Collaborative Scientific Research work
Department of Civil Engineering Marie Sklodowska-Curie Senior Research Fellow, University of Birmingham Edgbaston, Birmingham, B15 2TT, U. K.	U. K	Collaborative Scientific Research work
Department of Mathematics, O. P. Jindal University, Raigarh, Chattishgarh India	India	Collaborative Scientific Research work
Department of Mathematics, Vijayanagara Sri Krishnadevaraya University, Bellary, Karnataka, India	India	Collaborative Scientific Research work
Department of Mathematics, NIT Jamshedpur, Jharkhand India	India	Collaborative Scientific Research work
Department of Mathematics, Faculty of Science, BHU, Varanasi, India	India	Collaborative Scientific Research work
Department of Mathematics, IIT Bhubaneswar, India	India	Collaborative Scientific Research work
School of Management Science and Engineering, Anhui University of Finance and Economics.	Bengbu, China	Scientific Research and Collaboration
Indiana University–Purdue University Indianapolis.	Indianapolis, USA	Scientific Research and Collaboration
Mathematics Department, The University of Georgia, 240A Riverbend Rd, Athens GA 30602, USA.	Athens, USA	Scientific Research and Collaboration
Department of Mathematics, Clarkson University, Potsdam, New York 13699, USA.	New York, USA	Scientific Research and Collaboration
Pacific Source Health Plans, Springfield, Oregon 97477, USA.	Oregon, USA	Scientific Research and Collaboration
Department of Basic Teaching and Research, Yango University, Fuzhou, Fujian 350015, P. R. China.	Fujian, China	Scientific Research and Collaboration
Department of Mathematics SRM University Kattankulathur India.	Kattankulathur India	Scientific Research and Collaboration
Foundation for Scientific Research and Technological Innovation AlakapuriIndia.	Hyderabad, India	Scientific Research and Collaboration
Department of Mathematics, Institute of ScienceBanaras Hindu UniversityVaranasiIndia	Varanasi, India	Scientific Research and Collaboration
Turnin Innovation Technologies (Pvt) Ltd, Hyderabad, India	Hyderabad, India	Scientific Research and Collaboration
Department of Mathematics, National Institute of Technology, Raipur – 492010, India	Raipur, India	Scientific Research and Collaboration

Institute of non-linear analysis and optimization, Peoples Friendship University	Moscow, Russia	Research Collaboration under Indo-Russian Project (Ref. INT/RUS/RUS/RSF/P-01 dated 05/10/2016.
Dr. Pankaj Jain and his team, Department of Mathematics, South Asian University	New Delhi, India	Research Collaboration under Indo-Russian Project (Ref. INT/RUS/RUS/RSF/P-01 dated 05/10/2016
IUCAA	Pune, India	Interaction with Dr. Kanak Saha regarding Exoplanetary System model
UNIVERSIT�A DI ROMA "LA SAPIENZA"	Rome, ITALY	Interaction with M. PONTANI for Applications of Particle Swarm Optimization for Space Trajectory Design
UNIVERSITY OF ILLINOIS URBANA	ILLINOIS URBANA, (USA)	Interaction with B. CONWAY for Applications of Particle Swarm Optimization for Space Trajectory Design
Kent State University	OHIO, USA	Joint Publications
Texas A & M University	Texas, USA	Scientific Research and Development
King Fahd University of Petroleum and Minerals	Saudi Arabia	Co-authorship
Institute of Mathematical Statistics and Applied Mathematics	Romanian	Co-authorship
University of North Texas	USA	Co-authorship
University of Lodz	Poland	Co-authorship
Institute of Computational Mathematics & Mathematical Geophysics, Siberian Branch of the Russian Academy of Sciences	Novosibirsk, Russia	Doing a joint research project under DST-RFBR scheme.
CSIR-Central Institute of Mining and Fuel Research	Dhanbad, India	Modeling and simulation work for underground coal gasification in India as part of CSIR Network Project Coal Gas
Department of Ocean Engineering and Naval Architecture, IIT Kharagpur	Kharagpur, India	Research Collaboration

Department of Applied Physics

Organization/ Laboratory	City, Country	Nature of Interaction
University of The Free State	Bloemfontei, South Africa	Measurements of life time, characterization of luminescent materials.
UGC-DAE Consortium for Scientific Research	Indore, India	Collaborative research work for deposition of thin films by PLD/GI-XRD /XPS studies.
Inter University Accelerator Center	New Delhi, India	Collaborative research work for Swift Heavy Ion Beam/ γ -Irradiations and Thermoluminescence studies of materials.
Prof. Rene Messina Laboratoire de Physique et Chimie Th�oriques University Of Lorraine, France	Metz, France	Collaborative research work on colloidal sedimentation
Dr. H. H. Wensink CNRS, University of Paris Sud, Orsay, France	Orsay, France	Collaborative research on nematic colloids

Prof. H. Lowen, Institute of Theoretical Physics: Soft Matter, University of Duesseldorf, Germany	Duesseldorf, Germany	Collaborative research work on confined soft matter
Faculty of Science, Malaya University,	Malaysia	Research work on Pseudo Capacitors (EDCDs)
Physics & Material Chemistry Division, NCL	Pune	Research work on Electrochemical (ECs) Devices
Bhabha Atomic Research Center Trombay	Mumbai	Research work on Polymeric Supercapacitor (EC)
National Physical Laboratory (NPL),	New Delhi	Research work on Polymeric Energy Storage Sys.
Indian Institute of Technology (IIT-BHU)	Varanasi	Research work on Electrochemical (ECs) Devices
Madan Mohan Malviya Institute of Technology,	Gorakhpur	Research work on Polymer Composite Capacitors
University of Free State, South Africa	Bloemfontein, South Africa	Collaborative research work
Institute of Physics, Bhubaneswar	Bhubaneswar, India	Collaborative Research Work and Characterization
Indian Institute of Technology Bhubaneswar	Bhubaneswar, India	Collaborative Research Work and Characterization
Tata Institute of Fundamental Research (TIFR), Mumbai	Mumbai, India	Collaborative Research Work and Characterization
Indian Institute of Technology Patna	Patna (India)	Collaborative Research Work and Characterization
Indian Institute of Technology Kanpur,	Kanpur, India	Collaborative Research Work and Characterization
Indian Institute of Technology (Banaras Hindu University)	Varanasi, India	Collaborative Research Work and Characterization
Indira Gandhi Centre for Atomic Research (IGCAR)	Kalpakkam, India	Collaborative Research Work and Characterization
Indian Institute of Science (IISc) Bangalore	Bangalore, India	Collaborative Research Work and Characterization
Pondicherry University	Tamil Nadu, India	Collaborative Research Work and Characterization
National Institute of Technology (NIT) Rourkela,	Rourkela, India	Collaborative Research Work and Characterization
Dr. Sayantani Bhattacharyya, NISER, Bhubaneswar	Bhubaneswar, India	Collaborative research on Large D black hole dynamics
Saha Institute of Nuclear Physics (SINP), Chemical Science Division	Kolkata, India	Research collaboration
Indian Institute of Chemical Biology (IICB)	Kolkata, India	Research collaboration

Banaras Hindu University (BHU)	Banaras, India	Research collaboration
Patliputra Medical College and Hospital	Dhanbad, India	Research collaboration
Vienna University of Technology	Vienna, Austria	Research collaboration
McGill University	Montreal, Canada	Research collaboration

Department of Chemical Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
Fuel and Energy Technology Institute, Curtin University	Perth WA6845, Australia	Joined Doctoral Programme

Department of Civil Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
Department of Civil, Environmental, and Construction Engineering, Texas Tech University, Lubbock, Texas	Lubbock, Texas, USA	Collaborative research
IIT Kharagpur	Kharagpur, India	Ph. D Research Work

Department of Computer Science & Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
Jadavpur University	Kolkata, India	Worked in FPGA Xilinx kit, Raspberry Pi Software.

Department of Electrical Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
City University	London, UK	Research Interaction

Organization/ Laboratory	City, Country	Nature of Interaction
City, University of London	London, UK	Research in Silicon Photonics with Prof B.M.A. Rahman; Exchange of PhD students.
Centre for Applied Research in Electronics (CARE), IIT Delhi	New Delhi, India	Joint research through M. Tech internship with Prof. Arun Kumar in the area of speech enhancement and speech recognition.
Centre of Excellence in Green Energy and Sensor System, IEST, Shibpur, Howrah, W.B.	Howrah, W.B., India	Collaborative research work with student exchange with Prof. Hiranmoy Saha in renewable energy
EE department of IIT Kanpur	Kanpur, India	Theoretical Research in the area of MIMO with filter-bank multicarrier communication
SCL Mohali, Chandigarh	Chandigarh	180 nm SCL Technology file share
North Carolina State University	Raleigh, NC, USA	Research collaboration in the area of LED and
Wipro Limited	Bangalore, India	Joint research through UG student internship on SDN controller Apps and Security exploit design in SDN/NFV infrastructure, as a core enabler for 5G architecture.

Department of Environmental Science & Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
Prof. Dr.Min Jang Department of Environmental Engineering at Kwangwoon University	Seoul, Korea	Sharing research and Joint Publication
Prof. Alexei Emeline “Photoactive nanocomposite materials” Laboratory, Saint-Petersburg State University	RUSSIA	BRCIS MULTILATERAL PROJECT 2017
Prof. Yingxuan LI, School of Environmental Science and Engineering, Shaanxi University of Science & Technology	CHINA	BRCIS MULTILATERAL PROJECT 2017
Prof. Antonio Otavio de Toledo Patrocinio, Associate Professor Federal University of Uberlandia, Institute of Chemistry	BRAZIL	BRCIS MULTILATERAL PROJECT 2017
Prof. Ochieng Aoyi, Head, Centre for Renewable Energy and Water, Vaal University of Technology.	SOUTH AFRICA	BRCIS MULTILATERAL PROJECT 2017
Prof R.Dewil, Katholieke Universiteit Leuven (KU Leuven) and Team	Belgium	EU-India Call on Water Initiative 2018 (h2020)
Prof. Adriana.Z, University of Gdansk	Gdansk, Pol and	EU-India Call on Water Initiative 2018 (h2020)
Prof. Delftef Bahnemann, Professor für Technische Chemie, Leibniz Universität	Hannover GERMANY	EU-India Call on Water Initiative 2018 (h2020)
Prof. Edit Vilnius Gediminas Technical University	Lithuania	EU-India Call on Water Initiative 2018 (h2020)
Prof. Chiranjib. B, Dean Jadavpur University,	Kolkatta, India	EU-India Call on Water Initiative 2018 (h2020)

Organization/ Laboratory	City, Country	Nature of Interaction
Prof. C.S Gopinath, Principal Scientist, CSIR-NCL	Pune	EU-India Call on Water Initiative 2018 (h2020)
Dr. P. Gopinath, Centre of Nanotechnology, IITR	Roorkee	EU-India Call on Water Initiative 2018 (h2020)
Dr. Susmita Dutta, Department of Chemical Engineering, NITD	Durgapur	EU-India Call on Water Initiative 2018 (h2020)
Dr. K.N Pandiarajan, Department of Physics, Sri Shakthi Institute of Engineering and Technology	Coimbatore	EU-India Call on Water Initiative 2018 (h2020)
PROF. DR. RAMESH T. SUBRAMANIAM, Department of Physics, University of Malaya	Malaysia	Research Collaboration
Prof. Tsai, Department of Applied Science, National Taiwan University of Science and Technology	Taipei, Taiwan	Research Collaboration and Student Exchange
IIT (ISM)	Dhanbad, India	Industry Interaction Meet
Dr. Mingna Want, Senior Engineer, China Institute of Water Resource and Hydro Power Research	China	BRICS (2018)
Dr. Marius Claassen, Principle Research, CSIR, South Africa	South Africa	BRICS (2018)

Department of Fuel & Mineral Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
Curtin University, Australia, Perth	Perth, Australia	Collaborative research on coal beneficiation, gasification & utilization and awarding joint PhD.
New Castle Institute for Energy Resources (NIER)	New Castle, Austria	Application of new technologies for fine coal beneficiation.
IIT Guwahati. Jadavpur University, Kolkata. University of Porto (FEUP), Portugal Technische Universität München (TUM), Germany. IIT (ISM) Dhanbad	Guwahati, India Kolkata, India Munich, Germany Porto, Portugal	An international collaborative R&D Project HyWater - Treatment of contaminated drinking water using a hybrid low-cost process Supported by INNO-INDIGO through European Union and Department of BioTechnology, GOI.
TATA STEEL	Jamshedpur, India	PhD and Internship of BTech, MTech and Dual Degree students
CSIR-IMMT	Bhubaneswar, India	PhD and Internship of BTech, MTech and Dual Degree students
CSIR-NML	Jamshedpur, India	PhD and Internship of BTech, MTech and Dual Degree students
CSIR-CIMFR	Dhanbad, India	PhD and Internship of BTech, MTech and Dual Degree students

Department of Management System

Organization/ Laboratory	City, Country	Nature of Interaction
1. Mazoon College University, Oman	Muscat, Oman.	Academic collaboration related to organizing certificate courses, executive training programmes along with student and faculty exchange.
2. Gulf University, Bahrain	Bahrain	Academic collaboration related to organizing certificate courses, executive training programmes along with student and faculty exchange.

Organization/ Laboratory	City, Country	Nature of Interaction
Institute of Geonics	Ostrava, Czech Republic	Disintegration and surface treatment of Materials with high pressure waterjet
AALTO University	Helsinki, Finland	Friction Stir Welding
University of Maribor	Maribor, Slovenia	Analysis of residual stresses in Friction Stir Welded products
University of Osijek	Slavonski Brod, Croatia	Waterjet Peening based surface treatment
Opole University, Poland	Opole, Poland	Reliability analysis of Machineries, Wear of Rock cutting tools
Curtin University	Perth, Australia	Nanocoating applications
Technical University of Kosice	Presov, Slovakia	High Pressure Waterjet based disintegration, Wear of Rock Cutting Tools

Department of Mining Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
Safety in Mines, Testing and Research Station (Simtars), Department of Natural Resources, Mines and Energy, Queensland, Australia	Brisbane, Australia	Development of Virtual Reality Mine Simulator (VRMS) for improving Safety and Productivity in Indian Coal Mines
CSIR-CIMFR, IIT(ISM), CMPDI -Ranchi, SECL, BCCL and SCCL	India	On-going joint Coal S&T project funded by Ministry of Coal, Design and Stability of Pillars/Arrays of Pillars for Different Mining Methods in Coal Mine Workings
Safety in Mines, Testing and Research Station (Simtars), Department of Natural Resources, Mines and Energy, Queensland, Australia	Brisbane, Australia	Developing Spontaneous combustion and explosion study laboratory in collaboration with SIMTARS, Department of Natural Resources, Mines and Energy, Queensland, Australia
National Centre for Combustion Research and Development (NCCRD), IIT Madras	India	Collaborative research on investigation into the effects of intrinsic properties of Indian coals on spontaneous combustion process and coal mine fires.
Indian Institute of Remote Sensing (IIRS), ISRO	Dehradun, IN	Collaborative R&D project on Thermal Anomaly Detection and Monitoring of Coal Fire in Gondwana Coalfields

Center of Excellence of Renewable Energy

Organization/ Laboratory	City, Country	Nature of Interaction
Centre of Excellence in Green Energy and Sensor System, IEST, Shibpur, Howrah, W.B.	Howrah, W.B., India	Collaborative research work with student exchange without any financial obligation from either side except accommodation.

Department of Mining Machinery Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
University of the Witwatersrand	Johannesburg, South Africa	Collaborative PhD work of research scholar under Dr Tanmoy Maity with Prof. Ivan W. Hofsjager, professor, UoW.
Heavy Engineering Corporation (HEC), Ranchi	Ranchi, India	Vetting of a 5CuM capacity Hydraulic Excavator developed by HEC, Ranchi [Structural analysis of the excavator boom, bucket and arm has been carried out]

Department of Petroleum Engineering

Organization/ Laboratory	City, Country	Nature of Interaction
Institute of Reservoir Studies, ONGC, Ahmadabad	Ahmadabad, India	“Development of polymer nano-composite hydrogel systems for water control in oil/gas wells completed in harsh environment”
Oil India Ltd.	Duliajan, Assam, India	Collaborative Research with R & D Department of Oil India Ltd.
Institute of Reservoir Studies, ONGC	Ahmadabad, India	Collaborative Research exchange Program with ONGC for one year
Department of Petroleum Engineering, Institute of Curtin University of Technology	Perth, Australia	Collaborative research works with under the Australia-India Joint Research Program, 2016.
Department of Petroleum Engineering signed MOU with Telesto Energy Singapore	Singapore	For joint collaborative work in the area of Big Data Analytics, April 10, 2017
Collaboration with Verkishf (Iceland) for joint collaborative research in the area of Geothermal Energy Development	Iceland	Jointly submitted a “Proposal for conducting reconnaissance study and submission of reconnaissance report of geothermal sites in Jharkhand state for the development of geothermal renewable energy” to Jharkhand Renewable Energy Development Agency (JREDA). Project PI – Rajeev Upadhyay
MOU between IIT(ISM), Dhanbad and Perm National Research Polytechnic University, Perm, Russia (started on Dec 30, 2016) Coordinator IIT (ISM) – Dr. Vikas Mahto, Associate Professor Coordinator Russia- Dr. Mikhail Turbakov, Associate Professor	Russia	Joint Research activities and publications, Exchange of Faculties and Students, Exploring possibility of Joint academic programs

Names of the Seminars, Conferences, Training Programmes and Workshops	Dates
Conference on Recent Advances on materials for sustainable Energy-2018 (RAMSE-2018), Department of Applied Chemistry.	February 03, 2018 - February 05, 2018
Training Programme on Application for Numerical Simulation for Slope stability Risk Mitigation and Management, Department of Applied Geology.	February 15, 2018 – February 18, 2018
Conference on Emerging Trends in Geophysical Research for Make-in-India (ETGRMI), Department of Applied Geophysics.	March 09, 2018 – March 11, 2018
Short Term Training Programme on Nonlinear Analysis and Its Application to Optimization Techniques (NAAOT), Department of Applied Mathematics.	August 18, 2017 – August 22, 2017
Short Term Training Programme on Nonlinear Analysis and Optimization (NAO), Department of Applied Mathematics.	December 01, 2017 – December 05, 2017
National Conference on Advances in Spectroscopic Techniques and Materials (ASTM-2018), Department of Applied Physics.	March 14, 2018 – March 16, 2018
Workshop on “Advances in Solid Fuel Processing and Conversion Technologies”, Department of Chemical Engineering.	January 29, 2018 – January 30, 2018
Workshop on Introductory Program on Discrete Element Method, Department of Civil Engineering.	October 27, 2017 – October 29, 2017
International Conference on Recent Advances in Information Technology, Department of Computer Science and Engineering.	March 15, 2018 – March 17, 2018
Workshop, Department of Computer Science and Engineering.	September 06, 2017
3 rd Workshop on Recent Trends in Photonics Technology, Department of Electronics Engineering .	October 07, 2017- October 11, 2017
Seminar: OSA travelling Lecturer by Prof. Chennupati Jagadish (Australian National University, Canberra, Australia), Department of Electronics Engineering.	November 02, 2017 – November 03, 2017
3rd International Conference on Microwave and Photonics, Department of Electronics Engineering.	February 09, 2018- February 11, 2018
National Seminar on “Sustainable Growth of Mineral Sector”, Department of Environmental Science and Engineering.	December 22, 2017 – December 23, 2017
Quadrageal Lecture, Department of Management Studies	January 31, 2018
Two Days Workshop on Explosion Protection for Electrical Equipment in Mines and other Hazardous Areas, Department of Mining Machinery Engineering.	January 30, 2018 - January 31, 2018
Conference: MENTCA 2018, Department of Mining Machinery Engineering.	February 09, 2018- February 10, 2018
Workshop on Explosion Protection for Electrical Equipment in Mines and other Hazardous Areas, Department of Mining Machinery Engineering.	January 30, 2018 - January 31, 2018
Conference on Petroleum Engineering Diamond Jubilee Programme (PEDJP - 2017), Department of Petroleum Engineering	January 12, 2017 - January 14, 2017

8.5 Deputation of Faculty Members Abroad

Department of Applied Chemistry:

- Dr. Sagar Pal carried out collaborative research work which has recently been communicated to a reputed International journal during June 04, 2017 to June 15, 2017 as Visiting Professor at Pretoria, South Africa
- Dr. S. K. Padhi visited Hokkaido and Kyoto for delivering Invited Lecture in 67th JSCC and for performing collaborative work during September 13, 2017 to September 22, 2017.
- Dr. Chanchal Halder carried out a short collaborative research work during May 19, 2017 to July 15, 2017 at Stellenbosch, South Africa. He visited Stellenbosch, South Africa again during May 17, 2018 to July 14, 2018 in order to perform Short collaborative research work.

Department of Applied Geology:

- Dr. Sukanta Dey visited Wuhan, China for performing collaborative research work during May 16, 2017 to July 14, 2017.
- Prof. B C Sarkar participated in 18th Annual Conference IAMG 2017 which was held at Perth, Australia during September 01, 2017 to September 07, 2017.

Department of Applied Geophysics:

- Prof. Rima Chatterjee visited Indonesia during February 26, 2018 to March 12, 2018 to deliver Honorary Lecture organized by SEG, USA.
- Prof. P.K. Khan presented a Technical Paper in EGU General Assembly held at Austria Center, Vienna, Bruno-Kreisky-Platz 1 1220 Vienna during April 07, 2018 to April 14, 2018.
- Dr. Mohit Agrawal visited Waco, Texas, USA during May 18, 2018 to July 18, 2018 in order to work on the following topics:
 - i. H-K stacking of receiver function for the earthquake data Dominican Republic.
 - ii. CCP stacking of Sp receiver functions for earthquake data from TA array and SESAME seismic stations installed in the area of south eastern United States (mostly Georgia and Florida).
 - iii. Verifying synthetically the newly developed technique for migration of receiver functions.

Department of Applied Mathematics:

- Dr. Badam Singh Kushvah visited Italy during August 28, 2017 to September 09, 2017 to participate in Summer School on Satellite Dynamics and Space Missions: Theory and Applications of Celestial Mechanics (SDSM2017) and The Seventh International Meeting on Celestial Mechanics (CELMC VII) San Martino al Cimino (VT), Italy in order to learn different methods for optimum space trajectory design.
- Dr. A. Jayswal participated in a conference held at Hajduszoboszlo and Hungary during August 27, 2017 to September 02, 2017.
- Dr. S. Kundu visited Providence, USA during September 03, 2017 to December 05, 2017 in order to attend a semester program at ICERM, Brown University with the aim of learning some methods in theoretical seismology which was fulfilled. He also visited Novosibirsk, Russia during March 03, 2018 to March 17, 2018 for discussing about present work and formulating future plan.

Department of Applied Physics:

- Dr. R.B. Choudhary participated in International Conference: AFM-2017: Update in Research Commun organized at UCLA, Los Angeles, USA during August 06, 2017 to August 09, 2017.

Department of Civil Engineering:

- Dr. Sukanta Chakraborty attended ICCS'20 held at Paris, France during September 03, 2017 to September 08, 2017 for an Oral Presentation.
- Dr. Tanish Dey participated in a conference entitled "20th International Conference on Composite Structures (ICCS20)" organized at Paris, France during September 03, 2017 to September 08, 2017.
- Dr. Sarat Kumar Panda visited Paris, France during September 03, 2017 to September 08, 2017 for participating in a conference entitled "20th International Conference on Composite Structures (ICCS20)".

Department of Electrical Engineering:

- Dr. Sukanta Das attended IEEE International conference of Industrial Informatics Society "INDIN 2017" held at Emden, Germany during July 21, 2017 to July 28, 2017.
- Dr Sanjoy Mandal presented a research article in an international conference held at Frankfurt, Germany during May 12, 2018 to May 17, 2018.

Department of Electronics Engineering:

- Dr. Sushrut Das attended Joint ICEAA APWS Conference held at Verona, Italy during September 09, 2017 to September 16, 2017.
- Dr. Subindu Kumar was invited to deliver a talk at 15th International Conference on Advanced Materials (IUMRS-ICAM 2017) held at Kyoto, Japan during August 27, 2017 to September 01, 2017.
- Dr. Santanu Dwari attended Joint ICEAA APWS Conference held at Verona, Italy during September 09, 2017 to September 16, 2017.
- Dr. Ravi Kumar attended an International conference CAMA 2017 held at Tsukuba, Japan during December 04, 2017 to December 06, 2017.

Department of Environmental Science and Engineering:

- Dr. Vipin Kumar visited Dubai, UAE in order to participate and deliver lecture in World Congress & Expo on Biotechnology and Bioengineering during April 27, 2017 to April 29, 2017.
- Prof. Gurdeep Singh visited Lulea, Sweden during August 29, 2017 to September 02, 2017 for delivering a Plenary lecture, chairing a Technical Session and delivering a lecture at KTH Royal Institute of Technology Stockholm with the intention of broadening the network which may pave the way for future collaborations. He was also invited to participate in the International Collaboration under Indo-EU Horizon-2020 Program.
- Prof S K Maiti visited Xi'an, China during October 20, 2017 to October 23, 2017 where he delivered a lecture on "Ecological restoration of coal mine degraded lands in India" as a key note speaker. In between this time he visited University of Geosciences (Beijing) on October 18, 2017 where he interacted with students and faculty members.
- Dr. Alok Sinha visited Dubai, UAE to participate and deliver lecture in 13th International Conference on Chemical, Agricultural, Biological, Health Care & Environmental Sciences (CABHES-18) during January 30, 2018 to February 03, 2018.

Department of Fuel and Mineral Engineering:

- Dr. Barun Kumar Nandi participated in INNO-INDIGO sponsored project meeting held at TUM Munich, Germany during May 09, 2017 to May 13, 2017. He also participated in INNO-INDIGO sponsored project meeting held at FEUP, Porto, Portugal during October 15, 2017 to October 19, 2017.
- Dr. Shalini Gautam visited London, UK during October 12, 2017 to October 13, 2017 to participate in 2nd Global Summit and Expo on “Biomass and Bioenergy”.
- Dr. Shatrughan Soren participated in 2nd Global Summit and Expo on “Biomass and Bioenergy” held at London, UK during October 12, 2017 to October 13, 2017.

Department of Management Studies:

- Dr Pramod Pathak visited Frieberg, Germany during November 25, 2017 to December 02, 2017 for presenting a paper in an International Conference.
- Dr Saumya Singh attend an International Conference held at Frieberg, Germany during November 25, 2017 to December 02, 2017.

Department of Mechanical Engineering:

- Dr. Ashis Mallick visited Singapore during January 02, 2017 to January 15, 2017 for performing collaborative research work and also to supervise the work of his own doctoral student deputed there. He also carried out collaborative research work as a visiting researcher in Lille, France during June 02, 2017 to June 30, 2017.
- Dr N K Singh presented a research paper on “Metal matrix nano composites using grapheme nano platelets indented on copper particle in aluminum matrix” in Advanced Material World Congress (AMWC)-2018 organized by International Association of Advanced Materials & VBRI Press Sweden during 4-8 February 2018 in the Conference Centre, Mariner of the Seas, Singapore. He also co-chaired a session on “Computational Composite & Ceramic Materials “with Prof. Jiuzhou Zhao (China) as a Chairman and the aforementioned paper has been published in Advanced Materials Letters Vol 9(9) pp 652-655.(Scopus)

Department of Mining Machinery Engineering:

- Dr. Tanmoy Maity presented a paper in 26th IEEE International Symposium on Industrial Electronics, ISIE2017 held at Edinburgh, UK during June 19, 2017 to June 21, 2017.
- Dr. Niranjana Kumar presented a paper at IFK 2018 organized at Aachen, Germany during March 17, 2018 to March 26, 2018.
- Dr. Jayanta Das presented a paper at IFK 2018 organized at Aachen, Germany during March 17, 2018 to March 26, 2018.
- Mr. Ajit Kumar visited RWTH Aachen University, Aachen, Germany during March 19, 2018 to March 21, 2018 where he presented research paper entitled ‘Performance Investigation of a Hydro-pneumatic type Accumulator used in a Hydrostatic Drive System of Off-Hydrostatic Drive System of Off-road Vehicles’ which was published in the proceedings of 11th International Fluid Power Conference (IFK 2018).

8.6 Field Visits, Excursions and Training:

Department of Applied Geology

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Sedimentary terrain mapping	II Sem M.Sc.Tech, AGL and VI(Int) AGL	38	Kuju, Hazaribagh	15.12.17	25.12.17	2017
Sedimentary Mapping Training	I M. Sc. Tech (AGL)	40	Dudhinala, Ara-Dumerbera area, Kuju	15.12.17	25.12.17	2017
Geological Field Excursion	IV Int. M. Tech.(AGL)	10	Bhuli-Bansjora Area, Jharia coal field	16.12.17	25.12.17	2017
Local Geological Field Excursion	1st M.Sc. Tech (Applied Geophysics)	40	Bhuli, Bansjora, Jharia	16.12.17	25.12.17	2017
Geological mapping in deformed metamorphic terrain.	IV M.Sc. Tech (AGL) and VIII Integrated M.Sc. Tech. (AGL) students.	40	Ghatshila, Galudih, Chaibasa, Tatanagar and adjoining areas, Singhbhum district, Jharkhand	16.12.17	25.12.17	2017
‘Sedimentary Mapping Training’	II M.Sc. Tech (AGL) and VI Integrated M. Tech. (AGL) students	37	Raniganj basin, West Bengal	16.12.17	25.12.17	2017
Geological Mapping Training (in deformed metamorphic terrain, Group B)	IVth M.Sc.Tech. (AGL) + VIIIth integrated M.Sc.Tech (AGL)	~37	Around Jamshedpur (Kadamdih, Kukradih, Turamdih UCIL Mines, Bandhuhurang UCIL Mines)	18.12.17	28.12.17	2017

Department of Applied Geophysics

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Organized winter geophysical field training where students received hands on experience of various geophysical techniques.	2019 (Both for 4 th sem. M.Sc. Tech and 8 th Sem. M.Tech.)	47	Simultala, Bihar	Dec. 16	Dec. 28	2017
Field training and Hands on experience on radiometric instruments and procedure	4 th semester Integrated M.Tech Applied Geophysics	09	UCIL, Narwapahar	26/03/2018	30/03/2018	2018

Department of Applied Mathematics

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Excursion	2014-2019 Batch	40	CIMFR			

Department of Chemical Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Visit Tata Steel Jamadoba Coal Washery by B.Tech II and III year students	B.Tech 2014-2018 B.Tech 2015-2019	25 30	Jamadoba, Dhanbad	30 th October	30 th October	2017

Department of Electronics Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
One day Industrial Visit to Bokaro Steel Plant	3 rd Year B. Tech Electronics and Instrumentation Engineering	22	Bokaro	10 th Oct 2017	10 th Oct 2017	2017

Department of Electrical Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Visit to Chittaranjan Locomotive Works (CLW), Chittaranjan, West Bengal	VII-thSemestar, B. Tech (EE)	53	Chittaranjan Locomotive Works, Chittaranjan (CLW), West Bengal	24.10.2017	24.10.2017	4 th
Visit to Chittaranjan Locomotive Works (CLW), Chittaranjan, West Bengal	VII-thSemestar, B. Tech (EE)	52	Chittaranjan Locomotive Works (CLW), Chittaranjan, West Bengal	25.10.2017	25.10.2017	4 th
Visit to Damodar Valley Corporation (DVC), MaithonHydel, Maithon	V-thSemestar, B. Tech (EE)	52	Damodar Valley Corporation (DVC), MaithonHydel, Maithon	11.10.2017	11.10.2017	3 rd
Visit to Damodar Valley Corporation (DVC), MaithonHydel, Maithon	V-thSemestar, B. Tech (EE)	53	Damodar Valley Corporation (DVC), MaithonHydel, Maithon	12.10.2017	12.10.2017	3 rd

Department of Environmental Science & Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Underground coal mine visit	B. Tech Environmental Engineering (2015-2019), 4 th Semester	24	Jamadoba, TATA Steel, Dhanbad	29.04.2017	29.04.2017	2017
Visit of power plant (M/s MPL, Dhanbad)	M. Tech (Environmental Engineering), Ist Sem	48	MPL Dhanbad	04.11.2017	04.11.2017	2017

Department of Fuel & Mineral Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Plant Visit	M.Tech Mineral Engineering and M Tech Fuel Engineering 1 st Semester and JRF Mineral Engineering and Fuel Engineering	35	Auroma Coke Limited, Dhanbad	9.9.2017	9.9.2017	2017
Plant Visit	II MTech (MLE+FLE) & New JRF	30+5=35	Moonidih Coal Washery	24.2.2018	24.2.2018	2018
Plant Visit	IV BTech (MLE)+DD & VI BTech MLE +DD	29+27=56	Dahiberi Coal Washery	24.2.2018	24.2.2018	2018
Plant Visit	VI BTech MLE +DD	27	CPP Chasnalla	10.3.2018	10.3.2018	2018
Plant Visit	VIII BTech MLE +DD	32	Auroma Coke Limited, Dhanbad, Brahma Refractories	10.3.2018	10.3.2018	2018
Plant Visit	VI BTech MLE +DD & VIII BTech MLE +DD	27+32=59	Dahiberi Coal Washery	10.3.2018	10.3.2018	2018
Plant Visit	M.Tech Fuel Engineering 2 nd Semester and JRF Fuel Engg	18	Santalidhi Thermal Power Station, Purulia, West Bengal	15.03.2018	15.03.2018	2018
Plant Visit	M.Tech Mineral Engineering 2 nd Semester and JRF Mineral Engineering	19	Santalidhi Thermal Power Station, Purulia, West Bengal	16.03.2018	16.03.2018	2018
Plant Visit	IV BTech MLE +DD	29	McNally Bharat Kumardhubi and Kulti Pellet Plant	17.3.2018	17.3.2018	2018
Plant Visit	II MTech MLE+FLE	30	Thermal Power Plant, Bhojudih	17.3.2018	17.3.2018	2018
Plant Visit	II MTech MLE+FLE & New JRF	30+5=35	Moonidih Coal Washery	24.3.2018	24.3.2018	2018
Plant Visit	3rd year	30 Students	BCCL, Moonidih, Dhanbad	9:00am 02.09.2017	3:00 pm 02.09.2017	2017

Department of Mining Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Local excursion	VI Semester- B.Tech (ME), B.Tech & M.Tech (ME),	41	Nudkhurki (Block-II) OCP, BCCL	08.30 AM	3:30PM	2017
Local excursion	III Sem., B.Tech (ME), B.Tech. & M.Tech. (ME)	30	Salanpur Mine, Katras Area, BCCL	9:00AM	3:30PM	2017
Local excursion	VII Semester B.Tech (ME), B.Tech. & M.Tech.(ME), B.Tech. (ME) & MBA	44	Rescue Station, Dhansar, BCCL	10:00AM	2:30PM	2017
Annual Mine Surveying Camp	V B.Tech (Mining & Dual Degree)	72	IIT (ISM)	16.12.17	31.12.17	2017
Local excursion (Monsoon Semester)	III Sem., B.Tech (ME), B.Tech. & M.Tech. (ME) Group A, B & C	78	Salanpur Mine, Katras Area, BCCL CIMFR (Explosive & Blasting Division)	26/08/17 (A)	26/08/17	2017
				02/09/17 (B)	02/09/17	
				19/08/17 (C)	19/08/17	
				18/08/17 (A)	18/08/17	
				21/08/17C(B)	21/08/17	
				22/08/17 (C)	22/08/17	

Department of Mining Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
Singhbhum excursion	IV B. TECH AND Dual degree	78	Metal Mining (Singhbhum) Excursions	18.12.2017	24.12.2017	2017
Local excursion (Monsoon Semester)	V Semester- B.Tech (ME) + Dual Group A, B, C,	83	Jhanjhra longwall Mining, ECL	18/08/17 (A) 19/08/17(B) 21/08/17(C)	18/08/17 19/08/17 21/08/17	
			Putki Balihari Project, BCCL	26/08/17 (A) 02/09/17 (B) 09/09/17 (C)	26/08/17 02/09/17 09/09/17	
Local excursion (Winter Semester)	VI Semester- B.Tech (ME), B.Tech & M.Tech (ME), Group, A, B & C	81	Nudkhurki (Block-II) OCP, BCCL	02/12/17 (A) 16/12/17 (B)	02/12/17 16/12/17	2017
Local excursion (Monsoon Semester)	VII Semester B.Tech (ME), B.Tech. & M.Tech.(ME), B.Tech. (ME) & MBA	103	Rescue Station, Dhansar, BCCL	26/08/17(A) 02/09/17 (B) 09/09/17 (C)	26/08/17 02/09/17 09/09/17	2017
Local excursion (Winter Semester)	VIII Semester- B.Tech (ME), B.Tech. & M.Tech.(ME), B.Tech (ME) & MBA	103	Kankani Open Cast Mine Fire Area, BCCL Bhelatand Coal Washery,	02.12.17(A) 09.12.17 (B) 09.12.2017(A) 02.12.2017 (B)	02.12.17(A) 09.12.17 (B) 09.12.2017(A) 02.12.2017 (B)	2017

Department of Mining Machinery Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
One-day field visit to Block II OCP, BCCL to study the operation of mining equipment	B. TECH (III Year), MME	25	Block II OCP, BCCL	26.10.2017	26.10.2017	2017
One-day field visit to Jamadobha Pit – I underground mine, Jharia Division, TATA STEEL, for data collection and analysis of LHD operation	JRF	01	Jamadobha Pit – I underground mine, Jharia Division, TATA STEEL	11.07.2018	11.07.2018	2018
Field Visit	M.Tech (MME &MEE)	40	Moonidih Underground Mines, BCCL	17.3.18	17.3.18	2018
Field visit for M. Tech first semester students of MME and Mine Electrical	2017 ADMITTED BATCH	48	Moonidih Underground Mines	21-10-17	21-10-17	2017
Field visit for M. Tech Second semester students of MME and Mine Electrical	2017 ADMITTED BATCH	48	BLOCK-II OPEN CAST PROJECT	24-03-18	24-03-18	2018
Visited to SIJUA COLLIERY, TATASTEEL for studying the hydraulic circuit of Man riding System and its research scope.	Research Scholar (Mohit Bhola, Admn No.- 2016 DR 0072)	01	SIJUA COLLIERY, TATASTEEL	14.06.18		2018
Visited to JAMADOBA COLLIERY, TATASTEEL for studying the hydraulic circuit of steering system of LHD machine and its load cycle.	Research Scholar (Sreeharsha Rowduru, Admn No.- 2016 DR 000146)	01	JAMADOBA COLLIERY, TATASTEEL	12.07.18		2018
Field Visit to Moonidih Underground Mines with M.Tech (MME) and M.Tech (MEE) 1 st year students	2017-19	40	Moonidih	17.03.2018	17.03.2018	2018
Field Visit to Kusunda Opencast Mines with B.Tech (MME) 3 rd year students	2015-19	31	Kusunda	26.10.2017	26.10.2017	2017
Taken the M. Tech Second semester students of MME and ME specialization for a field visit	2017-19 Batch	48	Block-II Open cast mines	24-03-18		2018
Field visit to Bastakolla underground mine with B. Tech 3 rd year students	B. Tech (III Year), MME	25	Bastakolla underground mine	04.11.2017	04.11.2017	2017
Field visit to Kusunda OCP mine with B. Tech 3 rd year students	B. Tech (II Year), MME	32	Kusunda OCP mine	17.03.2018	17.03.2018	2018
Supervision of students of B.Tech 2 nd year and M. Tech 1 st year in Huti Gold Mine, Karnataka for industrial training	B. Tech (II Year) & M. Tech (I Year)	5	Huti Gold Mine, Karnataka	18.12.2017	22.12.2017	2017

Department of Petroleum Engineering

Particulars	Batch	No. of Students	Place(s)	Duration (Date)		Year
				From	To	
One year training in IRS, ONGC by Dr. Keka Ojha as a part of Industry Institute Interaction	Faculty	NA	IRS, ONGC, Ahmedabad	18.5.2017	18.5.2018	2017-18
One year training in IRS, ONGC by Dr. Ajay Mandal as a part of Industry Institute Interaction	Faculty	NA	IRS, ONGC, Ahmedabad	18.5.2017	18.5.2018	2017-18
One year training in IRS, ONGC by Dr. Vikas Mahto as a part of Industry Institute Interaction	Faculty	NA	IOGPT, Mumbai	27/06/2017	26/06/2018	2017-18
2 weeks training at ONGC Mehsana Asset by Dr. Tarun Kumar Naiya	Faculty	NA	ONGC, Mehsana	13.08.2017 –	25.08.2017	2017
Educational Excursion Supervised by Archana & Dr V.K.Rajak	IV B. Tech. PE& II M. Tech. PE	35	ONGC CBM Asset, Bokaro	24.03.2018	24.03.2018	2018
Educational Excursion Supervised by Prof. A.K.Pathak & Dr T.K.Naiya	IV B. Tech. PE	40	ONGC CBM Asset, Bokaro	10.03.2018	10.03.2018	2018
Educational Excursion Supervised by Archana & Dr T.K.Naiya	II M. Tech. PE	36	ONGC CBM Asset, Bokaro	04.04.2017	04.04.2017	2017

9. AWARDS AND RECOGNITION

In the past years, IIT (ISM) has instituted several awards for faculty members, students and staff sponsored by different Organizations/Industries.

9.1 List of Awards:

Sl. No.	Name of the Award/Scholarship	Sponsoring Agency	Year of Institution of Award	Discipline	No. of Award	Type of award
1	ISMAANA Academic Excellence Scholarship Award	ISMAANA (ISM Alumni Association of North America)	2015	Mining Engineering Petroleum Engineering Applied Geology Applied Geophysics	8	Citation and a cash prize
2	Inder Mohan Thapar Foundation (IMTF) Research Award	Inder Mohan Thapar Foundation Trust, Karam Chand Thapar Group	2016	Mining Engineering Petroleum Engineering Environmental Science Applied Geology/Applied Geophysics (as one group)	4	Citation and a cash prize
3	Nagendra Kumar Memorial Award of Excellence	ISMAA	2017	All Disciplines	NA	Citation and a Plaque
4	ISMAA (ISM 1969 Batch) Research Awards	ISM 1969 Batch	2017	Mining Engineering Petroleum Engineering	2	Citation and a cash prize
5	Research Publication Award for JRF of Electronics Engineering Department	ECE Department	2017	ECE Department	1	Citation and a cash prize
6	Jagat Chandra Sarkar Memorial Award	Shri Sushanta Sarkar, a distinguished alumnus of 1966 Batch, Petroleum Engineering	2017	Mining Engineering	1	Citation and a cash prize
7	Bhaskar Bhattacharjee Memorial Distinguished Alumnus Award	ISMAA and IIT (ISM)	2007	Alumni	2	Citation and a Silver Plaque

Sl. No.	Name of the Award/ Scholarship	Sponsoring Agency	Year of Institution of Award	Discipline	No. of Award	Type of award
8	Canara Bank Research Award (Group/Individual)	Canara Bank	2014	All Disciplines	1	Citation and a Medal
9	ISMAA Award for guiding highest no. of Ph.Ds in last three years	ISMAA	2013	All Disciplines	1	Citation and a Medal
10	ISMAA & SBI Awards for maximum resource generation during a financial year	SBI & ISMAA	2013	All Disciplines	1	Citation and a Medal
11	ISMAA Best UG Student Award admitted through IIT-JEE	ISMAA	2013	All Disciplines	1	Citation and a Medal
12	ISMAA Best PG Student Award	ISMAA	2013	All Disciplines	1	Citation and a Medal
13	ISMAA Best Sports Person Award	ISMAA	2013	All Disciplines	1	Citation and a Medal
14	SBI non-teaching employees Group Award	SBI	2014	Non-Teaching Employees	1	Cash Prize and a Certificate
15	Merit cum Means Scholarship / Freeship	MHRD		All Disciplines	1471	Tuition fee + Scholarship Rs.1000/- per month (For 10 month only)
16	Central Sector Scholarship	MHRD		All Disciplines	40	Fess + Boarding charging refunded
17	Central Sector Scholarship	MHRD		All Disciplines	20	Fess + Boarding charging refunded
18	Muslim Minority Scholarship	MHRD		All Disciplines	18	Fee refunded
19	DST Inspire Scholarship	DST		All Disciplines	55	Rs 60000/- per annum
20	Endowment Scholarships					
i)	Paritosh Pathikrit Endowment Scholarship	From Paritosh Pathikrit		Mining Engg. Petroleum Engg. Mining Machinery Mineral Engg. Computer Science & Engg. Electrical Engg. Mechanical Engg.	02	Rs. 500/- per month
ii)	Indrajeet & Satyawati Badhwar Scholarship			All Disciplines	01	Rs.1000/- per month
iii)	S.L.Sehgal Memorial Scholarship			Mining Engg. Mining Machinery Mineral Engg.	02	Rs. 500/- per Month
iv)	ISS Scholarship			All Disciplines	01	Rs. 1500/- (10 month only)

Sl. No.	Name of the Award/ Scholarship	Sponsoring Agency	Year of Institution of Award	Discipline	No. of Award	Type of award
	Endowment Scholarships					
v)	Ishan Rajvanshi Merit Scholarship			All Disciplines	03	Rs. 1000/- per month
vi)	Budhwanti Mrig Memorial Education Scholarship			All Disciplines	02	Rs. 4000/- per month
vii)	Atlas Copco Scholarship			Mining Engg.	01	Rs. 3000/- per month
viii)	Sanvik Scholarship			Mining Engg.	10	Rs 75000/- p.a.
21	IIT (ISM) Cash Prize Award	IIT (ISM)	1986	All Disciplines	Flexible	Certificate and a Cash Prize
22	ISM Gold Medal	IIT (ISM)	1974	All Disciplines	Flexible	Certificate and a Gold Medal
23	ISM Silver Medal	IIT (ISM)	1974	All Disciplines	Flexible	Certificate and a Silver Medal
24	SBI Best Student Shield Award	SBI Bank	2012	All Disciplines	2	Cash prize of Rs. 50,000/- to 1 st and Rs. 25,000/- to 2 nd winner
25	Single Buoy Mooring (SBM) Gold Medal	Indian representative of Single Buoy Mooring Systems, France		B Tech (Petroleum Engineering)	1	Certificate and a Gold Medal
26	Single Buoy Mooring (SBM) Silver Medal	Indian representative of Single Buoy Mooring Systems, France		B Tech (Petroleum Engineering)	1	Certificate and a Silver Medal
27	V.L. Karwande Gold Medal	_____		B.Tech. (Mining Engineering)	1	Certificate and a Gold Medal
28	Professor S. Srinivasan Gold Medal	Mrs. Visalakshi Srinivisan, Wife of Late Professor S. Srinivasan	1996	B Tech (Petroleum Engineering)	1	Certificate and a Gold Plated Silver Medal
29	Mata Gurudev Kaur Memorial Award	Late Prof. G S Marwaha, Ex-Director, IIT (ISM), Dhanbad	1995	Girl Student of B Tech & M Sc Tech. Programmes	1	A plaque and Rs.500/- cash prize
30	Prof. N L Sharma Gold Medal	Dr B L Sharma, son of Late Prof. N L Sharma, Retd. Professor & Head of the Department of Applied Geology, IIT (ISM), Dhanbad	2003	M.Sc.Tech. (Applied Geology)	1	Certificate and a Gold Medal
31	Kaushalya Devi Gold Medal	Shri S N Mahato, Retd. Faculty Member the Dept. of Mechanical Engg. & Mining Machinery Engg.	2004	B.Tech. (Mechanical Engg.)	1	Certificate and a Gold Medal

Sl. No.	Name of the Award/ Scholarship	Sponsoring Agency	Year of Institution of Award	Discipline	No. of Award	Type of award
32	Late Jagdish Mitter Dhawan Memorial Gold Medal	Mr Navneet Dhawan, son of Late Jagdish Mitter Dhawan, an alumnus, Mining Engineering, 1944 Batch	2009	B.Tech. (Mining Engineering)	1	Certificate and a Gold Medal
33	L J Johnson Gold Medal	ONGC	2007	M.Tech. (Petroleum Engineering)	1	Certificate and a Gold Medal
34	Smt. Nirja Sahay Memorial Gold Medal	Nirja Sahay Memorial Charitable Trust	2001	B.Tech. Graduate of the Institute	1	Certificate and a Gold Medal
35	Smt. Snehlata Srivastava Memorial Gold Medal	Prof. S B Srivastava, formerly Professor & Head, Department of Mining Engg., IIT (ISM), Dhanbad	2010	Student of B.Tech./5- year Dual Degree/5- year Integrated Programmes	1	Certificate and a Gold Medal
36	Smt. Renuka Rajhans Memorial Gold Medal	Prof. B K Rajhans formerly Professor, Department of Applied Mathematics, IIT (ISM), Dhanbad	2013	Girl Student of 5-year Integrated Programmes	1	Certificate and a Gold Medal
37	Late Mrs. Poonam (Khanna) Singh Memorial Cash Award	Shri Sameer Kumar Singh, Husband of Late Poonam (Khanna) Singh, an alumnus, B.Tech Mineral Engineering, 1991 Batch	2014	4 year B.Tech. student and 4 year B.Tech (Mineral Engineering)	2	Certificate and a cash award of Rs. 50,000/-
38	Late Mitali Sen Memorial Award	Shri Anand Mohan Sen Pandey, father of Late Mitali Sen, Assistant Professor, Department of Management Studies, IIT (ISM), Dhanbad	2014	Student of 2 years MBA Programme	1	Certificate, Plaque and a Cash prize
39	Late Mrs. Chitra Bhattacharya Memorial Award	Professor Bimalendu B. Bhattacharya, formerly Professor, Department of Applied Geophysics, IIT (ISM), Dhanbad	2014	Integrated M. Tech (Applied Geophysics) or M.Sc. Tech (Applied Geophysics)	1	Certificate and a Gold Medal

9.2 Awards and Recognition to Faculty Members:

During the year 2017-2018, honors, awards and recognition were conferred to faculty members as listed below:

Department of Applied Chemistry

- Dr. Parthasarathi Das was awarded Prof. K. N. Jhory Memorial Lecture award by University of Delhi for his work in Organic Synthesis on 14th January 2018.

Department of Applied Geology

- Prof. Atul Kumar Varma was awarded Canara Bank Research Publication Award 2016 for various publications at Dhanbad on 2017.
- Dr. Kripamoy Sarkar received Best Paper Award at ‘Indorock 2014, 5th Indian Rock Conference, Indian Society for Rock Mechanics and Tunneling technology, 2017’ at New Delhi on October 25, 2017. He also Co-Chaired the 4th Indian Landslide Congress (ILC, 2017), Theme 2: Rainfall and Landslide Hazard Zonation organized at IIT Bombay on December 08, 2017.
- Prof. B C Sarkar was conferred MEAI – Special Award 2016-17 at MEAI AGM, Udaipur for launching new MEAI Dhanbad Chapter on July 07, 2017.
- Prof. A. S. Venkatesh was a UGC SAP Advisory Board Member at University of Madras on 2017. He was also a Steering Committee Member at National Center for Mineral Targeting (NCMT), New Delhi on 2018.

Department of Applied Geophysics

- Prof. Rima Chatterjee was the recipient of Honorary Lecture Award 2018 for East and South East Asia for her research work in the field of Geomechanics at SEG, Houston, USA on September, 2017.
- Dr. Saumen Maiti was awarded MS Krishnan Gold Medal-2013 at Indian Geophysical Union (IGU), Hyderabad for outstanding work in data-driven nonlinear modeling in borehole geophysics on January 08-12.

Department of Applied Mathematics

- Dr. S. A. Sahu was awarded Young Faculty in Science award 2017 by Venus International Foundation at Chennai, India for his contributions in teaching and research on July 08, 2017. He also received Young Scientist in Applied Mathematics award 2017 which was offered by Venus International Foundation at Chennai, India for his contributions in research on November 11, 2017.

Department of Civil Engineering

- Dr. Sowmiya Chawla was awarded IGS-Chennai Chapter Young Geotechnical Engineer (YGE) Award for the best paper on Solutions of Problematic Soils entitled “Reinforcement and mud-pumping benefits of Geosynthetics in railway tracks: Model tests” at Guwahati, India on December 2017.

Department of Computer Science and Engineering

- Dr. Dharavath Ramesh was conferred Best paper award for two papers entitled “IDPC-XML: Integrated Data Provenance in XML” and “Accelerating Airline Delay Prediction based P-CUDA Computing environment” at NIT Goa, India during October 25-27, 2017.

Department of Electrical Engineering

- Dr. Sukanta Das was awarded The IET Premium Awards 2017 by The Institution of Engineering and Technology (IET), London, UK (via email communication) for Best Paper in IET Electric Power Applications on September 04, 2017.

Department of Electronics Engineering

- Dr. S K Raghuwanshi received Canara bank research publication from IIT (ISM) Dhanbad on 2017 for highest impact factor SCI paper publication during 2013-2015.
- Dr. Kalyan Koley is Associate Editor, IEEE Access, 2017.

Department of Environmental Science & Engineering

- Prof. Gurdeep Sing was awarded Leadership Award for Excellence, “Education 2025: Students First” at Delhi, India on April 22, 2017.
- Prof Subodh Kumar Maiti has been an Honorary Research Fellow at the International Centre on Land Reclamation and Ecological Restoration for Mining areas at China University on Mining & Technology-Beijing for 3 years (October 21, 2017 to October 20, 2020).
- Dr. Vipin Kumar was awarded a certificate of appreciation for delivering a lecture at Dubai, UAE on April 27, 2017.
- Dr. Saravanan P. was declared Innovation Competition Champion organised in conjunction with Universiti Teknologi PETRONAS, (UTP) 20th Anniversary Celebration, 2017 under leadership of Prof. Dr. Ramesh T Subramaniam, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia. He was also awarded Gold in the International Eureka Innovation Exhibition 2017 organised by Universiti Kuala Lumpur Malaysian Spanish Institute (UniKL MSI) Kulim Malaysian under leadership of Prof. Dr. Ramesh T Subramaniam, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia. He has also been a Member of the Royal Society of Chemistry since 2017 for his contribution to Chemical Science.

Department of Fuel and Mineral Engineering

- Dr. Shravan Kumar was awarded Prof. C. Mahadevan, Mineral Engineering Science Award, 2017 (MESA 2017) at Visakhapatnam, India by Mineral Engineering Science Association, Visakhapatnam on 2017.

Department of Humanities and Social Sciences

- Dr. Rajni Singh was awarded the Faculty Research Award on March 28, 2018 at for being “one of the top 10 knowledge producers in India for the academic year 2017-18 and an Outstanding Research Faculty”, by Careers 360. He was also awarded IIT (ISM) and Canara Bank Best Researcher Publication Award-2016 for Humanities and Social Sciences for maximum publications in SSCI/ AHCI on 2017.

Department of Management Studies

- Prof. Govind Swaroop Pathak was awarded Member of Jury for Best Dissertation Award at 27th Annual Conference of National Academy of Psychology (NAOP) held at IIT Kharagpur, India on December 21, 2017.

Department of Mining Machinery Engineering

- Mr. Ajit Kumar was awarded Young Researcher-Republic Day Achievers' Award 2017 at LICET Auditorium, Chennai hosted by IIR Group for outstanding best practices and contribution in the field of education and research on January 18, 2018. Best Research Paper Award (Engineers' Day Awards –2017) was also bestowed upon him at Engineer Bhawan, Ranchi Jharkhand State Centre of The Institution of Engineers (India) for the papers published in the last two years in peer reviewed journals on September 15, 2017.
- Dr. R. R. Das delivered a special lecture as a chief speaker on, " Composite materials: a future technology for design of mining equipment components" at TECHNATHON-II, GENNEXT E&M Workshop organized by Eastern Coalfields Limited held at Burdwan, West Bengal on January 29, 2018.

Department of Mining Engineering

- Dr. D. P. Mishra was awarded MEAI- Smt. Bala Tandon Memorial Award, 2017-18 for contribution in improving Ecology and Environment in Mining and Mineral Industries at Mining Engineers' Association of India, Rajasthan Chapter-Jaipur on June 30, 2018.
- Prof. Dheeraj Kumar was awarded SBI Best Researcher for the years 2015-16 and 2016-17 for 2nd highest resource generation through R&D and Industrial Projects at IIT (ISM) Dhanbad on 2018.
- Prof. D. C. Panigrahi received SBI Best Researcher Award on 2018 for bringing the maximum funding for the financial year 2015-16 at IIT (ISM) Dhanbad.

Department of Petroleum Engineering

- Prof. Sukumar Laik wrote a book on “Offshore Petroleum Drilling and Production” CRC Press, Taylor & Francis Group, February 2018, ISBN: 978-1-4987-0612-4.
- Dr. Ajay Mandal was awarded IChE (Indian Institute of Chemical Engineers) National Award for the Year 2017 by ONGC for Excellence in Design and Development of Oil/Gas Related Process Plant and/or Chemicals. He also received “The Inder Mohan Thapar Foundation (IMTF)” Research Award from IIT(ISM) during 2017-18 for Joint Research work with PhD Student.

9.3 Awards and Recognition to Students:

Department of Applied Chemistry

- Mr. Akash Kumar was awarded Best Poster award in 36th Annual National Conference of Indian Council of Chemists-2017 along with a cash prize of Rs. 1,000/-.
- Mr. Barun Mandal received Best Poster presentation award at ICEM-2017.
- Ms. Lipi Midya was awarded the Best Poster presentation award at ASP-2017.
- Ms. Arpita Roy received the Best Oral Presentation Award in ISFM 2018.
- Ms. Amrita De Adhikari received Best Oral Presentation award at ISFM-2018.

Department of Applied Geology

- Mr. Shashank Bhushan was awarded AGU Fall Meeting Student Travel Grant on 2017 amounting to 1000 USD.
- Mr. Jagadish Kundu received Certificate and Memento for Best paper Award at 4th Indian Landslide Congress (ILC, 2017) on 2018.
- Mr. Rajarshi Chakravarti received Rs. 1.5 lakh only as Society of Economic Geologist (SEG) student grant on 2017.

Department of Applied Geophysics

- Mr. Roshan Kumar Singh has been awarded DAAD Fellowship, Germany for the duration 2018-19 during which he will receive Research Grants for obtaining Bi-nationally Supervised Doctoral Degrees (Duration 14 months).
- Mr. Alok Kumar Routa was awarded ONGC-IGU Best Presentation Award in the Young Researcher Programme in 54th Annual Convention of Indian Geophysical Union at CSIR-NGRI, Hyderabad during December 03-07, 2017.

Department of Applied Mathematics

- Mr. Ayush Somani secures 2nd position in Buzzer Quiz which was a part of a Quiz Event of Society of Industrial and Applied Mathematics, ISM Dhanbad Chapter, on 2018.
- Mr. Vishal Kumar obtained 3rd prize in the event imitation game which is a cryptography quiz event on 2017.
- Mr. Kamlesh Kumar Pankaj received Best poster award and a cash prize of Rs. 5000/- in Annual Conference of Indian Science Congress Association under Mathematical Sciences including Statistics Section held at Manipur Central University, Manipur during March 16-20, 2018.
- Mr. Rishikesh Dutta Tiwari received Young Scientist award in Annual Conference of Indian Science Congress Association under Mathematical Sciences including Statistics Section held at Manipur Central University, Manipur during March 16-20, 2018.

Department of Applied Physics

- Ms. Manisha Kumari received Best Paper presentation award while presenting her paper at 4th International Conference on Nanoscience and Nanotechnology (ICONN 2017), SRM University, Chennai.
- Mr. Prasenjit Prasad Sukul was awarded International Travel Scheme-SERB(DST) (Foreign travel assistance to USA) on 2018.
- Mr. Suvam Singh obtained Travel assistance award of ₹ 1,28,830 as International Travel Support Scheme, SERB (DST) on 2017.
- Mr. Mohd Azam received Best Poster Presentation award and a cash prize of Rs. 1000/- at 62nd DAE Solid Physics Symposium (DAE-SSPS-2017), BARC Mumbai, December 26–30, 2017.

Department of Applied Physics

- Ms. Manisha Mondal received Best Poster Presentation at International conference on Recent Trends in Chemical Sciences, Bikaner, Rajasthan, India on 2017. She was also the recipient of Best Oral Presentation and a cash prize of Rs. 2000/- at Winter School 2017, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, India. She also received Young Scientist Award, National Conference on Advances in Spectroscopic Techniques and Materials (ASTM-2018).

Department of Chemical Engineering

- Mr. Chandantaru Dey Modak received Ambuja's Young Researcher's Award by Indian Institute of Chemical Engineers (IChE) for Best M.Tech Thesis on 2017.

Department of Computer Science & Engineering

- Mr. Deepayan Chakraborty received Best Paper Award in Information Processing track at ICIIP 2017 at JUIT, Shimla, India.
- Mr. Rahul Pramanik received Springer Best Student Paper Award at PReMI 2017 at ISI, Kolkata, India.
- Mr. Prabhar Dansena received Springer Best Student Paper Award at PReMI 2017 at ISI, Kolkata, India.
- Ms. Priyambada Subudhi received PReMI'17-Springer Student Award (Conference held in the Indian Statistical Institute, Kolkata, India) and a cash prize of Rs. 5,000/- on 2017.
- Mr. Gurudev aradye received Best Paper Award at International Conference on Emerging Technologies in Data Mining and Information Security, organized by IEM Kolkata, sponsored by Springer on 2018.
- Mr. Jayraj Singh received Best Paper Award in 4th - Indian Landslide Congress (ILC -2017) at IIT Bombay, India on 2017.
- Ms. Pradeepika Verma received Best Paper Award at 1st Int. Conf. on Emerging Technologies in Data Mining and Information Security (IEMIS), organized by IEM Kolkata, sponsored by Springer on 2018.

Department of Electrical Engineering

- Ms. Moutusi De received 2nd prize and 100 Euro cash prize at IET present around the world competition on 2018.

Department of Electronics Engineering

- Mr. Syed Sadique Anwer Askari received JSAP-OSA Joint Symposia 2017 Travel Award to attend the JSAP-OSA Joint Symposia 2017 in Fukuoka Convention Center, Fukuoka, Japan. He also received "SPIE Photonics West 2018 Travel grant" to attend the SPIE Photonics West 2018 in The Moscone Center San Francisco, California, United States.
- Mr. Nishit Malviya received Travel grant from OSA: The Optics Society to attend the FiO/LS 2017 conference as a chapter representative in Washington DC, USA.
- Mr. Dilip Kumar Choudhary received Travel assistance from International Travel Grant form DST, India for presenting a paper in 2017 IEEE Asia Pacific Microwave Conference (APMC), Kuala Lumpur, Malaysia. He also received Best Student Paper Award (3rd Position) in the session entitled "Metamaterials, Plasmonics and Complex Media" for paper entitled "A Compact SIW Based Filtering Power Divider with Improved Selectivity Using CSRR" in Progress In Electromagnetics Research Symposium (PIERS), 19 - 22 November, 2017 at Singapore.

Department of Environmental Science and Engineering

- Mr. Aneek Kuila obtained 2nd Prize, WAMPC-2017, CSIR-CMERI on 2017.
- Ms. Pratishtha Gupta received Certificate of Appreciation for best poster presentation at Association of Microbiologists of India on 2017.
- Ms. Somaparna Ghosh received certificate for Best paper award at ICEE 2018.
- Mr. Yash Aryan received certificate for Best poster award at ICEE 2018.

Department of Fuel & Mineral Engineering

- Mr. Abhyarthana Pattanaik received “Best poster Award” in KHANIJ-2017.

Department of Humanities and Social Science

- Ms. Debjani Sarkar received best paper award in the category of English Literature, Post-Colonial Studies at Amity Noida, India on 2017.
- Ms. Upasana Sinha received best paper award in the category of English Literature, Post-Colonial Studies at Amity Noida, India on 2017.

Department of Management Studies

- Mr. Hasanuzzaman obtained Best Paper Award in IIM Shillong's Annual International Conference on Sustainability 2017.
- Mr. Sumit Kumar obtained Best Paper Award in International Conference on Advanced Computing and Communication Systems (ICACCS -2017), Coimbatore, Tamilnadu (IEEE Chennai Chapter).
- Ms. Aprajita Pandey obtained Best Paper Award 13th International Accounting Conference CRRN, University of Calcutta on 2017.

Department of Mechanical Engineering

- Mr. Anubhab Majumder obtained Best paper award in 2017.

Department of Petroleum Engineering

- Mr. Amit Kumar acquired All India Rank 01 in GATE (Petroleum Engineering) on 2018. He also received Best poster award in 8th World Petrocoal Congress -2018 organised by Energy and Environment foundation, supported by ministry of power, coal and petroleum & natural Gas, GOI. This is the world's only congress on Petroleum-Coal-Gas industries with a focus on Synergy for Energy on 2018.
- Mr. Mudit Vajpayee acquired All India Rank 02 in GATE (Petroleum Engineering) on 2018.
- Mr. Biswadeep Pal received Certificate and Medal for Young Researcher Innovation Award on 2018.
- Mr. Aman Gaurav received Certificate and Sponsorship for obtaining 2nd Rank At International Student Paper Contest, Winner At South Asia Regional Student Paper Contest on 2017.
- Mr. Nitesh Kumar Published a Paper In One Petro on 2017.
- Mr. Prem Ranjan received 1st Prize at Shell India at SHELL DAY for Best Picture Presentation Award on 2017. He was the only student to get the opportunity of presenting the idea on IRS Annual Day and acquired the Presentation Award on 2017. He was also awarded the Best Paper Award at Annual Fest of Applied Geology And Geophysics Department.
- Mr. Vineet Suhas Soni presented paper at Geodraft 2.0, Geodraft 3.0 on 2017.
- Mr. Snehal Kumar Sinha attained 3rd Prize At Poster Presentation in Geoconfluence on 2017.

10. INFRASTRUCTURAL FACILITIES

10.1 Central Library:

The Central Library of Indian Institute of Technology (ISM) provides direct academic and research support to all the departments. Concerned with the needs of library users and readers the reading room of Central Library provides a silent environment for study. Equipped with wi-fi connections the library served the library users for reference services, semester exam preparations, project writing and research.

There are following different sections of the library aligned with its goals and activities:

- Circulation Desk cum Central Reading Area
- Reference cum SRB Section
- Newspaper - magazine Section
- e-Resource/ Print Journal Section
- Book Acquisition Section
- Technical Processing Section
- Open Reading Hall
- Research Documentation Cell (RDC)
- Institutional Digital Repository (IDR)
- Anti-Plagiarism Cell

During the academic year 2017-18 the library served on an average about 650 users per day and was opened for seven days a week.

The Central Library is an automated library in terms of records management, information retrieval and service delivery. Over the years the library has developed several databases. It has about 135,258 accessioned books, 40,360 bound volumes of journals, 73 current journals, 10,967 theses and dissertations and about 50 magazines for the period. During this academic period 4,918 books were added to the library holding. The library also possesses e-Books, on perpetual access basis, from Springer E-Books Subject Collections (Copy right years: 2005–2017), Taylor & Francis netBases e-books (about 401) and McGraw-Hill Express Library (about 398) in the fields of Science, Technology, Chemistry & Materials Science, Computer Science, Earth & Environment Sciences, Business and Management, Mathematics, Statistics, Physics, Astronomy, and Engineering.

Within the library all records of library collection are accessible online through Online Public Access Catalogue (OPAC) touch-screen kiosks connected to the library's Local Area Network (LAN) as well as WebOPAC link on the library's website. 'Search', 'Browse', New Additions, My Account and many more enquiry facilities in the OPAC module of Libsys Library Management Software enabled the users to find out records on their own, thereby saving their time. The library maintained its electronic databases of its printed sources -- books, SRB & reference books, journal loose issues cum bound volumes, thesis, dissertations, conference proceedings, standards and journal articles. The

Central Library upgraded the Libsys version from Libsys 4 to Libsys 10. The speed of searching enhanced reference service delivery. The library has its own official website that facilitates information search from the library's bibliographic and book transactions records of the library users of the Central Library through web based online public access catalogue (WebOPAC) on campus wide LAN. The library revamped and redesigned its own official website (<http://www.iitismlib.ac.in>), which has become more organized, informative and user friendly.

All processes at Book Acquisition Section – ordering, bill processing, etc. were done through Libsys Library Management Software. At Technical Processing Section books, dissertations, PhD theses, etc. were labelled with system-generated barcodes, spine slips and book cards. The library continued to paste bar-code labels on new and old documents. The library enrolled new members -- students as well as faculty-- handing out new bar-coded membership cards. The Central Library ensured error-free barcode based circulation system, quick posting of library dues and fast settlement of no-dues to outgoing students and superannuated employees.

All documentation jobs including data entry of old journal bound volumes through 'Accessioning' and processes of journal subscription at the Journal Section proceeded also through Libsys Library Management Software. The section rendered reference services for current and old print journals and online journals. The library provided online access to online journals with full text articles to the faculty members, research scholars and students.

Under e-Shodh Sindhu Consortium the Central Library has got 14 e-resources: ACM Digital Library, American Physical Society (APS) All, ASCE, ASME, ASTM Standards, EPW, IEL Online, ISID Database, JGate Plus (Federated search engine), JSTOR, Nature, Oxford University Press, ProQuest ABI/Inform Complete, Web of Science. In addition, the library has got two more NDL sponsored e-resources – World eBook Library and South Asia Archive. The Central Library has subscribed to ScienceDirect, OnePetro, EBSCO Business Source Premier, Emerald Management e-journals, Scopus, ProQuest Dissertations & Theses Global, ACS Package, CSD Enterprise Researcher, Journal of Applied Physics (AIP), GSW & GeoRef, Springer e-books and Turnitin anti plagiarism web tool to facilitate academic and research activities. The library rolled out RemoteXs, a service that would facilitate e-resource access off the IIT (ISM) campus. The links of all the e-resources have been provided through the library's official website.

Reference helps from Journal Desk and Circulation Desk facilitated the study and academic activities of the institute. The Central Library also continued book circulation services on Saturday and Sunday for two hours (5 pm - 7 pm) for the Executive MBA students.

The Central Library is a nodal centre to cooperate with the National Digital Library of India (NDLI) project headquartered at IIT Kharagpur. The Central Library has its own Institutional Digital Repository (IDR) for preserving and sharing the digital contents of IIT (ISM)'s PhD thesis, and faculty publications, particularly the papers published in journals and conferences. Pursuant to the effort of creating awareness at IIT (ISM) Dhanbad, Central Library jointly organised the NDLI workshop on "Institutional Digital Repository" during November 24-25, 2017 with National Digital Library of India Project, IIT Kharagpur.

The Research Documentation Cell (RDC) of the library contributed to the process of faculty promotion and recruitment through verification of the publications of the candidates concerned. It helped to check and update scholarly articles for faculty promotions, faculty recruitment, and evaluation of publications indexed in Web of Science (Thomson Reuters) and Scopus (Elsevier) databases.

10.2 Computer Centre:

The Computer Centre is solely responsible for creating and up keeping the Information and Communication Technology & Computation related facilities available at IIT (ISM) Dhanbad since its inception in 1987. The Centre is presently operating from its own building situated near New Academic Complex of IIT (ISM) Campus.

Institute is marching ahead to build its State of the art Central Computing and Data Centre Infrastructure in Old Lecture Hall Complex arena to meet its upcoming computing and networking requirements as per the evolving standards of IIT. The main goals are to:

- Building an ideal IT learning hub for all to start and enhance their IT skills at all levels so as to promote "Skill India" and "Make in India" programme of Government of India.
- Develop an efficient cross platform environment for hosting and promoting different research and technological incubations for high performance computing and data analytics.
- Develop a scalable system for managing access control and auditing for "Write Once Access Anywhere" in era of distributed computing.
- Creating 'Smart Class' and 'Video Conferencing' facility for the Institute.
- In order to sustain growing number of users and demand for high performance network connectivity with enhanced security, scalability and 24x7 availability, Computer Centre intends to carry out augmentation of new network backbone by deploying 144 core Optical Fiber with 40Gbps speed at backbone, 40/10 Gbps at distribution and 10/1 Gbps at access layer so as to provide highest level of link redundancy/resiliency.

- Computer Centre is planning to revamp its networking stacks, by adding active devices like routers, firewalls, switches etc. along with deploying suitable access policies at different application tiers, so that superfluous local network traffic including broadcast does not reach and burden the Core network.
- Campus wide Wi-Fi with proper user authentication and network admission control was established so as to create secure Wi-Fi zone for all valid users of IIT (ISM) fraternity.

The services provided by the Centre includes:

- Installation & Maintenance of Servers for:
 - Internet access.
 - E-mail facilities.
 - Samba sharing facility.
 - Appliance based authentication access.
 - Computation facilities.
 - VPN facilities for accessing Journals and E-contents from outside the Institute.
- Management and upkeep of the Official IIT (ISM) Dhanbad website.
- Management of the Institute wide Wi-Fi enabled environment.
- Management of the Centralized Computer Lab accessible to all the students of the institute as well as all researcher/ project students.
- Maintaining 1Gbps Internet Leased Line (ILL) from NKN and 2 nos. of 800 Mbps ILL from RailTel and Vodafone for seamlessly connected about 9000 nodes.
- Providing technical assistance to the Academic and Administrative Staff of the Institute.
- Providing facilities to the Students who come from various academic institutes for their short-term courses, mini project work and summer training etc.
- Providing video conferencing facility for conducting PhD Viva Voce, lectures, seminars etc.
- Provides and maintains different machines having Windows, Linux and Mac Operating Systems of the Faculty & Staff members.
- Providing ITES facility for conducting various campus interviews for placement of the students as per the guidance of Training and Placement Cell.

These facilities are constantly being upgraded to meet the evolving requirements of different departments. Many departments are using the facilities of the Computer Labs to conduct their practical classes & examinations. The campus LAN is now extended to all the hostels, health Centre and residences. The Faculty and Officers are also using the facility of IPDSLAM for residence Internet. New hardware and software are being procured on a regular basis so as to provide a state of the art computing facility to the IIT (ISM) Dhanbad family.

Recently in 2017, Computer Centre of the Institute incorporated new VMware based computing infrastructure consisting of 216 Cores, 768 GB RAM and 60 TB NAS storage with 36 TB backup and 180 TB Tape Library facility for accommodating Web, Mail, Library and Computing servers for research and teaching purposes.

10.3 Central Workshop:

The workshop of the Institute has a wide range of manufacturing facilities catering to the needs of undergraduate and postgraduate students as well as research scholars. It provides good facilities for Forging, Carpentry, Fitting and Sheet Metal working. It also provides excellent facilities for Welding, Casting and Machining, Induction melting furnace, Gear hobbing and Gear shaping machines, Surface Planer machine, Tool & Cutter grinding machine, Band Saw (Wood cutting machine), TIG, MIG, SAW welding machines, Template based gas cutting machine, CNC Profile cutting machine, and Power Press machine are important facilities. There are CNC programming laboratory and sophisticated Computer Aided Manufacturing (CAM) laboratory consisting of latest CAM Software, CNC turning (trainer), and CNC milling (trainer) machines. There is Flexible Manufacturing System facility, CNC Lathe machine fitted with Automatic Guided Vehicle and Automatic Storage and Retrieval System (ASRS). There is Rapid prototyping machine (3-D Printer). There is also a Dimensional Metrology laboratory in which variety of linear, angular, surface flatness (Auto Collimator)/ surface roughness (Surface Roughness Tester) measuring instruments, gear tooth thickness (Gear Tooth Vernier Calipers) /circular pitch (Flange Micrometer) measuring instruments, variable Microscope and Metallurgical microscope are important measuring instruments. There is Die Sinking EDM for nontraditional machining. There is a high precision 400 Watt Fibre Laser welding machine in Laser machining laboratory. HMT high precision Sliding Surface & Screw Cutting lathe with Piezoelectric 3 Dimensional Force Sensor, Polishing Machine and Hot Mounting Press as well as Compact RIO Controller hardware are in full operation. Abrasive Cut-off machine is under installation and commissioning. All these laboratories/facilities are housed in the new workshop building. There are Wire-EDM and Electrochemical Machine (ECM) for nontraditional/advanced machining in Nontraditional machining laboratory.

Procurement of Semi-Automatic precision lathe M/c, Semi-Automatic Vertical milling M/c, VMC (Vertical Milling Centre), Laser (Acrylic) cutter, CNC Turning Centre, 5 Axis CNC Vertical Machining center, Rapid Proto Typing, CNC Surface grinder, Surface Profilometer, glass blowing facility & Wire cut EDM apart from other associated equipment and machines for Central Research Fabrication facility are under process.

Many students fabricate various equipments for example vehicles, robots, air tunnels, etc. for national level competitions. Short-term training courses related to manufacturing process/ workshop technology for engineers/ officers/ executives have been conducted. Various types of furniture, fixtures and components of machines and equipment of different departments of the Institute are also repaired and manufactured in the workshop on demand.

Every year around 960 first year undergraduate students are imparted hands-on training on basic manufacturing facilities, around 160 students of pre-final year Mechanical Engineering and Mining Machinery Engineering as well as 40 students of first year M Tech (Specialization: Manufacturing) are imparted hands-on training on advanced manufacturing and dimensional measuring facilities. Each year a large number of students also carry out B. Tech and M. Tech projects related to the manufacturing in the workshop. Research scholars of the different departments also fabricate equipment and components for their research work.

10.4 Health Centre:

The Health Centre of the Institute has been catering the medical needs of around 8300 students, ~250 permanent staff and ~300 faculty members along with their dependents. Besides this, most of the retired employees with their spouses have also been provided medical treatment. Two permanent doctors and one part time doctor have been providing routine OPD as well as emergency services round the clock.

Following services are provided by IIT(ISM) Health Centre:

- (a) Outdoor Services
 - (b) Indoor Services
 - (c) Isolation Ward
 - (d) Pathological Test
 - (e) Dental Services
 - (f) Physiotherapy Unit
 - (g) Homeopath Clinic
 - (h) Specialist Medical Services
 - (i) 24 x 7 emergency services with Ambulance
 - (j) Immunization – 4th Thursday of every month
 - (k) Services at empanelled Hospital inside and outside Dhanbad is also available.
- (i) List of empaneled Hospitals across the country:

Sl. No.	Name of Hospital
1.	All Govt. Hospitals in India (including PSU Hospitals/Railway Hospitals).
2.	Peerless Hospital & B.K. Roy Research Centre, Kolkata, West-Bengal.
3.	Disha Eye Hospitals & Research Centre Pvt.Ltd., Kolkata, West-Bengal.
4.	Rabindranath Tagore International Institute of Cardiac Sciences, Kolkata, West-Bengal.
5.	Ruby General Hospital Ltd., Kolkata, West-Bengal.
6.	The Calcutta Medical Research Institute, Kolkata, West-Bengal.
7.	The Mission Hospital, Durgapur, West-Bengal.

8.	Christian Medical College & Hospital, Vellore, Tamilnadu.
9.	Sankara Nethralaya Unit of Medical Research Foundation, Chennai, Tamilnadu.
10.	Narayana Hrudayalaya Hospital & Health City, Bangalore, Karnataka.
11.	Ruby Hall Clinic, Pune, Maharashtra.
12.	Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh
13.	Post Graduate Institute of Medical Education & Research, Chandigarh.
14.	Delhi Heart & Lung Institute, New Delhi.
15.	Mohinder Hospital, New Delhi.
16.	New Delhi Centre for Sight Pvt. Ltd., New Delhi.
17.	All India Institute of Medical Sciences (AIIMS), New Delhi.
18.	Max Devki Devi Heart & Vascular Institute, New Delhi.
19.	Other Max Hospital Chain in New Delhi, Noida & Gurgaon.
20.	Sir Ganga Ram Hospital, New Delhi.
21.	Fortis Escort Heart Institute, New Delhi.
22.	Sukhmani Hospital, New Delhi.
23.	Tata Memorial Hospital, Mumbai, Maharashtra.
24.	Nizam Institute of Medical Sciences, Hyderabad, Andhra Pradesh.
25.	Bokaro General Hospital (BGH), Bokaro, Jharkhand.

(ii) List of empaneled Hospitals within Dhanbad:

Sl. No.	Name of Hospital
1.	Asarfi Hospital Pvt. Ltd, Dhanbad, Jharkhand.
2.	Pragati Medical & Research Centre, Dhanbad, Jharkhand.
3.	Dr. Jyotirbhushan Institute of Medical Sciences, a Unit of Dr. Jyotirbhushan Healthcare & Research Pvt. Ltd., Dhanbad, Jharkhand.
4.	Dwarkadas Jalan Memorial Hospital, (Managed by : JEEVAN REKHA TRUST), Dhanbad, Jharkhand.
5.	BCCL, Central Hospital Dhanbad, Jharkhand.
6.	P.M.C.H. Dhanbad, Jharkhand.
7.	Patliputra Nursing Home, Dhanbad, Jharkhand.
8.	Geetashree Clinic, Dhanbad, Jharkhand.
9.	ASG Hospital, Dhanbad, Jharkhand.
10.	Prudence Hospital, Dhanbad, Jharkhand.

10.5 Hindi Cell:

The Official Language Policy of the Union Government of India is implemented in the Institute by Hindi Cell. The major works executed under the banner of Hindi Cell are:

- Implementation of Official Language Policy, and compliance of provisions of Official Language, Act 1963 and Rule 1976 in the Institute.
- Organisation of quarterly meeting of Official language committee to discuss various aspects of implementation so that target prescribed in annual programme can be achieved.
- Hindi workshop for the staff who have working knowledge of Hindi to inculcate interests among the staff and remove their hesitation regarding working in Hindi.
- Timely submission of on line quarterly/annual report to Rajbhasha Vibhag and MHRD.
- Participation in TOLIC meeting and its activity being organized under the aegis of BCCL, Dhanbad.
- Translation work of Annual Report and all other circulars, orders and official correspondences as and when required
- Organization of Hindi Fortnight in the month of September every year in the form of grand celebration involving Faculties, Officers, Students and Staff of the Institute. Various types of Hindi Competition were held during the period from 01 Sep 2017 to 15 Sep 2017.

Hindi Poem Recitation Competition (Students): Results

1 15JE001157: Shri Kislay Singh B. Tech	First
2 15JE001020: Shri Aadarsh Singh B. Tech	Second
3 16JE002004: Km Dakshina Chaturvedi B. Tech	Second
4 16JE002369: Shri Shivam Saxena B. Tech	Third
5 Shri Kunal Singh B. Tech	Third

Hindi Essay Writing Competition (student): Results

1 2015DR0032: Km Akanksha Sinha, Research Scholar	First
2 14JE000233: Shri Ashok Sharma B.Tech	Second
3 15JE001312: Shri Bhai Lal Sonkar B. Tech	Third

Hindi Debate Competition (Students): Results

1 14JE000255: Shri Hitesh Bansal (in favour) B Tech	First
2 14JE000326: Shri Jitendra Kumar (in favour) B Tech	Second
3 14JE000233: Shri Ashok Sharma (in favour) B Tech	Third
1 15JE001157: Shri Kislay Singh (in opposition) B Tech	First
2 14JE000894: Shri Gopal Singh (in opposition) B Tech	Second
3 15JE001312: Shri Bhai Lal Sonkar (in opposition) B Tech	Third

Hindi Essay writing competition (Faculty / Officer): results

(Category: Hindi Speaking)

1 Dr. Ajit Kumar Assistant Professor, Mining Machinery Engineering	First
2 Dr. Abhishek Kumar Singh Assistant Professor Applied Mathematics	Second
3 Dr. Mohit Agarwal Assistant Professor Applied Geophysics	Third

(Category: Non-Hindi Speaking)

1 Dr. Tanushree Banerjee (Hindi-speaking) Lady Medical Officer Health Center	First
2 Dr. Gopal Sinha (Hindi-speaking) Assistant registrar purchasing and repository	Second
3 Shri A Kumarswami (Hindi-speaking) Technical Secretary, Director Secretariat	Third

Instant Speech Contest (Staff): Results

(Category: Hindi Speaking)

1 Shri Praveen Kumar Chaurasia LDC Office, Dean (Infrastructure)	First
2 Shri Raju Rajak Section Officer Examination Section	Second
3 Shri Ajay Kumar Gupta Pharmacist Health Center	Third

(Category: Non-Hindi speaking)

1 Smt Purabi Das LDC Director's Secretariat	First
2 Shri Sachin Pal II SSA Chemical Engineering	Second
3 Km Monalisa Nayak SPA Central Library	Third
4 Shri Rahul Mukherjee Stenographers Director's Secretariat	Third

Hindi Noting and Draft Writing Competition (Staff): Results

(Category: Hindi Speaking)

1 Shri V Ravi Shankar LDC Finance & Accounts	First
2 Shri Ajay Kumar Gupta Pharmacist Health Center	Second
3 Shri V Prakash Narayan LDC Director Secretariat	Third
4 Shri Deepak Kumar Das LDC Establishment Section	Third

(Category: Non-Hindi Speaking)

1 Shri Sachin Pal Senior Scientific Assistant Chemical Engineering	First
2 Smt Purabi Das LDC Director Secretariat	Second
3 Smt Ankita Ghosh LDC Registrar Secretariat	Third

Hindi Typing Competition (Staff): Results

1 Shri Manindra Kumar LDC Director's Secretariat	First
2 Shri Ravi Kumar Chaurasia LDC Purchase & Stores	Second
3 Shri Umesh Kumar Singh UDC EDC	Third

11. PERSONNEL

(during the period from 01.04.2017 to 31.03.2018)

List of Faculty Members (Professors):

Sl. No.	Name	Designation	Department
1	Prof. D C Panigrahi	Professor (HAG)	Mining Engineering
2	Prof. Gurdeep Singh	Professor (HAG)	Environmental Science and Engineering
3	Prof. R Venugopal	Professor (HAG)	Fuel and Mineral Engineering
4	Prof. U K Singh	Professor (HAG)	Mining Engineering
5	Prof. T Kumar	Professor (HAG)	Petroleum Engineering
6	Prof. M Jawed	Professor	Mining Engineering
7	Prof. Phalguni Sen	Professor	Mining Engineering
8	Prof. P K Sarkar	Professor	Mechanical Engineering
9	Prof. S K Paul	Professor	Electronics Engineering
10	Prof. G S Seth	Professor	Applied Mathematics
11	Prof. S Mohanty	Professor	Applied Geology
12	Prof. B C Sarkar	Professor	Applied Geology
13	Prof. A K Pathak	Professor	Petroleum Engineering
14	Prof. P Pathak	Professor	Management Studies
15	Prof. Chandan Bhar	Professor	Management Studies
16	Prof. T K Chatterjee	Professor	Mining Machinery Engineering
17	Prof. J Manam	Professor	Applied Physics
18	Prof. N Suresh	Professor	Fuel and Mineral Engineering
19	Prof. K Dasgupta	Professor	Mining Machinery Engineering
20	Prof. A K Mukhopadhyay	Professor	Mining Machinery Engineering
21	Prof. V M.S.R Murthy	Professor	Mining Engineering
22	Prof. Sumantra Bhattacharya	Professor	Fuel and Mineral Engineering
23	Prof. J K Pattanayak	Professor	Management Studies
24	Prof. P R Mohanty	Professor	Applied Geophysics
25	Prof. A K Varma	Professor	Applied Geology
26	Prof. D Asthana	Professor	Applied Geology
27	Prof. V Priye	Professor	Electronics Engineering
28	Prof. V K Saxena	Professor	Chemical Engineering
29	Prof. N R Mandre	Professor	Fuel and Mineral Engineering
30	Prof. G P Biswas	Professor	Computer Science and Engineering
31	Prof. Subrata Bhattacharya	Professor	Electronics Engineering
32	Prof. G Udayabhanu	Professor	Applied Chemistry
33	Prof. A K Pal	Professor	Environmental Science and Engineering
34	Prof. S Gupta	Professor	Applied Mathematics
35	Prof. G N Singh	Professor	Applied Mathematics
36	Prof. Somnath Pan	Professor	Electrical Engineering
37	Prof. D D Pathak	Professor	Applied Chemistry

Sl. No.	Name	Designation	Department
38	Prof. A S Venkatesh	Professor	Applied Geology
39	Prof. P K Jana	Professor	Computer Science and Engineering
40	Prof. Shalivahan	Professor	Applied Geophysics
41	Prof. (Management Studies) D Mitra	Professor	Electronics Engineering
42	Prof. P K Sadhu	Professor	Electrical Engineering
43	Prof. R K Das	Professor	Mechanical Engineering
44	Prof. (Management Studies) B Mukherjee	Professor	Applied Mathematics
45	Prof. S K Maiti	Professor	Environmental Science and Engineering
46	Prof. G S Pathak	Professor	Management Studies
47	Prof. R K Upadhyay	Professor	Applied Mathematics
48	Prof. A K Nirala	Professor	Applied Physics
49	Prof. Vineet Kumar	Professor	Chemical Engineering
50	Prof. Sekhar Chandra Dutta	Professor	Civil Engineering
51	Prof. (Management Studies.) Rima Chatterjee	Professor	Applied Geophysics
52	Prof. A K Mishra	Professor	Mining Engineering
53	Prof. S K Gupta	Professor	Environmental Science and Engineering
54	Prof. P K Khan	Professor	Applied Geophysics
55	Prof. Satish Kumar Sinha	Professor	Professor of Continuing Education
56	Prof. Biswajit Choudhary	Professor	Applied Chemistry.
57	Prof. Ashutosh Kumar	Professor	Petroleum Engineering
58	Prof. Chiranjeev Kumar	Professor	Computer Science and Engineering
59	Prof. M K Singh	Professor	Applied Mathematics
60	Prof. Dhiraj Kumar	Professor	Mining Engineering
61	Prof. P N Singha Roy	Professor	Applied Geophysics
62	Prof. Sheo Shankar Rai	Professor	Mining Engineering
63	Prof. Ashok Khanna	Professor	Chemical Engineering
64	Prof. S S Januar	Professor	Electronics Engineering

List of Faculty Members (Re-Employed Professors):

Sl. No.	Name	Designation	Department
1	Prof. A Chattopadhyay	Professor	Applied Mathematics
2	Prof. V P Sharma	Professor	Petroleum Engineering.
3	Prof. I M Misra	Professor	Chemical Engineering
4	Prof. V Kumar	Professor	Electronics Engineering
5	Prof. P S Gupta	Professor	Applied Physics

List of Faculty Members (Chair Professors):

Sl. No.	Name	Designation	Department
1	Prof. S Choudhary (CIL, Chair)	Professor	Mining Engineering
2	Prof. R M Bhattacharya (MoL&E Chair)	Professor	Mining Engineering
3	Prof. A K Singh (Rajiv Gandhi Chair)	Professor	Environmental Science and Engineering
4	Prof. Om Prakash (NMDC, Chair)	Professor	Mining Engineering

List of Faculty Members (Adjunct Professors):

Sl. No.	Name	Designation	Department
1.	Prof. S P Banerjee	Adjunct Professor	Environmental Science and Engineering
2.	Prof. Ashok Varma	Adjunct Professor	Petroleum Engineering
3.	Prof. A K Ghose	Adjunct Professor	Mining Engineering
4.	Prof. V P Sinha	Adjunct Professor	Mining Engineering
5.	Prof. C K Jain	Adjunct Professor	Applied Geophysics
6.	Prof. Alok Krishna Gupta	Adjunct Professor	Applied Geology
7.	Prof. Vijay Kumar Sinha	Adjunct Professor	Mining Engineering
8.	Prof. Debasish Datta	Adjunct Professor	Electronics Engineering
9.	Prof. Ashish Ghosh	Adjunct Professor	Computer Science and Engineering
10.	Prof. Mihir K Sinha	Adjunct Professor	Management Studies
11.	Prof. Pradeep Prasad	Adjunct Professor	Management Studies
12.	Shri Deepak Agrawal	Adjunct Professor	Petroleum Engineering
13.	Prof. S Dey	Adjunct Professor	Applied Mathematics
14.	Shri Sushanta Sarkar	Adjunct Professor	Petroleum Engineering
15.	Shri N D Rao	Adjunct Professor	Fuel and Mineral Engineering
16.	Shri Sidhartha Sur	Adjunct Professor	Petroleum Engineering
17.	Prof. Shyamal Bhattacharya	Adjunct Professor	Petroleum Engineering
18.	Prof. Suranjan Ghosh	Adjunct Professor	Computer Science and Engineering

List of Associate Professors:

Sl. No.	Name	Designation	Status	Department
1	Shri P K Behera	Associate Professor	Regular	Mining Engineering
2	Dr. Kailash Jha	Associate Professor	Regular	Mechanical Engineering
3	Dr. Biswajit Paul	Associate Professor	Regular	Environmental Science and Engineering
4	Dr. S Chattopadhyay	Associate Professor	Regular	Mechanical Engineering
5	Dr. S N Singh	Associate Professor	Regular	Mechanical Engineering
6	Dr. (Mrs.) Saumya Singh	Associate Professor	Regular	Management Studies
7	Dr. S Chatterjee	Associate Professor	Regular	Applied Mathematics
8	Dr. Vikas Mahto	Associate Professor	Regular	Petroleum Engineering
9	Dr.(Mrs.) Keka Ojha	Associate Professor	Regular	Petroleum Engineering
10	Dr. K Chatterjee	Associate Professor	Regular	Electrical Engineering
11	Dr. Ajay Mandal	Associate Professor	Regular	Petroleum Engineering
12	Dr. P K Singh	Associate Professor	Regular	Environmental Science and Engineering
13	Dr. A K Behura	Associate Professor	Regular	Humanities and Social Sciences
14	Dr. Md. Mojibur Rahman	Associate Professor	Regular	Humanities and Social Sciences
15	Dr. R K Dubey	Associate Professor	Regular	Applied Geology
16	Dr. S K Sharma	Associate Professor	Regular	Applied Physics
17	Dr.(Mrs.) Rajni Singh	Associate Professor	Regular	Humanities and Social Sciences
18	Dr. M K Jain	Associate Professor	Regular	Environmental Science and Engineering
19	Dr. Mahendra Yadav	Associate Professor	Regular	Applied Chemistry
20	Dr. S Mukhopadhyay	Associate Professor	Regular	Computer Science and Engineering
21	Dr. B Bhattacharya	Associate Professor	Regular	Electrical Engineering
22	Dr. M K Mukherjee	Associate Professor	Regular	Applied Geology
23	Dr. Sandeep Mandal	Associate Professor	Regular	Management Studies
24	Dr. Akhilesh Prasad	Associate Professor	Regular	Applied Mathematics
25	Dr. S P Tiwari	Associate Professor	Regular	Applied Mathematics
26	Dr. Sanjay Kumar Ghoshal	Associate Professor	Regular	Mechanical Engineering
27	Dr. Rohit P John	Associate Professor	Regular	Applied Chemistry
28	Dr. N K Singh	Associate Professor	Regular	Mechanical Engineering
29	Dr. Upendra Kumar Singh	Associate Professor	Regular	Applied Geophysics
30	Dr. Nitai Pal	Associate Professor	Regular	Electrical Engineering
31	Dr. Sukanta Dey	Associate Professor	Regular	Applied Geology
32	Dr. Vineet Kumar Rai	Associate Professor	Regular	Applied Physics
33	Dr. Asit Kumar Kar	Associate Professor	Regular	Applied Physics
34	Dr. Sanjoy Mandal	Associate Professor	Regular	Electrical Engineering
35	Dr. Jitendra Kumar	Associate Professor	Regular	Electronics Engineering
36	Dr. Bobby K Antony	Associate Professor	Regular	Applied Physics
37	Dr. Syed Tajdardul Hassan	Associate Professor	Regular	Applied Geology
38	Dr. Mukul Kumar Das	Associate Professor	Regular	Electronics Engineering

Sl. No.	Name	Designation	Status	Department
39	Dr. Amit Rai Dixit	Associate Professor	Regular	Mechanical Engineering
40	Dr. Shushanta Sarangi	Associate Professor	Regular	Applied Geology
41	Dr. Sagar Pal	Associate Professor	Regular	Applied Chemistry
42	Dr. L. A. Kumaraswamidhas	Associate Professor	Regular	Mining Machinery Engineering
43	Dr. Chandan Guria	Associate Professor	Regular	Petroleum Engineering.
44	Dr. Tanmoy Maity	Associate Professor	Regular	Electrical engineering
45	Dr. Haider Banka	Associate Professor	Regular	Computer Science and Engineering
46	Dr. V K Singh	Associate Professor	Regular	Applied Physics
47	Dr. Arunkumar Samanta	Associate Professor	Regular	Chemical engineering
48	Dr. Ashis Mallick	Associate Professor	Regular	Mechanical Engineering
49	Dr. Ram Madhab Bhattacharjee	Associate Professor	Regular	Mining Engineering
50	Dr. Rabindra Nath Hota	Associate Professor	Regular	Mechanical Engineering
51	Dr. Anup Krishna Prasad	Associate Professor	Regular	Applied Geology
52	Dr. B S Kushvah	Associate Professor	Regular	Applied Mathematics
53	Dr. Anshumali	Associate Professor	Regular	Environmental Science and Engineering
54	Dr. Ajoy Kumar Bhaumik	Associate Professor	Regular	Applied Geology
55	Dr. Alok Sinha	Associate Professor	Regular	Environmental Science and Engineering
56	Dr. Sarat Kumar Panda	Associate Professor	Regular	Civil Engineering
57	Dr. Saravanan Pichiah	Associate Professor	Regular	Environmental Science and Engineering
58	Dr. Sachin Tripathi	Associate Professor	Regular	Computer Science and Engineering
59	Dr. Devi Pasad Mishra	Associate Professor	Regular	Mining Engineering
60	Dr. Ajay Suri	Associate Professor	Regular	Petroleum Engineering.
61	Dr. S R Samadder	Associate Professor	Regular	Environmental Science and Engineering
62	Dr. Anurag Jaswal	Associate Professor	Regular	Applied Mathematics
63	Dr. Sushrut Das	Associate Professor	Regular	Electronics Engineering
64	Dr. Subrata Kumar Ghosh	Associate Professor	Regular	Mechanical Engineering
65	Dr. V Mukherjee	Associate Professor	Regular	Electrical Engineering
66	Dr. Subindu Kumar	Associate Professor	Regular	Electronics Engineering
67	Dr. K K Singh	Associate Professor	Regular	Mechanical Engineering
68	Dr. Alok Kumar Das	Associate Professor	Regular	Mechanical Engineering
69	Dr. Sanjit Kumar Pal	Associate Professor	Regular	Applied Geophysics
70	Dr. Parthasarathi Das	Associate Professor	Regular	Petroleum Engineering.
71	Shri Rajeev Upadhyay	Associate Professor	Contract	Petroleum Engineering

List of Assistant Professor:

Sl. No.	Name	Designation	Status	Department
1	Dr Abha Rani	Assistant Professor	Regular	Applied Mathematics
2	Dr Hari Om	Assistant Professor	Regular	Computer Science and Engineering
3	Dr (Mrs.) Mrinalini Pandey	Assistant Professor	Regular	Management Studies
4	Dr P S Paul	Assistant Professor	Regular	Mining Engineering
5	Dr (Mrs.) Shalini Gautam	Assistant Professor	Regular	Fuel and Mineral Engineering
6	Dr Niladri Das	Assistant Professor	Regular	Management Studies
7	Dr Swapan Dey	Assistant Professor	Regular	Applied Chemistry
8	Dr Pankaj Mishra	Assistant Professor	Regular	Applied Physics
9	Dr Santanu Dwari	Assistant Professor	Regular	Electronics Engineering
10	Dr P S Rao	Assistant Professor	Regular	Applied Mathematics
11	Dr Vipin Kumar	Assistant Professor	Regular	Environmental Science and Engineering
12	Dr S K Raghuwanshi	Assistant Professor	Regular	Electronics Engineering
13	Dr Tarun Kr Naiya	Assistant Professor	Regular	Petroleum Engineering
14	Dr Sahendra Singh	Assistant Professor	Regular	Applied Geology
15	Dr Somnath Yadav	Assistant Professor	Regular	Applied Chemistry
16	Dr Bhanwar S Choudhary	Assistant Professor	Regular	Mining Engineering
17	Dr Ram Bilash Choudhary	Assistant Professor	Regular	Applied Physics
18	Dr Gnananandh Budi	Assistant Professor	Regular	Mining Engineering
19	Dr Abhay Kr Singh	Assistant Professor	Regular	Applied Mathematics
20	Dr Aju Aravind	Assistant Professor	Regular	Humanities and Social Sciences
21	Dr P K Mahato	Assistant Professor	Regular	Mechanical Engineering
22	Dr. A C Sekhara Rao	Assistant Professor	Regular	Computer Science and Engineering
23	Dr. Amgoth Tarachand	Assistant Professor	Regular	Computer Science and Engineering
24	Shri Vinay Kr Rajak	Assistant Professor	Regular	Petroleum Engineering
25	Dr. Rajendra Pamula	Assistant Professor	Regular	Computer Science and Engineering
26	Ms. Archana	Assistant Professor	Regular	Petroleum Engineering
27	Dr Sukanta Das	Assistant Professor	Regular	Electrical Engineering
28	Dr. Mrinal Sen	Assistant Professor	Regular	Electronics Engineering
29	Dr. Rajeev Kr Ranjan	Assistant Professor	Regular	Electronics Engineering
30	Dr. Shatrughan Soren	Assistant Professor	Regular	Fuel and Mineral Engineering
31	Dr. Gauri Shankar	Assistant Professor	Regular	Electrical Engineering
32	Shri B K Naick	Assistant Professor	Regular	Electrical Engineering
33	Dr Santimoy Kundu	Assistant Professor	Regular	Applied Mathematics
34	Dr. Sikandar Azam	Assistant Professor	Regular	Mechanical Engineering
35	Dr Hari Pada Nayek	Assistant Professor	Regular	Applied Chemistry

Sl. No.	Name	Designation	Status	Department
36	Shri Kashinath Pal	Assistant Professor	Regular	Mining Engineering
37	Dr. Brijesh Kr Mishra	Assistant Professor	Regular	Environmental Science and Engineering
38	Dr Suresh Pandian E	Assistant Professor	Regular	Environmental Science and Engineering
39	Dr Kaushal Kumar	Assistant Professor	Regular	Applied Physics
40	Dr Hemant Kumar	Assistant Professor	Regular	Mining Engineering
41	Dr. Niranjan Kumar	Assistant Professor	Regular	Mining machinery engineering
42	Dr. Dharavath Ramesh	Assistant Professor	Regular	Computer Science and Engineering
43	Shri Devendra Chack	Assistant Professor	Regular	Electronics Engineering
44	Dr Shibayan Sarkar	Assistant Professor	Regular	Mechanical Engineering
45	Dr. Jaisingh Thangaraj	Assistant Professor	Regular	Electronics Engineering
46	Shri Amitesh Kumar	Assistant Professor	Regular	Electronics Engineering
47	Dr Arup Kr Pal	Assistant Professor	Regular	Computer Science and Engineering
48	Dr. Amitava Mandal	Assistant Professor	Regular	Mechanical Engineering
49	Dr Sarun P M	Assistant Professor	Regular	Applied Physics
50	Md Tanweer Alam	Assistant Professor	Regular	Mining Machinery Engineering
51	Dr Ganesh Ch Nayak	Assistant Professor	Regular	Applied Chemistry
52	Dr (Mrs.) Sushila Maheshkar	Assistant Professor	Regular	Computer Science and Engineering
53	Dr Sumanta Kr Sahu	Assistant Professor	Regular	Applied Chemistry
54	Shri K Priya Ajit	Assistant Professor	Regular	Mining Machinery Engineering
55	Dr Pramod Kr Kewat	Assistant Professor	Regular	Applied Mathematics
56	Shri D B Kishorilal	Assistant Professor	Regular	Mining Machinery Engineering
57	Shri Pankaj Kr Jain	Assistant Professor	Regular	Fuel and Mineral Engineering
58	Dr Pranab Das	Assistant Professor	Regular	Applied Geology
59	Dr Kartick Ch Jana	Assistant Professor	Regular	Electrical Engineering
60	Dr Ravi Kr Gangwar	Assistant Professor	Regular	Electronics Engineering
61	Dr Sanjeev Anand Sahu	Assistant Professor	Regular	Applied Mathematics
62	Dr G K Vishwakarma	Assistant Professor	Regular	Applied Mathematics
63	Shri M L Chandravanshi	Assistant Professor	Regular	Mechanical Engineering
64	Shri D V Bhaskar	Assistant Professor	Regular	Electrical Engineering
65	Shri Suresh Kr Yatirajula	Assistant Professor	Regular	Chemical Engineering
66	Dr Sridhar Sahu	Assistant Professor	Regular	Applied Physics
67	Dr R Thangavel	Assistant Professor	Regular	Applied Physics
68	Dr P K Sharma	Assistant Professor	Regular	Applied Physics
69	Dr Jayanta Das	Assistant Professor	Regular	Mining Machinery Engineering
70	Dr K S Thyagaraj	Assistant Professor	Regular	Management Studies
71	Shri Anand Anupam	Assistant Professor	Regular	Fuel and Mineral Engineering
72	Shri Neetish Kr Maurya	Assistant Professor	Regular	Petroleum Engineering
73	Dr. Shravan Kumar	Assistant Professor	Regular	Fuel and Mineral Engineering
74	Dr Rashmi Madhuri	Assistant Professor	Regular	Applied Chemistry

Sl. No.	Name	Designation	Status	Department
75	Shri Kaushik Mazumdar	Assistant Professor	Regular	Electronics Engineering
76	Dr Rakesh Kumar	Assistant Professor	Regular	Mechanical Engineering
77	Dr (Mrs) Sarita Kar	Assistant Professor	Regular	Humanities and Social Sciences
78	Dr Amit Kr Verma	Assistant Professor	Regular	Mining Engineering
79	Shri Lutukurthi D N V V Konda	Assistant Professor	Regular	Chemical Engineering
80	Shri Ajit Kumar	Assistant Professor	Regular	Mining Machinery Engineering
81	Dr Nirban Manna	Assistant Professor	Regular	Humanities and Social Sciences
82	Shri Paidinaidu Paluri	Assistant Professor	Regular	Chemical Engineering
83	Dr. Villuri Vasanta Govind Kumar	Assistant Professor	Regular	Mining Engineering
84	Dr Suman Dutta	Assistant Professor	Regular	Chemical Engineering
85	Dr D Krishna Sandilya	Assistant Professor	Regular	Chemical Engineering
86	Dr Saumen Maiti	Assistant Professor	Regular	Applied Geophysics
87	Dr Bibhas Chandra	Assistant Professor	Regular	Management Studies
88	Dr Upama Dutta	Assistant Professor	Regular	Applied Geology
89	Miss Sweta R Malwe	Assistant Professor	Regular	Computer Science and Engineering
90	Shri Govind Murmu	Assistant Professor	Regular	Electronics Engineering
91	Dr Srinivas Pasupuleti	Assistant Professor	Regular	Civil Engineering
92	Dr. Ananda Shankar Hati	Assistant Professor	Regular	Mining Machinery Engineering
93	Dr Raghvendra Kr Chaudhary	Assistant Professor	Regular	Electronics Engineering
94	Dr P Ranjan Sahoo	Assistant Professor	Regular	Applied Geology
95	Miss Tanusree Kaibartta	Assistant Professor	Regular	Computer Science and Engineering
96	Dr R Anand	Assistant Professor	Regular	Applied Geology
97	Dr Kripamoy Sarkar	Assistant Professor	Regular	Applied Geology
98	Shri Rahul Bhattacharya	Assistant Professor	Regular	Electronics Engineering
99	Dr Chanchal Halder	Assistant Professor	Regular	Applied Chemistry
100	Dr Nirupama Mandal	Assistant Professor	Regular	Electronics Engineering
101	Dr Abhishek Kr Singh	Assistant Professor	Regular	Applied Mathematics
102	Dr Sumanta Kr Padhi	Assistant Professor	Regular	Applied Chemistry
103	Dr Binata Panda	Assistant Professor	Regular	Applied Physics
104	Dr M Rakesh Singh	Assistant Professor	Regular	Applied Physics
105	Md Soyeb Alam	Assistant Professor	Regular	Mining Engineering
106	Dr Jhasaketan Nayak	Assistant Professor	Regular	Applied Mathematics
107	Dr Barun Kr Nandi	Assistant Professor	Regular	Fuel and Mineral Engineering
108	Dr. (Mrs) Sheeja Jagdevan	Assistant Professor	Regular	Environmental Science and Engineering
109	Dr. Rabindra Kumar Sinha	Assistant Professor	Regular	Mining Engineering
110	Dr. Umakanta Tripathy	Assistant Professor	Regular	Applied Physics
111	Dr. Soumitra Maiti	Assistant Professor	Regular	Applied Chemistry

Sl. No.	Name	Designation	Status	Department
112	Dr. Dinbandhu Pradhan	Assistant Professor	Regular	Applied Mathematics
113	Dr. Basanta Bhaduri	Assistant Professor	Regular	Applied Physics
114	Dr. Subhankar Sen	Assistant Professor	Regular	Mechanical Engineering
115	Dr. Subramanian Narayanan	Assistant Professor	Regular	Mechanical Engineering
116	Dr. Rashmi Ranjan Das	Assistant Professor	Regular	Mining Machinery Engineering
117	Dr. Pawan Kumar Singh	Assistant Professor	Regular	Mechanical Engineering
118	Dr. Prasun Jana	Assistant Professor	Regular	Mechanical Engineering
119	Dr. Saurabh Datta Gupta	Assistant Professor	Regular	Applied Geophysics
120	Dr. Rajib Sarkar	Assistant Professor	Regular	Civil Engineering
121	Dr. Vishwas Nandkishor Khatri	Assistant Professor	Regular	Civil Engineering
122	Dr. Aditya Kumar	Assistant Professor	Regular	Chemical Engineering
123	Dr. Sanket Nayak	Assistant Professor	Regular	Civil Engineering
124	Dr. Soubhik Kumar Bhaumik	Assistant Professor	Regular	Chemical Engineering
125	Dr. Paresh Kumar Nayak	Assistant Professor	Regular	Electrical Engineering
126	Dr. Md. Irfan	Assistant Professor	Regular	Management Studies
127	Dr. Krishnendu Shaw	Assistant Professor	Regular	Management Studies
128	Dr. Gyan Prakash	Assistant Professor	Regular	Humanities and Social Sciences
129	Dr. Soumen Bag	Assistant Professor	Regular	Computer Science and Engineering
130	Dr. Ramanababu Kaligatla	Assistant Professor	Regular	Applied Mathematics
131	Dr. Deepak Kumar Mandal	Assistant Professor	Regular	Mechanical Engineering
132	Dr. Vivek Bajpai	Assistant Professor	Regular	Mechanical Engineering
133	Dr. Devaraj Pandimuthu	Assistant Professor	Regular	Humanities and Social Sciences
134	Dr. Lohitkumar Nainegali	Assistant Professor	Contract	Civil engineering
135	Dr. Sowmiya Chawla	Assistant Professor	Contract	Civil engineering
136	Dr. Sidartha Sengupta	Assistant Professor	Contract	Chemical engineering
137	Dr. Arijit Barar	Assistant Professor	Contract	Electrical Engineering
138	Dr. Sachin Kumar Singh	Assistant Professor	Contract	Mechanical Engineering
139	Dr. Tanish Dey	Assistant Professor	Contract	Civil engineering
140	Dr. Sukanta Chakraborty	Assistant Professor	Contract	Civil engineering
141	Dr. Patitapaban Sahu	Assistant Professor	Contract	Mining Engineering
142	Dr. Smruti Sourava Mohapatra	Assistant Professor	Contract	Civil Engineering
143	Dr. Srinivasa Rao Gangumalla	Assistant Professor	Contract	Applied Geophysics

Sl. No.	Name	Designation	Status	Department
144	Dr. Kironmala Chanda	Assistant Professor	Contract	Civil Engineering
145	Dr. Radhakanta Koner	Assistant Professor	Contract	Mining Engineering
146	Dr. Mohit Agrawal	Assistant Professor	Contract	Applied Geophysics
147	Dr. Satadru Das Adhikari	Assistant Professor	Contract	Civil Engineering
148	Dr. Himanshu Bhushan Mishra	Assistant Professor	Contract	Electronics Engineering
149	Dr. Manodipan Sahoo	Assistant Professor	Contract	Electronics Engineering
150	Dr. Piyali Sengupta	Assistant Professor	Contract	Civil Engineering
151	Dr. Rakesh Kumar	Assistant Professor	Contract	Mining Engineering
152	Dr. Anirban Ghoshal	Assistant Professor	Contract	Electrical Engineering
153	Dr. Satyabrata Sahoo	Assistant Professor	Contract	Mechanical Engineering
154	Dr. Tanmay Dutta	Assistant Professor	Contract	Mining Machinery Engineering
155	Dr. Arpan Kumar Pradhan	Assistant Professor	Contract	Electrical Engineering
156	Dr. Nabakumar Jana	Assistant Professor	Contract	Applied Mathematics
157	Dr. Biplab Sarkar	Assistant Professor	Contract	Electronics Engineering
158	Dr. Ansuman Bhattacharya	Assistant Professor	Contract	Computer Science and Engineering
159	Dr. Soumit Chatterjee	Assistant Professor	Contract	Applied Chemistry
160	Dr. Niladri Patra	Assistant Professor	Contract	Applied Chemistry
161	Dr. Sunil Manohar Dash	Assistant Professor	Contract	Mechanical Engineering

List of Officers:

Sl. No.	Name	Designation	Status	Department/Section
1	Col. (Retd.) M K Singh	Registrar	Regular	Administration
2	Dr. Partha De	Librarian	Regular	Central Library
3	Dr. Kaushik Mondal	System Manager	Regular	Computer Centre
4	Dr. Pramod Mathur	Joint Registrar	Regular	Administration
5	Shri Prabodh Pandey	Dy. Registrar	Regular	Administration
6	Shri Pradhan Rajesh Kr. Sinha	Dy. Registrar	Regular	Administration
7	Shri Rajeev Kumar	Dy. Registrar	Regular	Administration
8	Shri S. Ghosh	Campus Engineer	Regular	CMU
9	Dr. Praveen Kumar	SMO	Regular	Health Centre
10	Dr. (Mrs) T. Banerjee	LMO	Regular	Health Centre
11	Shri R K Mishra	System Analyst	Regular	Computer Centre
12	Shri Rakesh Soni	System Analyst	Regular	Computer Centre
13	Shri H R Singh	Technical Officer	Regular	Applied Geology
14	Shri U P Sharma	Technical Officer	Regular	Petroleum Engineering
15	Dr. L K Verma	Research Officer	Regular	Fuel and Mineral Engineering
16	Shri D N Acharya	SPO	Regular	SPEC
17	Dr. Dipankar Ray	Programmer	Regular	Examination and Academic

Sl. No.	Name	Designation	Status	Department/Section
18	Shri A. Kumaraswamy	Programmer	Regular	Computer Centre
19	Shri Anil Kumar	Assistant Registrar	Regular	Administration
20	Shri Babulal Rajak	Assistant Registrar	Regular	Administration
21	Shri M.S. Champia	Assistant Registrar	Regular	Administration
22	Ms. S. Kaur	Assistant Registrar	Regular	Administration
23	Shri A.K Gupta	Assistant Registrar	Regular	Administration
24	Dr. Gopal Sinha	Assistant Registrar	Regular	Administration
25	Shri M N Pandey	Assistant Registrar	Regular	Administration
26	Shri K C Nandy	ACE (Civil)	Regular	CMU
27	Shri A K Barnwal	AE (Elect)	Regular	CMU
28	Shri Shailendra Bhatia	AWS	Regular	Central Workshop
29	Shri Brijesh Kr Pandey	Hindi Officer	Regular	Administration
30	Dr. Dhiraj Kumar	Horticulturist	Regular	CA Section
31	Shri Ram Manohar	Sr. SEO		CA Section

List of Faculty/Officers/Staff appointed:

Sl. No.	Name	Designation	Department/Section	Date of Joining
1	Shri Satish Kumar	Asstt. Librarian	Central Library	03.04.2017
2	Shri Mahesh Singh	Electrical Supervisor	CMU	24.04.2017
3	Shri Kamal Krishna Mahata	JE (Civil)	CMU	28.04.2017
4	Dr. Haider Banka	Associate Professor	Computer Science and Engineering	19.05.2017
5	Dr. Sachin Tripathi	Associate Professor	Computer Science and Engineering	19.05.2017
6	Dr. Himanshu Bhusan Mishra	Assistant Professor (Contract)	Electronics Engineering	02.06.2017
7	Dr. Manodipan Sahoo	Assistant Professor	Electronics Engineering	15.06.2017
8	Dr. Devi Prasad Mishra	Assoc. Prof.	Mining Engineering	19.06.2017
9	Dr. Ajay Suri	Associate Professor	Petroleum Engineering	20.06.2017
10	Dr.(Mrs.) Piyali Sengupta	Assistant Professor (Contract)	Civil Engineering	27.06.2017
11	Dr. Rakesh Kumar	Assistant Professor (Contract)	Mining Engineering	03.07.2017
12	Dr. Anirban Ghoshal	Assistant Professor (Contract)	EE	10.07.2017
13	Dr. Satyabrata Sahoo	Assistant Professor (Contract)	Mechanical Engineering	18.07.2017
14	Dr. Tanmoy Dutta	Assistant Professor (Contract)	Mining Machinery Engineering	20.07.2017
15	Dr. Sukha Ranjan Samaddar	Associate Professor	Environmental Science and Engineering	26.07.2017
16	Dr. Arpan Kr. Pradhan	Assistant Professor (Contract)	Electrical Engineering	31.07.2017

Sl. No.	Name	Designation	Department/Section	Date of Joining
17	Prof. Ashok Khanna	Professor (Contract)	Chemical Engineering	31.07.2017
18	Prof. Ashok Khanna	Professor (Contract)	Chemical Engineering	31.07.2017
19	Dr. Aditya Kumar	Assistant Professor	Chemical Engineering	07.08.2017
20	Prof. S S Jamuar	Professor (Contract)	Electronics Engineering	28.08.2017
21	Dr. Anurag Jayswal	Associate Professor	Applied Mathematics	19.09.2017
22	Dr. Nabakumar Jana	Assistant Professor (Contract)	Applied Mathematics	25.10.2017
23	Dr. Chiranjeev Kumar	Professor	Computer Science and Engineering	07.11.2017
24	Dr. Dheeraj Kumar	Professor	Mining Engineering	07.11.2017
25	Dr. Mritunjay Kumar Singh	Professor	Applied Mathematics	07.11.2017
26	Dr. Sushrut Das	Associate Professor	Electronics and Communication Engineering	07.11.2017
27	Dr. Subindu Kumar	Associate Professor	Electronics Engineering	07.11.2017
28	Dr. Vivekanand Mukherjee	Associate Professor	Electrical Engineering	07.11.2017
29	Dr. Alok Kumar Das	Associate Professor	Mechanical Engineering	07.11.2017
30	Dr. Kalyan Kumar Singh	Associate Professor	Mechanical Engineering	07.11.2017
31	Dr. Subrata Kumar Ghosh	Associate Professor	Mechanical Engineering	07.11.2017
32	Dr. Sanjit Kumar Pal	Associate Professor	Applied Geophysics	07.11.2017
33	Dr. P N Singh Roy	Professor	Applied Geophysics	13.11.2017
34	Dr. Biplab Sarkar	Assistant Professor (Contract)	Electronics and Communication Engineering	20.11.2017
35	Dr. Anshuman Bhattacharya	Assistant Professor (Contract)	Computer Science and Engineering	24.11.2017
36	Dr. Soumit Chatterjee	Assistant Professor (Contract)	Applied Chemistry	29.11.2017
37	Dr. Niladri Patra	Assistant Professor (Contract)	Applied Chemistry	01.12.2017
38	Dr. Parthasarathi Das	Associate Professor	Applied Chemistry	01.12.2017
39	Dr. Sunil Manohar Das	Assistant Professor (Contract)	Mechanical Engineering	28.12.2017
40	Prof. Rajiv Shekhar	Director	Administration	26.03.2018

List of Faculty/Officers/Staff retired:

Sl. No.	Name	Designation	Department/Section	Date of Retirement
1	Shri Babul Talukdar	Dresser	Health Centre	30.04.2017
2	Shri Lakhu Dey	Peon	DSW Office	30.04.2017
3	Shri Ganesh Gope	Library Attendant	Fuel and Mineral Engineering	31.05.2017
4	Shri Riban Gope	Peon	SPEC Office	31.05.2017
5	Shri Tun Tun Bhagat	Peon		31.05.2017
6	Shri A K Singh	Technical Assistant	Computer Science and Engineering	30.06.2017
7	Shri Sitaram Hazra	Gestetner Operator	Central Library	30.06.2017

Sl. No.	Name	Designation	Department/Section	Date of Retirement
8	Shri A C Kumar	Laboratory Attendant	Mining Engineering	30.06.2017
9	Smt. Rubiya Devi	Peon	Applied Geology	31.07.2017
10	Shri Quyum Ansari	Wardboy	Health Centre	31.07.2017
11	Shri P K Behera	Associate Professor	Mining Engineering	31.07.2017
12	Prof. A K Pal	Professor	Environmental Science and Engineering	31.08.2017
13	Shri H R Singh	Technical Officer	Applied Geology	30.11.2017
14	Shri Suresh Pandey	Scientific Asstt.	Applied Geology	31.12.2017
15	Shri Newalal Hari	Safai Mazdoor	CA Section	31.12.2017
16	Shri S N Gope	Laboratory Attendant	Fuel and Mineral Engineering	31.01.2018
17	Shri D B Sharma	Personal Assistant	Electronics Engineering	31.01.2018
18	Shri Bishwanath Gope	Mazdoor	Senior Academic Hostel	31.01.2018
19	Shri Jiten Kumar	Mazdoor	Examination & Academic	31.01.2018
20	Shri K C Nandy	ACE (Civil)	CMU	31.01.2018
21	Shri Basudeo Gope	Head Mali	CA Section	28.02.2018
22	Shri F C Paul	Mechanic 'A'	Central Workshop	28.02.2018
23	Shri I L Hazra	Laboratory Attendant	Environmental Science and Engineering	28.02.2018
24	Prof. Phalguni Sen	Professor	Mining Engineering	28.02.2018
25	Dr. L K Verma	Research Officer	Fuel and Mineral Engineering	28.02.2018

Service Discontinued:

Sl. No.	Name	Designation	Department/Section	Date of discontinuation of services (w.e.f.)
1	Ms. Sweta R Malwe	Asstt. Prof.	Computer Science and Engineering	29.04.2017
2	Shri Karuna Nidhan	Stenographer	Administration	31.07.2017
3	Dr. Sushila Maheshkar	Asstt. Prof.	Computer Science and Engineering	19.12.2017
4	Shri A K Gupta	Assistant Registrar	Administration	26.12.2017
5	Shri A K Barnwal	Asstt. Engineer (Elect.)	CMU	27.12.2017
6	Dr. Basanta Bhaduri	Asstt. Prof.	Applied Physics	15.01.2018

12. Members of Board of Governors, IIT (ISM), Dhanbad

Period 01.04.2017 to 31.03.2018

Prof D D Misra
Chairman, IIT (ISM), BoG & FC
 4, Arya Bhumi, P.O. Patia
 Bhubhaneswar – 751 024

Representative of MHRD, GoI
(Department of Higher Education)

Additional Secretary to the Govt. of India
Ministry of Human Resource Development
 Department of Higher Education
 Shastri Bhawan, New Delhi 110115

Director, IIT (ISM), Dhanbad
(Ex-officio Member)

Prof D C Panigrahi (up to 25.03.2018)
Director
 IIT (ISM), Dhanbad-826004

Prof Rajiv Shekhar (w.e.f. 26.03.2018)
Director, IIT (ISM)
 IIT (ISM), Dhanbad-826004

Representative of Ministry of Finance, GoI
(Integrated Finance Division)

Ms. Darshana M. Dabral
Joint Secretary
&
Financial Advisor to Govt. of India
Ministry of HRD (IFD)
 Shastri Bhawan
 New Delhi – 110115

Director General of Mines Safety (Ex-officio)

Shri P K Sarkar
Director General of Mines Safety
 Directorate General of Mines Safety
 Dhanbad – 826 001

Nominee of Ministry of Mines, GoI

Dr Niranjan Kumar Singh
Joint Secretary, Govt. of India
 Ministry of Mines (MoM)
 Room No. 322-A Wing
 Shastri Bhawan, New Delhi – 110 001

Chairman-cum-Managing Director, CMPDI (Ranchi)

Shri Shekhar Saran
Chairman-cum Managing Director
 Central Mine Planning & Design Institute Ltd
 Gondwana Place, Ranchi – 834 008

Professor's Representative

Prof P K Sarkar
 Deptt. of Mechanical Engineering
 IIT (ISM), Dhanbad

Nominee from Associate Professors

Dr S N Singh
 Associate Professor
 Deptt. of Mechanical Engineering
 IIT (ISM), Dhanbad

Nominee from Assistant Professors

Dr Abha Rani
 Assistant Professor
 Deptt. of Applied Mathematics
 IIT (ISM), Dhanbad

Government of India Nominees

Chairman- cum-Managing Director
Coal India Limited
 Coal Bhawan
 Premise No.- 04 MAR
 Plot No. AF-III, Action Area-1A
 Newtown, Rajarhat
 Kolkata – 700 156

Chairman-cum-Managing Director
Oil & Natural Gas Corporation Ltd
 Pt. Deen Dayal Upadhyay
 Urja Bhawan, 5 Nelson Mandela Marg
 Vasant Kunj, New Delhi – 110 070

Chief Secretary to the Govt. of Jharkhand

1st Floor, Project Building
Dhurwa, Ranchi – 834 004

Prof. V.R. Desai

Department of Civil Engineering
Indian Institute of Technology
Kharagpur – 721302

Prof. Anil Kumar Gupta

Department of Geology & Geophysics
Indian Institute of Technology
Kharagpur – 721 302

Registrar & Secretary**Dr. Col. M K Singh****Registrar**

IIT (ISM), Dhanbad

Members of Finance Committee, IIT (ISM), Dhanbad

Period 01.04.2017 to 31.03.2018

Prof D D Misra
Chairman, IIT (ISM), BoG & FC
 4, Arya Bhumi, P.O. Patia
 Bhubhaneswar – 751 024

Representative of MHRD, GoI
(Department of Higher Education)

Additional Secretary to the Govt. of India
Ministry of Human Resource Development
 Department of Higher Education
 Shastri Bhawan, New Delhi 110115

Director, IIT (ISM), Dhanbad
(Ex-officio Member)

Prof D C Panigrahi (up to 25.03.2018)
Director
 IIT (ISM), Dhanbad-826004

Prof Rajiv Shekhar (w.e.f. 26.03.2018)
Director, IIT (ISM)
 IIT (ISM), Dhanbad-826004

Representative of Ministry of Finance, GoI
(Integrated Finance Division)

Ms. Darshana M. Dabral
Joint Secretary
&
Financial Advisor to Govt. of India
Ministry of HRD (IFD)
 Shastri Bhawan
 New Delhi – 110115

Shri P K Sarkar
Director General of Mines Safety
 Directorate General of Mines Safety
 Dhanbad – 826 001

**Chairman- cum-Managing Director
Coal India Limited**

Coal Bhawan
Premise No.- 04 MAR
Plot No. AF-III, Action Area-1A
Newtown, Rajarhat
Kolkata – 700 156

Registrar & Secretary

Dr. Col. M K Singh
Registrar
IIT (ISM), Dhanbad

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD



ANNUAL ACCOUNTS FOR THE FINANCIAL YEAR 2017-18



**INDIAN INSTITUTE OF TECHNOLOGY
(INDIAN SCHOOL OF MINES), DHANBAD**

ANNUAL ACCOUNTS 2017-18

INDEX

Sl. No.	Contents	Schedule	Page No.
1	Executive Summary		i - iv
2	Balance Sheet		1
3	Income & Expenditure Account		2
4	Receipt & Payment Account		3 - 4
5	Capital Fund	I	5
6	Reserve & Surplus	II	6 - 12
7	Earmarked/ Endowment Fund	III	12 - 14
8	Current Liabilities & Provisions	IV	14 - 32
9	Fixed Assets	V	33 - 35
10	Current Assets, Loans & Advances	VI	36 - 39
11	Grants-in-Aid	VII	40
12	Academic Receipts	VIII	40 - 41
13	Interest Earned	IX	41 - 42
14	Other Income	X	42 - 43
15	Establishment Expenses	XI	43 - 44
16	Academic Expenses	XII	44 - 46
17	Administrative & General Expenses	XIII	46 - 47
18	Repair & Maintenance	XIV	47
19	Transportation Expenses	XV	48
20	Miscellaneous / Other Expenses	XVI	48
21	Schedules of Receipt & Payment Account		49 - 62
22	Balance Sheet: GPF, CPF & DCPS		63 - 64
23	Income & Expenditure A/c: GPF, CPF & DCPS		65
24	Receipt & Payment A/c: GPF, CPF & DCPS		66
25	Significant Accounting Policies	XVII	67 - 68
26	Notes on Accounts	XVIII	68 - 69
27	Statement of outstanding LCs & Bank Guarantee		70 - 71
28	Investment Schedule		72 - 93
29	Utilization Certificate (Audited) for the FY 2016-17		94 - 97
30	Utilization Certificate for the FY 2017-18		I - IV



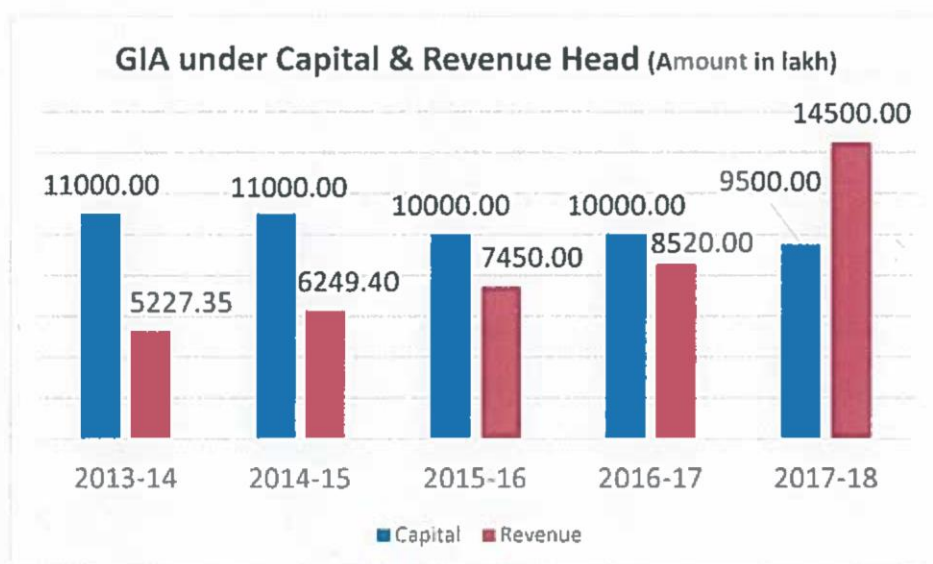
INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

Executive Summary

Consolidated Annual Accounts of the Indian Institute of Technology (Indian School of Mines) Dhanbad comprises of financial statements of Capital (Plan), Revenue (Non-Plan) and Project Account. Apart from this the financial statements of General Provident Fund (GPF), Contributory Provident Fund (CPF) & Defined Contributory Pension Scheme (DCPS) have also been enclosed in the Annual Account of the FY 2017-18.

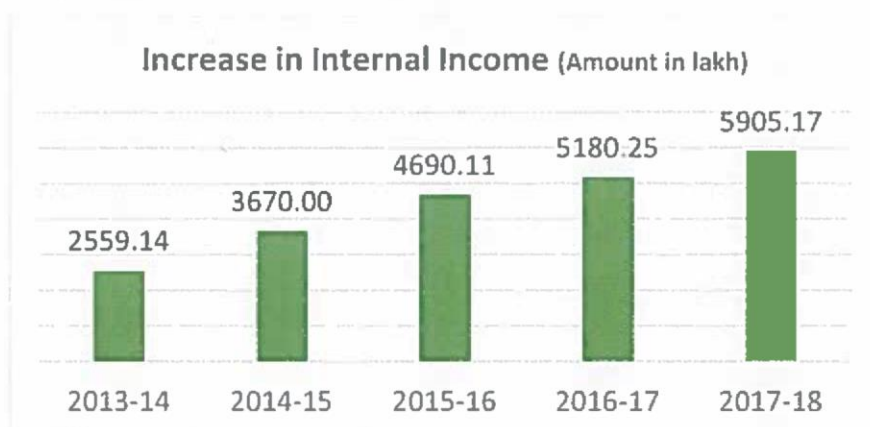
Grant in Aid (GIA)

The inflow of Grants in Aid (GIA) under Capital and Revenue Heads as received from the Ministry of HRD, Govt. of India during last five years is shown in the below chart:



Internal Income

The major source of Institute's internal income is fee from students. This year Institute has generated total internal income of Rs. 5905.17 lakh as compared to Rs. 5180.25 lakh of previous year. The increase in internal income during last five years is shown below:



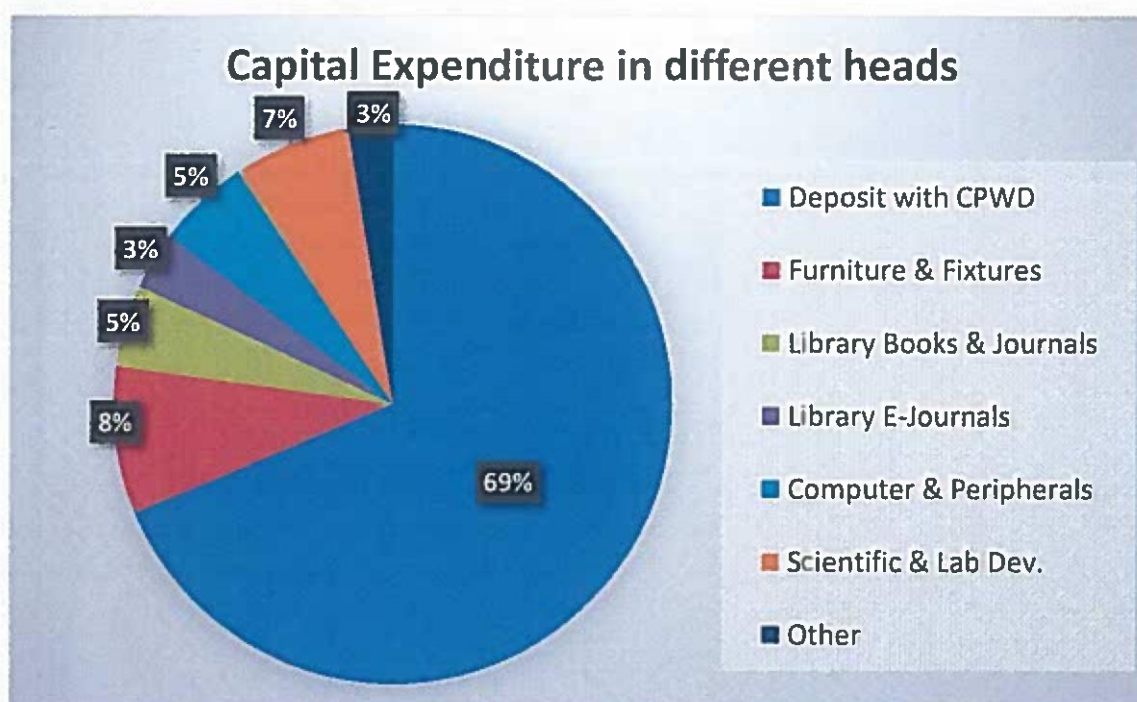
(i)



INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

Capital (Plan) Account

During the current Financial Year Institute received Grant in Aid from the Ministry HRD to the tune of Rs. 9500.00 lakh. This year, full amount of capital grant has been utilized for creation of capital assets. Major portion of Capital Grant i.e. Rs. 6519.90 lakh has been deposited with CPWD towards construction of various infrastructural facilities. Remaining Rs. 2980.10 lakh has been utilized for procurement of capital assets, viz. Furniture, Fixtures & Fittings, Library Books & Journals, Library E-Resources, Computer & Peripherals, Scientific and Lab Development (SLE) etc.



CPWD has completed and handed over to the Institute some of the major buildings like Academic Complex Building, Student Activity Centre, New Health Centre, Sub-Way, etc. Other major projects such as Central Library and Rosaline Hostel (Girls Hostel) have been completed and likely to be handed over soon. Other buildings namely Central Research Facility (CRF), Centers of Excellence in Safety Occupational Health & Disaster Management etc. are at the verge of completion. Construction of building projects like 180 Type V & Type VI quarters, 1000- Room Boy's Hostel, are in the full swing.

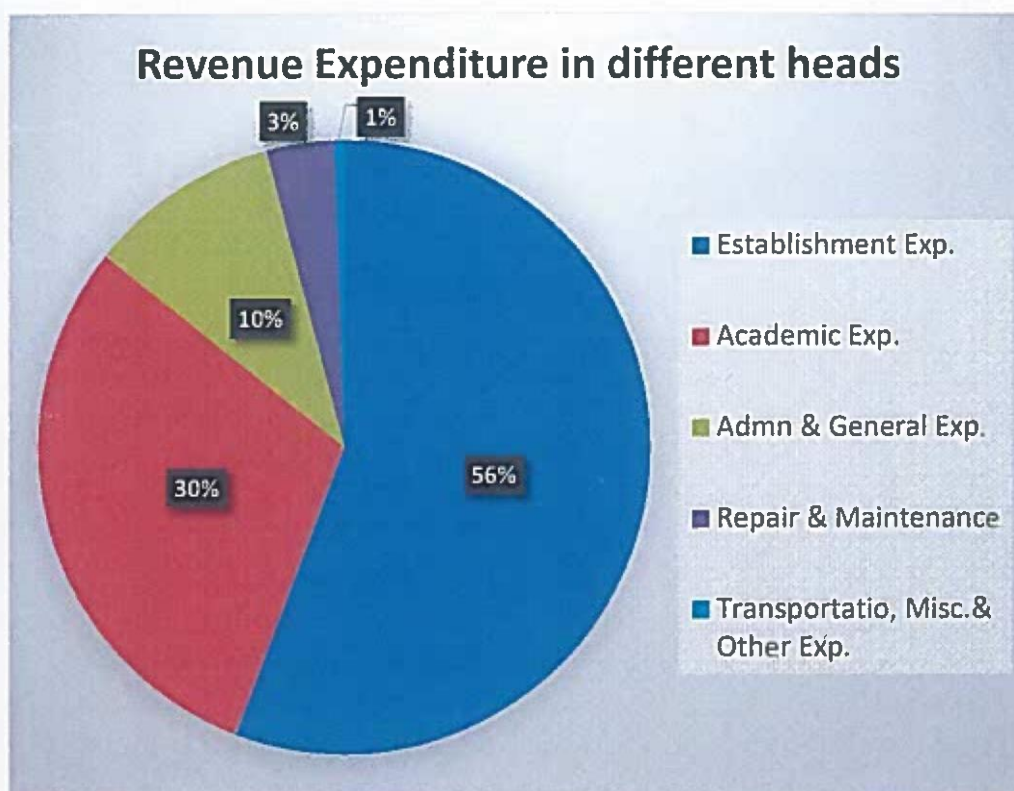
Institute is in the process of acquisition of some land from the Jharkhand state Govt. In the first phase 09 acres of land has been allotted to the Institute by the Jharkhand state Govt. Around 300 acre of additional land is expected to be allotted to the Institute by the Jharkhand state Govt, this land would be somewhere near Maithon which is around 40 km from the Institute. The Institute is planning to develop the land for effective use in the coming years.



INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

Revenue (Non-Plan) Account

Under Non-Plan (Revenue), the Institute received an amount of Rs. 14500.00 lakh as Grants in Aid from the Ministry of HRD as against Rs. 8520.00 lakh received in the last financial year. In the initial stage revenue grant of Rs. 11500.00 lakh was allocated to the Institute. Later on, due to implementation of 7th CPC, additional revenue grant of Rs. 3000.00 lakh was allocated for payment of pay commission arrears. Apart from Government support, institute has also generated internal income of Rs. 5905.17 lakh during the year. By adding government grant and Institute's internal income, total fund of Rs. 20405.17 lakh was available with the Institute, the same has been fully utilized during the year. The major heads of expenditure under Non-Plan (Revenue) account comprise of Establishment Expenses, Academic Expenses, Administrative & General Expenses, Repair & Maintenance, Transportation Expenses, Miscellaneous & Other Expenses. Percentage expenses under different Non-Plan heads is shown in the below chart:



Project Account

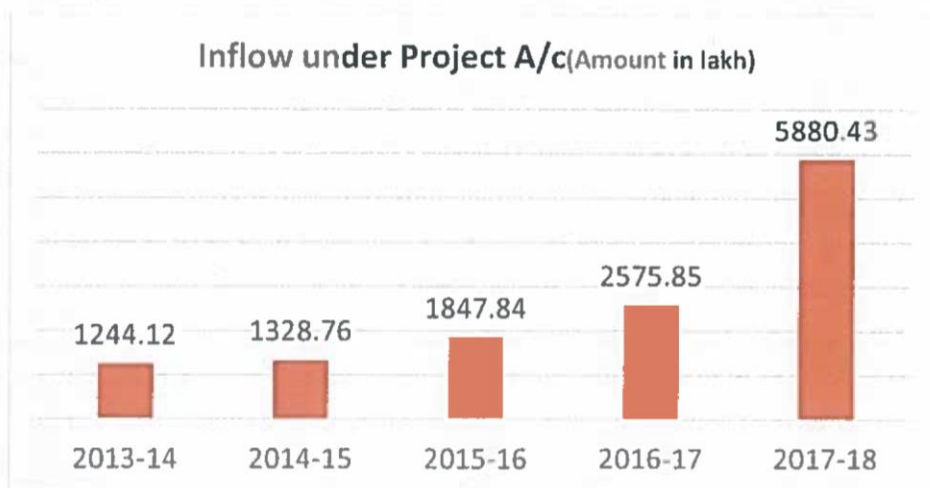
Sponsored/R&D Projects: One more entity under consolidated Annual Accounts of the Institute is Project Account. Various sponsored and Research & Development (R&D) projects are sanctioned by various agencies like MHRD, UGC, DST, MOEF, CSIR, OIL, ISRO, etc. for the purpose of Research and Development. Funds are transferred from these agencies with proper heads of expenditure to cater the financial requirements of these projects. Consolidated statements of

(iii)



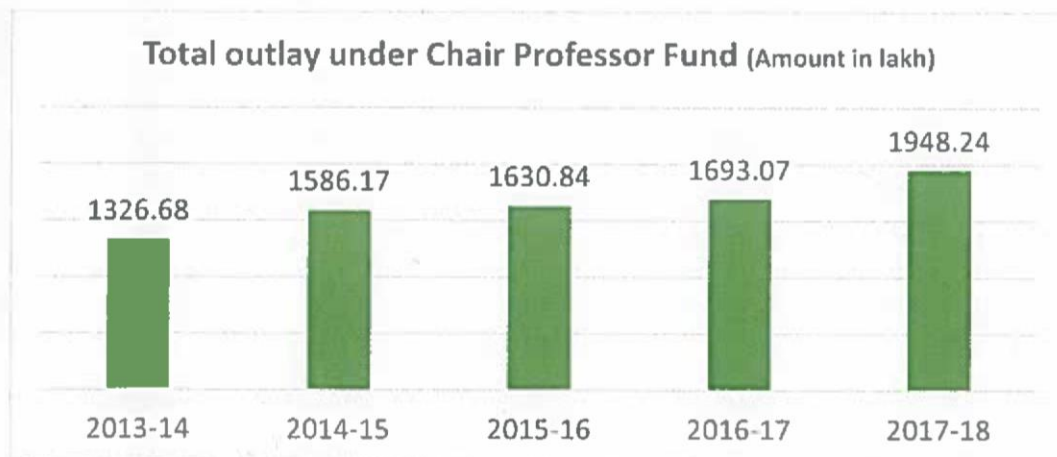
INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

accounts of all the running projects of the Institute are the integral part of the annual accounts of the Institute. As on date around 327 Sponsored/R&D Projects have been undertaken by the Institute to cater the R&D needs of the country. During the financial year a sum of Rs. 5880.43 lakh flown-in for the purpose as compared to Rs. 2575.85 lakh in the previous financial year.



Consultancy Projects: Apart from the R&D, it also accounts for the Consultancy Projects to cater the need of the industries in all spheres of its expertise, which is one of the sources of Internal Income. The inflow on this count in the current financial year is noted to be Rs. 1968.60 lakh as compared to Rs. 1350.82 lakh during previous year.

Chair Professor Endowment Fund: Under Project account we have endowment in the form of Chair Professors, which are run purely on the income generated from the endowments sponsored by Govt./ Semi Govt./ Private agencies like Coal India Limited, SAIL, NMDC, ONGC, Tata Steel, Ministry of Labour and Employment (MOLE) etc. In the beginning of the financial year, Institute had nine chair professors, adding to it one more chair namely Rungta Chair has been established with initial investment of Rs. 200.00 lakh. The total corpus of all 10 chairs has accumulated to Rs. 1948.24 lakh as compared to Rs. 1693.07 lakh at the end of previous financial year. Yearly growth in chair corpus is shown below:



(iv)



BALANCE SHEET AS ON 31ST MARCH, 2018

					(Amount in Rs)	
CORPUS/ CAPITAL FUND AND LIABILITIES	Sch No	Non Plan 2017-18	Plan 2017-18	Project 2017-18	Total Current year 2017-18	Total Previous Year 2016-17
CAPITAL FUND	I	6353,07,039.21	78295,11,933.76	3639,45,097.93	88287,64,070.90	79699,87,559.78
RESERVE AND SURPLUS	II	1339,43,706.50	-	804,29,775.54	2143,73,482.04	1688,72,631.13
EARMARKED/ ENDOWMENT FUND	III	4973,78,140.19	-	2039,05,306.83	7012,83,447.02	5285,46,555.53
CURRENT LIABILITIES AND PROVISIONS	IV	2450,31,216.61	1605,78,069.40	10557,15,325.81	14613,24,611.82	11010,70,354.95
TOTAL		15116,60,102.51	79900,90,003.16	17039,95,506.11	112057,45,611.78	97684,77,101.39
ASSETS						
FIXED ASSETS	V	6273,75,672.00	36415,08,026.19	5990,26,848.73	48679,10,546.92	43949,14,726.92
LESS: PROVISION FOR DEPRECIATION		1311,63,355.57	18989,08,020.44	3440,39,981.57	23741,11,357.58	21152,10,732.76
NET BLOCK (FIXED ASSETS)		4962,12,316.43	17426,00,005.75	2549,86,867.16	24937,99,189.34	22797,03,994.16
CURRENT ASSETS, LOANS, ADVANCES	VI	10154,47,786.08	62474,89,997.41	14490,08,638.95	87119,46,422.44	74887,73,107.23
TOTAL		15116,60,102.51	79900,90,003.16	17039,95,506.11	112057,45,611.78	97684,77,101.39
SIGNIFICANT ACCOUNTING POLICIES	XVII					
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	XVIII					

M.N. Pandey
(M N PANDEY)
ASST REGISTRAR (L&B)

M S Champa
(M S CHAMPIA)
ASST REGISTRAR (PA)

Prabodh Pandey
(PRABODH PANDEY)
DY REGISTRAR (F&A)

Col M K Singh
(COL M K SINGH)
REGISTRAR

Prof Rajiv Shekhar
(PROF RAJIV SHEKHAR)
DIRECTOR





INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD 1.4.2017 TO 31.3.2018

INCOME	Sch No	Non Plan 2017-18	Plan 2017-18	Project 2017-18	Total Current year 2017-18	(Amount in Rs)
						Total Previous Year 2016-17
Grants-in-aid from MHRD, GOI	VII	14500,00,000.00	9500,00,000.00	-	24000,00,000.00	18520,00,000.00
Less: Transferred to Capital Fund towards non recurring expenses		-	9500,00,000.00	-	9500,00,000.00	7885,85,519.00
Net Grants in Aid		14500,00,000.00	-	-	14500,00,000.00	10634,14,481.00
Academic Receipts	VIII	4979,33,067.52	-	-	4979,33,067.52	4580,04,300.14
Interest Earned	IX	24,48,747.00	3,57,031.00	768,02,975.59	796,08,753.59	581,71,727.95
Other Income	X	901,35,480.39	-	-	901,35,480.39	588,12,118.50
TOTAL (A)		20405,17,294.91	3,57,031.00	768,02,975.59	21176,77,301.50	16384,02,627.59
EXPENDITURE						
Establishment Expenses	XI	11374,09,685.00	-	-	11374,09,685.00	8014,75,572.00
Academic Expenses	XII	6116,01,955.00	-	-	6116,01,955.00	4948,88,749.00
Administrative & General Expenses	XIII	2079,93,025.00	1,362.10	-	2079,94,387.10	2082,03,988.75
Repair & Maintenance	XIV	723,08,280.00	-	-	723,08,280.00	385,32,475.00
Transportation Expenses	XV	64,23,360.00	-	-	64,23,360.00	42,56,073.00
Miscellaneous/ other Expenses	XVI	50,08,625.87	-	21,900.51	50,30,526.38	340,99,753.43
Prior Period Expenses		88,237.00	-	-	88,237.00	-
Total Expenditure before depreciation (B)		20408,33,167.87	1,362.10	21,900.51	20408,56,430.48	15814,56,611.18
Balance surplus/(Deficit) before Depreciation (C)		(3,15,872.96)	3,55,668.90	767,81,075.08	768,20,871.02	-
Depreciation of Plan & Non Plan. Depreciation of Project A/c transferred to Capitalised Fund for Assets (D)	V	160,36,078.78	1967,17,224.15	-	2127,53,302.94	-
Balance being surplus/(Deficit) after Depreciation (C - D)		(163,51,951.74)	(1963,61,555.25)	767,81,075.08		
Balance being surplus/(Deficit) transferred to Capital Fund Plan and Non Plan. Project surplus transferred to Non Plan Endowment Fund.		(163,51,951.74)	(1963,61,555.25)	767,81,075.08		
Significant Accounting Policies	XVII					
Contingent Liabilities and Notes on Accounts	XVIII					

H. N. Pandey
(M N PANDEY)
ASST REGISTRAR (L&B)

(M S CHAMPIA)
ASST REGISTRAR (PA)

(PRABODH PANDEY)
DY REGISTRAR (F&A)

(G. M. K. SINGH)
REGISTRAR

(PROF RAJIV SHEKHAR)
DIRECTOR





RECEIPTS & PAYMENTS ACCOUNT FOR THE PERIOD 1.4.2017 TO 31.3.2018

(Amount in Rs)

RECEIPTS	Sch No.	Non Plan 2017-18	Plan 2017-18	Project 2017-18	Total Current Year 2017-18	Total Previous Year 2016-17
I. Opening Balances	R 1					
(a) Cash Balances		39,275.20	-	1,211.00	40,486.20	3,95,860.70
(b) Bank Balances						
i. In Current Accounts		737,92,053.53	276,49,994.16	2,31,578.53	1016,73,626.22	3057,56,898.16
ii. In Deposit Accounts					-	-
iii. In Savings Accounts		23,54,767.01	-	1204,25,906.11	1227,80,673.12	638,61,197.20
II. Grants Received	R 2					
a) From Government of India		14500,00,000.00	9500,00,000.00	-	24000,00,000.00	18520,00,000.00
b) From State Government			-	-	-	
c) From other sources (details)			-	-	-	
III. Academic Receipts	R 3	5153,91,697.52	-	-	5153,91,697.52	4626,94,895.14
IV. Receipts against Earmarked / Endowment Funds / Other Reserve Funds	R 4	339,60,932.00	-	534,48,047.75	874,08,979.75	1020,05,663.68
V. Receipts against Sponsored Projects / Schemes / Others	R 5	7,96,383.00	-	8887,77,241.92	8895,73,624.92	4573,47,056.80
VI. Receipts against sponsored Fellowships and Scholarships	R 6	67,89,112.00	-	4,04,171.60	71,93,283.60	62,68,892.00
VII. Interest received on:	R 7					
a) Bank Deposits		225,89,257.00	131,42,929.00	482,33,854.00	839,66,040.00	363,17,689.00
b) Loans & Advances		4,65,748.00	-	2,125.00	4,67,873.00	1,87,289.00
c) Savings Bank Accounts		6,55,646.00	3,56,631.00	14,80,207.00	24,92,484.00	20,49,209.88
VIII. Investments encashed	R 8	-	-	-	-	700,00,000.00
IX. Term Deposits with Schedules Banks encashed	R 9	14518,87,853.00	8460,00,000.00	5017,31,028.00	27996,18,881.00	15965,00,000.00
X. Other Income (including Prior Period Income)	R 10	337,08,257.30	400.00	20,000.00	337,28,657.30	285,99,893.83
XI. Deposits and Advances	R 11	1447,63,953.50	283,52,166.00	113,09,352.00	1844,25,471.50	1918,79,304.00
XII. Miscellaneous Receipts including Statutory Receipts	R 12	2730,39,079.50	15,16,950.00	678,93,238.00	3424,49,267.50	1705,36,248.50
XIII. Any Other Receipts	R 13	5146,71,058.67	1550,36,553.35	456,95,475.34	7154,03,087.36	3034,14,350.04
Total		45249,05,073.23	20220,55,623.51	17396,53,436.25	82866,14,132.99	56498,14,447.93



PAYMENTS	Sch No.	Non Plan 2017-18	Plan 2017-18	Project 2017-18	Total Current Year 2017-18	Total Previous Year 2016-17
I. Expenses:						
a) Establishment Expenses	P 1 (a)	11351,52,578.00	-	-	11351,52,578.00	7573,00,331.00
b) Academics Expenses	P 1 (b)	6107,54,828.00	-	-	6107,54,828.00	4920,18,168.00
c) Administrative Expenses	P 1 (c)	2066,38,060.00	957.10	76,406.04	2067,15,423.14	2094,76,236.50
d) Transportation Expenses	P 1 (d)	60,60,507.00	-	-	60,60,507.00	40,59,616.00
e) Other expenses - Miscellaneous	P 1 (e)	48,10,882.48	-	-	48,10,882.48	289,53,020.30
f) Repairs & Maintenance	P 1 (f)	642,08,407.00	-	-	642,08,407.00	358,58,291.00
II. Payments against Earmarked / Endowment Funds / Other Reserve Funds	P 2	39,90,182.00	-	142,30,566.00	182,20,748.00	184,28,826.00
III. Payments against sponsored Projects / Schemes	P 3	-	-	4270,14,731.44	4270,14,731.44	2945,84,745.60
IV. Payments against Sponsored Fellowships / Scholarships	P 4	45,82,104.00	-	19,98,149.60	65,80,253.60	58,33,206.00
V. Term Deposits with Scheduled Banks	P 5	18962,00,000.00	9090,00,000.00	8535,37,000.00	36587,37,000.00	20827,00,000.00
VI. Expenditure on Fixed Assets and Capital Works-in-Progress						
a) Fixed Assets	P 6 (a)	9,43,354.00	2710,00,921.00	-	2719,44,275.00	1991,60,867.00
b) Capital Works-in-Progress	P 6 (b)	-	-	-	-	-
VII. Other Payments including statutory payments	P 7	2621,36,429.00	21,29,647.00	669,87,708.00	3312,53,784.00	1612,23,368.24
VIII. Refunds of Grants	P 8	-	-	-	-	-
IX. Deposits and Advances	P 9	558,76,607.35	6792,99,005.00	69,85,651.00	7421,61,263.35	7038,97,358.00
X. Other Payments	P 10	2583,20,899.00	1521,81,612.00	3414,26,619.25	7519,29,130.25	4318,25,628.75
XI. Closing Balances	P 11					
(a) Cash in hand		14,726.20	-	4,018.00	18,744.20	40,486.20
(b) Bank Balances						
i. In Current Accounts		4,37,078.50	30,13,797.75	2,30,297.03	36,81,173.28	1016,73,626.22
ii. In Deposit Accounts						
iii. In Savings Accounts		147,78,430.70	54,29,683.66	271,62,289.89	473,70,404.25	1227,80,673.12
Total		45249,05,073.23	20220,55,623.51	17396,53,436.25	82866,14,132.99	56498,14,447.93


(M N PANDEY)
ASST REGISTRAR (L&B)


(M S CHAMPIA)
ASST REGISTRAR (PA)


(PRABODH PANDEY)
DY REGISTRAR (F&A)


(COL M K SINGH)
REGISTRAR


(PROF RAJIV SHEKHAR)
DIRECTOR





SCHEDULES: BALANCE SHEET FOR THE YEAR ENDING 31st MARCH 2018

(Amount in Rs)

SCHEDULE - I: CAPITAL FUND					
Sl.No.	PARTICULARS	Current Year : 2017-18		Previous Year : 2016-17	
1 (A) Plan:					
1.1.1	Opening Balance	70758,81,684.01		64692,27,569.27	
1.1.2	Add : Previous Year Adjustment	(8,195.00)		426,15,861.00	
1.1.3	Add : Non-recurring grants-In-aid received during the year	9500,00,000.00		7885,85,519.00	
1.1.4	Less : Deficit	1963,61,555.25		2245,47,265.26	
1.1.5	Sub-total		78295,11,933.76		70758,81,684.01
1 (B) Non Plan:					
1.2.1	Opening Balance	5680,35,071.95		5525,29,317.43	
1.2.2	Add: Transfer from Endowment Fund	-		319,43,535.00	
1.2.3	Add: Transfer from CPF	670,31,495.00		-	
1.2.4	Add: Income Tax Refund	7,96,383.00		-	
1.2.5	Less: Deficit	163,51,951.74	6195,10,998.21	164,37,780.48	5680,35,071.95
1.2.6	Capitlaised fund for Assets (Opening Bal)	148,82,499.00		121,95,737.00	
1.2.7	Add : Capitlaised fund for Assets (During the Yr) PDA	9,13,542.00	157,96,041.00	26,86,762.00	148,82,499.00
1.2.8	Sub-total		6353,07,039.21		5829,17,570.95
1 (C) Project:					
1.3.1	(a) Capital Fund		1211,73,812.44		1211,73,812.44
1.3.2	(b) Project Endowment Fund		2,49,515.69		2,49,515.69
1.3.3	(c) Reserve fund		68,30,829.87		68,30,829.87
1.3.4	(d) Corpus Fund		44,10,060.50		44,10,060.50
1.3.5	(e) Capitlaised fund for Assets (OB)	1785,24,086.32		1510,64,111.65	
1.3.6	Add: Additions during the year	989,04,115.00		742,27,203.00	
1.3.7	Less: Depreciation on Assets including adjustment for previous years	461,47,321.89	2312,80,879.43	467,67,228.33	1785,24,086.32
1.3.8	Sub-total		3639,45,097.93		3111,88,304.82
1.A	CAPITAL FUND - PLAN		78295,11,933.76		70758,81,684.01
1.B	CAPITAL FUND - NON PLAN		6353,07,039.21		5829,17,570.95
1.C	CAPITAL FUND - PROJECT		3639,45,097.93		3111,88,304.82
1.00	TOTAL (CAPITAL FUND)		88287,64,070.90		79699,87,559.78



SCHEDULE - II: RESERVES AND SURPLUS					
Capital Reserve (Non Plan):					
Sl.No.	PARTICULARS	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
2.2.1	Building Fund	42,50,000.00	-	-	42,50,000.00
2.2.2	Departmental Development Fund	1,33,045.00	-	-	1,33,045.00
2.2.3	Donation Fund	20,57,500.00	-	-	20,57,500.00
2.2.4	Library Development Fund	3,10,536.00	-	-	3,10,536.00
2.2.5	School Development Fund	245,35,548.50	6,58,500.00	1,68,000.00	250,26,048.50
2.2.6	Student Innovative Project Fund	713,91,577.00	315,15,000.00	7,40,000.00	1021,66,577.00
2.2.7	Total Reserves (Non Plan)	1026,78,206.50	321,73,500.00	9,08,000.00	1339,43,706.50
(A) Department Development Funds(Project):					
Sl.No.	PARTICULARS	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
2.3.1	AGL Department - DDF	17,10,514.00	1,43,690.00	-	18,54,204.00
2.3.2	AGL XRF Maintenance Fund	1,48,020.00	13,800.00	-	1,61,820.00
2.3.3	AGP Department - DDF	7,48,711.00	1,83,238.00	2,93,930.00	6,38,019.00
2.3.4	Applied Chemistry	1,34,034.30	2,18,908.00	96,636.00	2,56,306.30
2.3.5	Applied Mathematics	98,288.00	1,23,738.00	-	2,22,026.00
2.3.6	Applied Physics	3,00,302.00	77,350.00	50,557.00	3,27,095.00
2.3.7	Central Administrative Charges	8,86,636.00	30,26,991.81	24,03,773.00	15,09,854.81
2.3.8	CHEMICAL ENGG. DEPT.	36,398.00	3,70,000.00	1,062.00	4,05,336.00
2.3.9	CIVIL ENGG. DEPT. DEV. FUND	4,54,724.00	3,11,925.00	58,578.00	7,08,071.00
2.3.10	C.L.M.M Department	61,476.00	-	-	61,476.00
2.3.11	Computer Centre	3,567.00	-	-	3,567.00
2.3.12	C.S.E Department	1,54,477.00	97,211.00	-	2,51,688.00
2.3.13	Director Discretionary Fund	4,16,837.00	-	-	4,16,837.00
2.3.14	EDC Development Fund	71,60,112.77	30,10,644.00	9,93,634.00	91,77,122.77
2.3.15	EDC Support Services	82,00,050.00	-	-	82,00,050.00
2.3.16	EDC Xeroxing (4000) Fund	3,44,461.42	16,032.00	29,943.00	3,30,550.42
2.3.17	Electronics & Communication Deptt.	1,82,367.00	1,20,768.00	86,479.00	2,16,656.00
2.3.18	ELECTRICAL ENGG.(DEPT.)	79,225.00	51,303.00	12,747.00	1,17,781.00
2.3.19	ESE Department	50,10,207.86	6,17,740.80	94,400.00	55,33,548.66
2.3.20	FME Department	17,98,234.25	13,15,497.00	1,96,067.00	29,17,664.25
2.3.21	Gas Chromatograph Maint. Fund of ME	2,440.00	-	-	2,440.00
2.3.22	Geology Xeroxing (6000) Fund	41,454.00	-	-	41,454.00
2.3.23	HSS DEPTT.	6,822.00	-	-	6,822.00
2.3.24	Lab. Development Fund	4,48,393.52	-	-	4,48,393.52
2.3.25	Library Card	90,029.00	700.00	-	90,729.00
2.3.26	Library Development Fund	1,45,546.85	2,317.00	1,39,746.00	8,117.85
2.3.27	Library Fine	41,364.00	2,811.00	-	44,175.00
2.3.28	MECHANICAL ENGG. DEPT.	3,31,397.00	1,70,396.00	1,600.00	5,00,193.00



2.3.29	ME&MME Department	7,41,641.40	-	-	7,41,641.40
2.3.30	Mining Engg. Department	119,20,374.81	22,45,391.65	26,88,152.00	114,77,614.46
2.3.31	Mining Machinery Engineering	11,47,985.00	17,39,452.00	3,27,768.00	25,59,669.00
2.3.32	Mining Machinery Engg. Deptt.	16,562.00	-	16,562.00	-
2.3.33	M S DEPARTMENT	10,74,860.50	81,197.00	8,844.00	11,47,213.50
2.3.34	P.E. Department	20,66,974.50	17,37,261.00	4,09,142.00	33,95,093.50
2.3.35	Reprographic Unit	31,553.00	-	-	31,553.00
2.3.36	Sub-total (DDF)	460,36,040.18	156,78,362.26	79,09,620.00	538,04,782.44

(B) PROFESSIONAL DEVELOPMENT FUNDS:

Sl.No.	PARTICULARS	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
2.3.37	ABHISHEK KR SINGH, PDF (AM)	-	15,237.00	-	15,237.00
2.3.38	ACHAMMA BOBBY, PDF	3,070.00	-	-	3,070.00
2.3.39	A. CHATTOPADHYAY, (MATHS) PDF	10,285.00	11,461.00	-	21,746.00
2.3.40	A CHATTOPADHYAY PDF	32,390.00	-	-	32,390.00
2.3.41	AJAY MANDAL, PDF	33,490.00	30,823.00	-	64,313.00
2.3.42	AJIT KUMAR, PDF	22,167.00	65,075.00	21,471.00	65,771.00
2.3.43	AJOY KUMAR BHAUMIK, PDF	55,368.00	-	-	55,368.00
2.3.44	A K. BASU, PDF (ME&MME)	5,276.00	-	-	5,276.00
2.3.45	A K BEHURA, PDF	6,822.00	-	-	6,822.00
2.3.46	A KHILESH PRASAD, PDF	3,770.00	1,114.00	2,720.00	2,164.00
2.3.47	A K MISHRA, PDF	4,86,693.00	2,19,485.00	29,900.00	6,76,278.00
2.3.48	A K MUKHOPADHYAY, ME & MME PDF	12,93,776.00	5,00,779.00	1,20,135.00	16,74,420.00
2.3.49	A K. PAL, PDF	43,529.00	31,599.00	-	75,128.00
2.3.50	A K Pathak PDF	1,33,131.00	82,250.00	-	2,15,381.00
2.3.51	A K SINGH, (ESE), PDF	17,499.00	-	-	17,499.00
2.3.52	A K VARMA, PDF	33,190.00	-	-	33,190.00
2.3.53	A L AGGARWAL, PDF	58,203.00	-	-	58,203.00
2.3.54	ALOK KR. DAS, PDF (MECH. ENGG.)	16,996.00	8,404.00	-	25,400.00
2.3.55	ALOK SINHA, PDF	79,595.00	40,000.00	44,471.00	75,124.00
2.3.56	AMGOTH TARACHAND, PDF	3,501.00	-	-	3,501.00
2.3.57	AMITAVA MANDAL, PDF (MECH. ENG.)	-	20,000.00	-	20,000.00
2.3.58	AMIT KR. VERMA, PDF	36,604.00	28,500.00	-	65,104.00
2.3.59	ANAND ANUPAM, PDF	38,268.00	-	-	38,268.00
2.3.60	ANAND SHANKAR HATI, PDF	-	47,112.00	-	47,112.00
2.3.61	ANSHUMALI, PDF (ESE)	1,40,689.00	-	-	1,40,689.00
2.3.62	ANURAG JAYSWAL, PDF	38,800.00	5,849.00	34,875.00	9,774.00
2.3.63	A R DIXIT, PDF	8,281.00	-	8,281.00	-
2.3.64	ARUP KUMAR PAL, PDF (CSE)	3,364.00	2,162.00	-	5,526.00
2.3.65	A. SARKAR, PDF (CHEM)	17,364.67	-	-	17,364.67
2.3.66	ASHISH MALLICK, PDF (MECH.)	60,000.00	20,000.00	15,000.00	65,000.00
2.3.67	ASHUTOSH KUMAR, PDF	-	2,63,200.00	-	2,63,200.00



2.3.68	A. S. VENKATESH PDF	60,396.00	28,093.00	8,000.00	80,489.00
2.3.69	BADAM S KUSHVAH, PDF	31,701.00	16,800.00	-	48,501.00
2.3.70	BASANTA BHADURI, PDF	4,947.00	-	-	4,947.00
2.3.71	B. C. SARKAR, PDF	2,87,972.00	-	2,72,459.00	15,513.00
2.3.72	BIBHASH CHANDRA, PDF (MS)	4,473.00	6,164.00	-	10,637.00
2.3.73	BISWAJIT CHOWDHURY, PDF	43,925.00	44,715.00	57,465.00	31,175.00
2.3.74	BISWAJIT PAUL, PDF	2,24,527.00	8,923.00	-	2,33,450.00
2.3.75	B K MISHRA, PDF	41,742.00	1,40,264.00	39,734.00	1,42,272.00
2.3.76	B K NANDI, PDF	15,600.00	10,000.00	-	25,600.00
2.3.77	B. M. KUMAR, PDF	665.00	-	-	665.00
2.3.78	BOBBY K ANTONY, PDF (PHY)	45,640.00	40,000.00	-	85,640.00
2.3.79	B S CHOUDHARY, PDF	24,282.00	33,189.00	-	57,471.00
2.3.80	CHANCHAL HALDER, PDF (CHEMISTRY)	40,000.00	-	-	40,000.00
2.3.81	CHANDAN BHAR, DR PDF	1,42,218.00	-	-	1,42,218.00
2.3.82	CHANDAN GURIA, PDF	93,609.00	-	-	93,609.00
2.3.83	CHIRANJEEV KUMAR, PDF	12,980.00	37,200.00	-	50,180.00
2.3.84	C K JAIN, PDF	-	9,003.00	-	9,003.00
2.3.85	D C PANIGARHI, PDF	41,69,941.84	7,74,449.65	-	49,44,391.49
2.3.86	DEBJANI MITRA, PDF	15,428.00	20,000.00	-	35,428.00
2.3.87	DEEPAK KR MANDAL, PDF	3,200.00	-	-	3,200.00
2.3.88	DHARAVATH RAMESH, PDF	5,257.00	24,595.00	-	29,852.00
2.3.89	DHEERAJ KUMAR PDF	9,66,064.00	4,06,000.00	40,796.00	13,31,268.00
2.3.90	DINABANDHU PRADHAN, PDF	13,000.00	-	-	13,000.00
2.3.91	DIPANKAR ROY, PDF	10,563.00	-	-	10,563.00
2.3.92	DIPANKAR SRIMANI, PDF (CHEMISTRY)	7,000.00	-	-	7,000.00
2.3.93	D P MISHRA, PDF	14,000.00	14,500.00	-	28,500.00
2.3.94	G C NAYAK, PDF	66,000.00	-	-	66,000.00
2.3.95	G K VISHWAKARMA, PDF	5,539.00	4,000.00	-	9,539.00
2.3.96	G N SINGH, PDF	4,188.00	-	-	4,188.00
2.3.97	G. P. BISWAS, PDF	-	1,566.00	-	1,566.00
2.3.98	G. P. KARMAKAR, PDF	840.00	-	-	840.00
2.3.99	G S PATHAK, PDF	454.00	-	-	454.00
2.3.100	G SRINIVAS RAO, PDF	-	32,900.00	-	32,900.00
2.3.101	G UDAYBHANU, PDF (AC)	-	20,000.00	-	20,000.00
2.3.102	GURDEEP SINGH, PDF	13,07,780.94	15,483.00	50,225.00	12,73,038.94
2.3.103	HAIDER BANKA, PDF	5,680.00	8,895.00	-	14,575.00
2.3.104	H P NAYAK, PDF	51,000.00	-	-	51,000.00
2.3.105	I M MISHRA, PDF (CHEM. ENGG.)	-	3,60,000.00	-	3,60,000.00
2.3.106	JAIRAM MANAM, PDF	40,000.00	-	-	40,000.00
2.3.107	JAYANTA DAS, PDF (MME)	32,576.00	22,966.00	29,750.00	25,792.00
2.3.108	JARAM MANAM, PDF (PHYS)	60,000.00	-	-	60,000.00
2.3.109	JINIA NANDY, PDF	20,000.00	-	-	20,000.00
2.3.110	J K PATTANAYAK, PDF	76,190.00	3,043.00	-	79,233.00
2.3.111	KALYAN CHATTERJEE, PDF	16,222.00	-	-	16,222.00



2.3.112	KAMPAN MUKHERJEE PDF	86,524.00	-	-	86,524.00
2.3.113	KAUSHAL KUMAR, PDF (APPL. PHYSICS)	34,661.00	-	-	34,661.00
2.3.114	K.DASGUPTA, PDF	9,72,885.00	3,49,504.00	33,467.00	12,88,922.00
2.3.115	KEKA OJHA, PDF	85.00	2,762.00	-	2,847.00
2.3.116	K K SINGH, PDF	10,568.00	-	750.00	9,818.00
2.3.117	K P AJIT, PDF	-	50,736.00	-	50,736.00
2.3.118	KRIPAMAY SARKAR, PDF (AGL)	20,000.00	-	-	20,000.00
2.3.119	K S THYAGARAJ, PDF	11,560.00	-	-	11,560.00
2.3.120	L A KUMARASWAMIDHAS, PDF	61,827.00	13,619.00	62,600.00	12,846.00
2.3.121	L. N. JHA, PDF	1,576.00	-	-	1,576.00
2.3.122	LOHIT KR NAINAGALI, PDF	8,867.00	-	-	8,867.00
2.3.123	MANISH KR. JAIN, PDF	16,033.00	17,187.00	-	33,220.00
2.3.124	M Jawed,PDF	1,58,865.00	-	950.00	1,57,915.00
2.3.125	M K MUKHERJEE,PDF	83,278.00	-	-	83,278.00
2.3.126	M K SINGH, PDF (MATHS)	-	26,574.00	-	26,574.00
2.3.127	M L CHANDRAVANSI, PDF	11,000.00	-	-	11,000.00
2.3.128	MOHIT AGARWAL, PDF (AGP)	-	20,000.00	-	20,000.00
2.3.129	MOIRANGTHAM RAKESH SINGH PDF (APH)	471.00	-	-	471.00
2.3.130	MRINALINI PANDEY, PDF	4,550.00	-	-	4,550.00
2.3.131	M R SINGH, PDF (PHYS)	-	14,000.00	-	14,000.00
2.3.132	MUKUL KR. DAS, PDF	2,237.00	-	-	2,237.00
2.3.133	NILADRI DAS, PDF	4,881.00	17,990.00	4,481.00	18,390.00
2.3.134	NIRANJAN KUMAR, PDF	-	1,44,907.00	2,521.00	1,42,386.00
2.3.135	NITAI PAL, PDF	14,689.00	29,130.00	-	43,819.00
2.3.136	N R MANDRE, PDF	92,789.00	7,420.00	-	1,00,209.00
2.3.137	N SURESH, PDF	4,90,142.00	7,49,687.00	80,811.00	11,59,018.00
2.3.138	OM PRAKASH PDF (ME)	-	1,39,200.00	-	1,39,200.00
2.3.139	PANKAJ KR. JAIN, PDF	700.00	-	-	700.00
2.3.140	PANKAJ MISHRA,PDF	20,175.00	-	-	20,175.00
2.3.141	PATITAPABAN SAHU, PDF	40,000.00	-	39,287.00	713.00
2.3.142	PAWAN KR. SINGH, PDF	22,534.00	-	-	22,534.00
2.3.143	PHALGUNI SEN, PDF	1,21,638.00	56,000.00	21,037.00	1,56,601.00
2.3.144	P K BEHRA, PDF	1,13,787.00	1,575.00	17,703.00	97,659.00
2.3.145	P K JANA, PDF	9,787.00	4,270.00	-	14,057.00
2.3.146	P K KEWAT, PDF (AM)	-	11,351.00	-	11,351.00
2.3.147	P K MAHATO, PDF (MECH. ENGG.)	20,000.00	-	-	20,000.00
2.3.148	P K SADHU, PDF	19,377.00	12,173.00	-	31,550.00
2.3.149	P K SINGH, PDF (ESE)	63,148.00	29,178.00	49,900.00	42,426.00
2.3.150	P N S SINGHA ROY, PDF	46,113.00	20,000.00	2,263.00	63,850.00
2.3.151	P P BAHUGUNA, PDF	1,41,262.00	-	-	1,41,262.00
2.3.152	P. P. CHAKRABORTY, PDF	800.00	-	-	800.00
2.3.153	PRAMOD PATHAK PDF	1,40,381.00	-	13,716.00	1,26,665.00
2.3.154	PRANAB DAS, PDF	46,792.00	-	-	46,792.00
2.3.155	PRASANT KR. SHARMA, PDF	31,255.00	-	-	31,255.00
2.3.156	PRASUN JANA, PDF	14,572.00	-	-	14,572.00



2.3.157	P. R. MOHANTY, PDF	42,394.00	20,000.00	16,500.00	45,894.00
2.3.158	P R SAHOO, PDF	9,624.00	-	-	9,624.00
2.3.159	P. SEN, PDF	1,74,208.00	-	-	1,74,208.00
2.3.160	P S GUPTA, PDF	1,93,512.00	-	-	1,93,512.00
2.3.161	P S MUKHERJEE, PDF	3,79,495.00	-	-	3,79,495.00
2.3.162	P S PAUL, PDF	35,814.00	-	24,899.00	10,915.00
2.3.163	RAGHVENDRA KR CHOUDHARY, PDF(ECE)	31,000.00	58,221.00	-	89,221.00
2.3.164	RAJEEV KR. RANJAN, PDF (ECE)	-	609.00	-	609.00
2.3.165	RAJEEV UPADHYAY, PDF	-	3,04,154.00	-	3,04,154.00
2.3.166	RAJENDRA PAMULA, PDF	-	5,880.00	-	5,880.00
2.3.167	RASHMI MADHURI, PDF	50,000.00	-	-	50,000.00
2.3.168	R B CHOUDHARY, PDF	17,402.00	-	-	17,402.00
2.3.169	RIMA CHATTERJEE, PDF	20,467.00	15,898.00	2,600.00	33,765.00
2.3.170	R. K. DUBEY, PDF	15,315.00	-	-	15,315.00
2.3.171	R K GANGWAR, PDF (ECE)	20,000.00	-	-	20,000.00
2.3.172	R K Sinha, PDF (ME)	-	13,361.00	-	13,361.00
2.3.173	R. L. MALHOTRA, PDF	83,456.00	-	-	83,456.00
2.3.174	R M BHATTACHARYA, PDF	81,317.00	1,09,201.00	-	1,90,518.00
2.3.175	RN HOTA, PDF (MECH. ENGG.)	60,000.00	60,000.00	22,200.00	97,800.00
2.3.176	ROHIT P JOHN, PDF	23,000.00	3,016.00	-	26,016.00
2.3.177	R THANGAVEL, PDF (PHYS)	23,200.00	-	-	23,200.00
2.3.178	R. VENUGOPAL, PDF	67,689.00	37,990.00	-	1,05,679.00
2.3.179	SACHIN KR SINGH, PDF	26,400.00	-	-	26,400.00
2.3.180	SACHIN TRIPATHI, PDF, CSE	73,673.00	-	750.00	72,923.00
2.3.181	SAGAR PAL, PDF	41,238.00	54,393.00	46,799.00	48,832.00
2.3.182	SAHENDRA SINGH, PDF (AGL)	30,000.00	-	27,850.00	2,150.00
2.3.183	SANDEEP MONDAL, PDF	21,510.00	-	-	21,510.00
2.3.184	SANJAY MANDAL, PDF	4,112.00	-	-	4,112.00
2.3.185	SANJEEV A SAHU, PDF (AM)	-	11,351.00	-	11,351.00
2.3.186	S K PAUL, PDF (AGP)	88,429.00	-	-	88,429.00
2.3.187	SANKET NAYAK, PDF (CE)	857.00	32,998.00	16,900.00	16,955.00
2.3.188	SANTANU DWARI, PDF	13,257.50	30,000.00	7,850.00	35,407.50
2.3.189	SARAVANAN PICHIAH, PDF	-	10,000.00	-	10,000.00
2.3.190	SARUN PM, PDF (PHYS)	2,000.00	-	-	2,000.00
2.3.191	SATISH KR SINHA, PDF (PCE)	-	61,088.00	-	61,088.00
2.3.192	SAUMYA SINGH, PDF	44,276.00	-	-	44,276.00
2.3.193	S. BHATTACHARYA, PDF	2,56,743.00	4,57,841.00	31,456.00	6,83,128.00
2.3.194	S BHATTACHARYA, PDF	11,160.00	-	-	11,160.00
2.3.195	S B SRIVASTAVA, PDF	36,171.00	-	-	36,171.00
2.3.196	S C DUTTA, PDF (CE)	3,55,796.00	2,21,059.00	-	5,76,855.00
2.3.197	S. CHOUDHARI, PDF (CIL CHAIR)	1,96,105.00	-	-	1,96,105.00
2.3.198	S DUTTA GUPTA, PDF (AGP)	-	15,015.00	-	15,015.00
2.3.199	SHALINI GOUTAM, PDF	8,658.00	6,011.00	-	14,669.00
2.3.200	SHALIVAHAN, PDF	69,720.00	8,422.00	78,142.00	-



2.3.201	SHATRUGHAN SOREN, PDF	5,736.00	8,400.00	-	14,136.00
2.3.202	SHIBAYAN SARKAR, PDF (MECH ENGG.)	22,400.00	8,000.00	-	30,400.00
2.3.203	SHRAVAN KUMAR, PDF	61,725.00	21,679.00	-	83,404.00
2.3.204	SHUSHRUT DAS, PDF	3,131.50	-	-	3,131.50
2.3.205	SIDDHARTH SENGUPTA, PDF (CHEM. ENGG.)	30,000.00	10,000.00	-	40,000.00
2.3.206	SISHIR GUPTA, PDF	5,579.00	-	-	5,579.00
2.3.207	S K GHOSHAHAL, PDF	327.00	-	-	327.00
2.3.208	S. K. GUPTA, PDF	62,297.00	61,766.00	-	1,24,063.00
2.3.209	S.K. MAITI, PDF	1,21,381.00	88,208.00	-	2,09,589.00
2.3.210	S K PADHI, PDF (CHEM)	20,000.00	30,000.00	14,500.00	35,500.00
2.3.211	S K PAL, (AGP), PDF	1,01,788.00	-	-	1,01,788.00
2.3.212	S K PANDA, PDF	45,396.00	39,835.00	59,796.00	25,435.00
2.3.213	S K PAUL, (ECE), PDF	3,900.00	-	-	3,900.00
2.3.214	S K RAGHUWANSHI, PDF	38,936.00	6,650.00	-	45,586.00
2.3.215	S K SAHU, PFD (CHEMISTRY)	35,000.00	-	11,025.00	23,975.00
2.3.216	S K SHARMA, (PHY), PDF	23,920.00	-	-	23,920.00
2.3.217	S LAIK PDF	56,728.00	35,000.00	55,990.00	35,738.00
2.3.218	S MOHANTY, PDF	1,30,192.00	11,117.00	16,820.00	1,24,489.00
2.3.219	S NARAYANAN, PDF	40,000.00	-	1,453.00	38,547.00
2.3.220	S N Mukherjee, PDF	86,353.00	-	-	86,353.00
2.3.221	SOMNATH YADAV, PDF	4,482.00	-	-	4,482.00
2.3.222	SOUMEN MAITI, PDF (AGP)	10,000.00	10,000.00	10,000.00	10,000.00
2.3.223	SOUMEN BAG, PDF (CSE)	-	11,000.00	-	11,000.00
2.3.224	SOUMITRA MAITY, PDF (CHEM)	20,000.00	27,000.00	-	47,000.00
2.3.225	SOWMIYA CHAWLA, PDF	12,400.00	-	-	12,400.00
2.3.226	SRIDHAR SAHU, PDF (PHYS)	9,500.00	-	-	9,500.00
2.3.227	SRINIVASA GANGUMALLA, PDF	-	7,000.00	-	7,000.00
2.3.228	SRINIVAS PASUPULETI, PDF	10,000.00	-	-	10,000.00
2.3.229	S SARANGI, PDF	70,942.00	20,000.00	-	90,942.00
2.3.230	SUBHANKAR SEN, PDF	-	8,692.00	-	8,692.00
2.3.231	SUBHASISH CHATTERJEE, PDF (AM)	-	20,000.00	-	20,000.00
2.3.232	SUBINDU KUMAR, PDF	16,005.00	-	-	16,005.00
2.3.233	SUBRATO KR. GHOSH, PDF	10,987.00	20,266.00	10,900.00	20,353.00
2.3.234	SUKANTA CHAKRAORTY, PDF. (CE)	-	19,130.00	-	19,130.00
2.3.235	SUKANTA DAS, PDF (EE)	-	10,000.00	-	10,000.00
2.3.236	SUKANTA DEY, PDF, AGL	58,391.00	32,480.00	-	90,871.00
2.3.237	SURESH PANDIAN E , PDF	-	5,250.00	-	5,250.00
2.3.238	SUSHILA MAHESHKAR, PDF	2,554.00	1,643.00	-	4,197.00
2.3.239	SWAPAN DEY, PDF	14,317.00	9,784.00	14,250.00	9,851.00
2.3.240	TANISH DEY, PDF (CE)	-	29,184.00	16,900.00	12,284.00
2.3.241	TANMOY MAITI, PDF	66,401.00	-	46,223.00	20,178.00
2.3.242	TANWEER ALAM, PDF	18,007.00	-	-	18,007.00
2.3.243	THANGAVEL, PDF	4,000.00	-	-	4,000.00
2.3.244	T H SYED, PDF	49,918.00	12,000.00	1,933.00	59,985.00



2.3.245	T.K. CHATTERJEE, PDF	2,51,730.00	96,683.00	31,608.00	3,16,805.00
2.3.246	T K NAIYA, PDF	42,165.00	30,500.00	-	72,665.00
2.3.247	T KUMAR PDF	38,766.00	36,750.00	-	75,516.00
2.3.248	T MAZUMDAR, PDF	1,422.00	-	-	1,422.00
2.3.249	T SHARMA, PDF	3,15,374.00	-	-	3,15,374.00
2.3.250	U K. SINGH PDF	2,57,301.00	61,500.00	41,500.00	2,77,301.00
2.3.251	UPAMA DUTTA, PDF	21,200.00	-	-	21,200.00
2.3.252	U K SINGH, PDF (AGP)	2,56,218.00	-	67,142.00	1,89,076.00
2.3.253	VIKASH MAHATO PDF	1,783.00	-	-	1,783.00
2.3.254	VINEET KR. RAI, PDF	48,212.00	20,000.00	-	68,212.00
2.3.255	VINOD P SINHA, PDF	1,10,040.00	-	-	1,10,040.00
2.3.256	VIPIN KUMAR, PDF	13,938.00	49,000.00	-	62,938.00
2.3.257	VISHNU PRIYE	189.00	-	-	189.00
2.3.258	VISHNU PRIYE PDF	3,057.00	5,289.00	-	8,346.00
2.3.259	VIVEKANAND MUKHERJEE, PDF	1,000.00	-	-	1,000.00
2.3.260	VIVEK BAJPAI, PDF (MECH. ENGG.)	-	28,000.00	-	28,000.00
2.3.261	V K GUPTA, PDF	27,773.00	-	-	27,773.00
2.3.262	V K SAXENA, PDF	1,00,341.00	-	9,037.00	91,304.00
2.3.263	V K SRIVASTAVA, PDF	39,669.00	-	-	39,669.00
2.3.264	V KUMAR, PDF	2,444.00	-	-	2,444.00
2.3.265	V M S R MURTHY, PDF	10,47,269.00	4,08,324.00	82,000.00	13,73,593.00
2.3.266	V.P. SHARMA PDF	1,09,821.00	3,08,700.00	-	4,18,521.00
2.3.267	Y. R. DHAR PDF	449.00	-	-	449.00
2.3.268		201,58,384.45	83,38,399.65	18,71,791.00	266,24,993.10
2.3.269	Sub-total Project (DDF+PDF)	661,94,424.63	240,16,761.91	97,81,411.00	804,29,775.54
2.A	RESERVE & SURPLUS - PLAN	-	-	-	-
2.B	RESERVE & SURPLUS - NON PLAN	1026,78,206.50	321,73,500.00	9,08,000.00	1339,43,706.50
2.C	RESERVE & SURPLUS - PROJECT	661,94,424.63	240,16,761.91	97,81,411.00	804,29,775.54
2.00	TOTAL (RESERVE & SURPLUS)	1688,72,631.13	561,90,261.91	106,89,411.00	2143,73,482.04

SCHEDULE - III: EARMARKED/ ENDOWMENT FUNDS:**Non Plan:**

S No	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
3.2.1	Basant Scholarship Fund	1,50,463.00	14,328.00	-	1,64,791.00
3.2.2	Benevolent Fund	71,69,170.00	35,38,750.64	30,05,732.00	77,02,188.64
3.2.3	Budhwanti Mrig Memo. Sch.Fund	69,19,399.00	8,75,493.00	-	77,94,892.00
3.2.4	Director's Discretionary Fund	4,267.00	-	-	4,267.00
3.2.5	Endowment Fund (Corpus fund under B.G.Scheme)	3006,76,234.47	1503,71,330.08	52,08,062.00	4458,39,502.55
3.2.6	HOD Discretionary Fund	81,278.00	-	-	81,278.00
3.2.7	House Building Revolving Fund*	77,41,437.00	-	-	77,41,437.00



3.2.8	Ishan Rajbanshi Merit Scholarship	6,14,166.00	1,45,609.00	16,000.00	7,43,775.00
3.2.9	ISM Alumni Award Fund	22,03,708.00	-	-	22,03,708.00
3.2.10	ISS Scholarship Fund	1,57,037.00	27,765.00	15,000.00	1,69,802.00
3.2.11	Late J D M Dhawan M G Med End Fund	1,16,646.00	13,968.00	-	1,30,614.00
3.2.12	Matching grant for Deptt Societies	1,84,800.00	-	-	1,84,800.00
3.2.13	Mess Subsidy Fund	107,43,235.00	-	-	107,43,235.00
3.2.14	Platinum Jubilee Fund	2,500.00	-	-	2,500.00
3.2.15	Student Aid Fund	1,14,487.00	-	-	1,14,487.00
3.2.16	Student Medical Fund	125,78,223.00	10,11,000.00	45,450.00	135,43,773.00
3.2.17	Student Welfare Fund	2,13,090.00	-	-	2,13,090.00
3.2.18	Sub-total Non Plan	3496,70,140.47	1559,98,243.72	82,90,244.00	4973,78,140.19

Project: Chair & Scholarship Funds (Earmarked Funds)

S No	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
(A) Scholarship / Award Funds					
3.3.1	ATLAS CAPCO SCH. FUND	5,25,128.00	63,498.00	18,000.00	5,70,626.00
3.3.2	Bhaskar Bhattacharya Memorial Fund	7,59,351.99	14,142.00	73,258.00	7,00,235.99
3.3.3	D N Prasad Memorial Fund	1,10,927.10	7,765.00	-	1,18,692.10
3.3.4	Inderjeet & Satyawat Bodhwar Scholarship	2,66,980.00	43,440.00	10,000.00	3,00,420.00
3.3.5	Inder Mohan Thapar Foundation Research Award	2,00,000.00	-	2,00,000.00	-
3.3.6	ISM AANA Scholarship Award	14,380.00	3,19,427.60	3,19,812.60	13,995.00
3.3.7	Late Mrs. Chitra Bhattacharya Memorial Fund	3,13,000.00	37,554.00	-	3,50,554.00
3.3.8	L J JHONSON AWARD	2,39,855.00	25,400.00	4,000.00	2,61,255.00
3.3.9	Mata Gurdev Kaur Memorial Fund	54,778.00	3,834.00	-	58,612.00
3.3.10	Mitali Sen Gold Medal Memorial End. Fund	4,30,720.00	-	-	4,30,720.00
3.3.11	NAA Scholarship Fund	7,79,338.00	35,428.00	-	8,14,766.00
3.3.12	Nirja Sahay Memorial Fund	1,09,080.00	18,522.00	-	1,27,602.00
3.3.13	N K Mukherjee Memorial Fund	84,792.00	5,935.00	-	90,727.00
3.3.14	Paritosh & Patikrit End. Fund	2,86,960.00	19,527.00	8,000.00	2,98,487.00
3.3.15	Petroleum Deptt. Endow Fund	3,92,498.16	27,475.00	-	4,19,973.16
3.3.16	Platinum Jubilee Fund	5,00,610.11	35,043.00	-	5,35,653.11
3.3.17	Poonam (Khanna) Singh Endowmend Mem. Fund	17,42,063.00	-	-	17,42,063.00
3.3.18	Prof N L Sharma Mem Fund	2,19,512.00	15,086.00	4,000.00	2,30,598.00
3.3.19	Prof S Srinivasan Mem.Fund	79,856.00	5,310.00	4,000.00	81,166.00
3.3.20	Renuka Rajhans Memorial Gold Medal Fund	3,73,397.00	-	-	3,73,397.00
3.3.21	Rollong Scholarship	1,09,770.00	7,684.00	-	1,17,454.00
3.3.22	S.L Sehgal Scholarship	4,13,151.00	28,361.00	8,000.00	4,33,512.00
3.3.23	Smt. Kaushalia Devi Gold Medal	2,41,763.00	16,643.00	4,000.00	2,54,406.00
3.3.24	Smt. Sneh Lata Srivastava Memorial Gold	2,35,992.00	11,146.00	253.00	2,46,885.00



	Medal				
3.3.25	Subarna & Shashibhushan Bharracharya Mem End Fund	2,79,908.00	18,775.00	11,700.00	2,86,983.00
3.3.26	Vishesvaraya Ph.D Scheme for Elec. & IT	8,05,994.00	-	5,83,379.00	2,22,615.00
3.3.27	Sandvik Scholarship	-	7,50,000.00	7,50,000.00	-
3.3.28	Total Scholarship/Award Funds	95,69,804.36	15,09,995.60	19,98,402.60	90,81,397.36

(B) Chair Funds:

3.3.29	CIL Chair for Mining Deptt.	243,96,065.13	15,79,515.00	15,03,506.69	244,72,073.44
3.3.30	MoLE Chair Professor Fund	109,35,018.00	10,87,265.00	6,68,924.00	113,53,359.00
3.3.31	NMDC Chair for Open Cast Mining	265,59,536.00	18,83,117.00	21,28,999.50	263,13,653.50
3.3.32	ONGC Chair	113,03,539.58	11,86,213.45	5,54,863.00	119,34,890.03
3.3.33	Rajeev Gandhi Memorial Chair	243,57,888.08	11,21,849.39	16,63,486.00	238,16,251.47
3.3.34	Rungta Chair	-	202,20,000.00	1,000.00	202,19,000.00
3.3.35	SAIL NMDC Chair (Gr.Rs.5000000)	281,83,988.26	26,71,900.16	5,23,174.78	303,32,713.64
3.3.36	Sandvik Chair Prof. Fund	56,09,380.65	4,66,130.89	4,44,247.65	56,31,263.89
3.3.37	Tata Steel Chair	246,26,628.00	19,73,523.00	5,94,030.50	260,06,120.50
3.3.38	URANIUM CHAIR	133,34,567.00	51,10,017.00	37,00,000.00	147,44,584.00
3.3.39	Total Chair Funds	1693,06,610.70	372,99,530.89	117,82,232.12	1948,23,909.47
3.3.40	Total Chairs & Scholarship funds	1788,76,415.06	388,09,526.49	137,80,634.72	2039,05,306.83
3.A	EARMARKED/ ENDOWMENT FUND - PLAN	-	-	-	-
3.B	EARMARKED/ ENDOWMENT FUND - N PLAN	3496,70,140.47	1559,98,243.72	82,90,244.00	4973,78,140.19
3.C	EARMARKED/ ENDOWMENT FUND - PROJECT	1788,76,415.06	388,09,526.49	137,80,634.72	2039,05,306.83
3.00	TOTAL EARMARKED/ ENDOWMENT FUND	5285,46,555.53	1948,07,770.21	220,70,878.72	7012,83,447.02

SCHEDULE- IV: CURRENT LIABILITIES & PROVISIONS**(A) Statutory Liabilities(Plan):**

A	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.1.1	IGST	-	77,217.00	77,217.00	-
4.1.2	Income Tax	3,23,726.00	10,71,579.00	12,96,301.00	99,004.00
4.1.3	Income Tax 94 J	1,07,699.00	26,342.00	1,34,041.00	-
4.1.4	Income Tax - Employees	-	35,993.00	35,993.00	-
4.1.5	Labour Welfare CESS	1,24,095.00	1,43,307.00	2,18,108.00	49,294.00
4.1.6	Sales Tax	2,05,557.00	1,62,430.00	3,67,987.00	-
4.1.7	Sub Total	7,61,077.00	15,16,868.00	21,29,647.00	1,48,298.00

(B) Other Current Liabilities(Plan):

4.1.8	BRS Liability	7,75,325.50	-	-	7,75,325.50
-------	---------------	-------------	---	---	-------------



4.1.9	Earnest/Security Money-contractors	121,10,024.00	17,41,304.00	52,70,581.00	85,80,747.00
4.1.10	Jasper Hostel	67,500.00	-	-	67,500.00
4.1.11	Licence Fee	-	-	-	-
4.1.12	Miscellaneous Receipt	-	82.00	-	82.00
4.1.13	Non Plan Control A/c	674,60,371.36	1548,60,247.35	1575,43,197.00	647,77,421.71
4.1.14	Non Plan Control Endowment A/c	141,15,917.00	228,89,329.00	-	370,05,246.00
4.1.15	PF Control Account	-	-	-	-
4.1.16	Project Control Account	160,11,816.19	13,65,768.00	18,178.00	173,59,406.19
4.1.17	Retention Money	-	84,51,107.00	-	84,51,107.00
4.1.18	Sub-total	1105,40,954.05	1893,07,837.35	1628,31,956.00	1370,16,835.40

(C) Provisions (Plan):

4.1.19	Provisions for Books & Journals	-	55,56,936.00	-	55,56,936.00
4.1.20	Provisions for Power Augmentation	-	178,56,000.00	-	178,56,000.00
4.1.21	Sub-total	-	234,12,936.00	-	234,12,936.00
4.1.22	Total Current Liabilities & Provisions (Plan)	1113,02,031.05	2142,37,641.35	1649,61,603.00	1605,78,069.40

(A) Statutory Liabilities(Non-Plan):

B	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.2.1	Income Tax (TDS) - Contractors	3,84,162.00	39,59,606.00	41,43,727.00	2,00,041.00
4.2.2	Income Tax (TDS) - Contractors-Endowment	-	1,27,298.00	1,27,298.00	-
4.2.3	Income Tax (TDS) - Contr-Project	-	32,91,182.00	32,91,182.00	-
4.2.4	Income Tax (TDS) - Emplo-Project	-	284,21,165.00	284,21,165.00	-
4.2.5	Income Tax (TDS) - Employees	-	1563,11,268.00	1533,86,092.00	29,25,176.00
4.2.6	Income Tax (TDS) - Employees-Plan	-	35,993.00	35,993.00	-
4.2.7	Income Tax (TDS) - (Professional)	27,560.00	24,57,882.00	24,75,367.00	10,075.00
4.2.8	Income Tax (TDS) - Plan	-	12,96,301.00	12,96,301.00	-
4.2.9	Income Tax (TDS) - Plan-Profession	-	1,34,041.00	1,34,041.00	-
4.2.10	Income Tax (TDS) - TEQIP II	-	-	-	-
4.2.11	Income Tax (TDS) - U/S 194 I	-	4,590.00	4,590.00	-
4.2.12	Jharkhand State Prof. Tax	-	10,80,927.00	10,80,927.00	-
4.2.13	Labour Welfare	54,630.00	4,77,198.00	4,42,907.00	88,921.00
4.2.14	CGST	-	1,20,894.00	1,02,579.50	18,314.50
4.2.15	CGST (Project)	-	60,14,161.00	60,14,161.00	-
4.2.16	IGST (Plan)	-	77,217.00	77,217.00	-
4.2.17	IGST (Project)	-	136,08,065.00	136,08,065.00	-
4.2.18	SGST	-	1,20,894.00	1,02,579.50	18,314.50
4.2.19	SGST (Project)	-	60,14,161.00	60,14,161.00	-
4.2.20	Project Commissioner of Customs	-	87,525.00	87,525.00	-
4.2.21	Project Income Tax	-	86,501.00	86,501.00	-



	(Professional)				
4.2.22	Sales Tax @4%	1,25,320.00	2,66,518.00	3,91,838.00	-
4.2.23	Sales Tax - Plan	-	3,67,987.00	3,67,987.00	-
4.2.24	Sales Tax - Project	-	22,43,038.00	22,43,038.00	-
4.2.25	Service Tax	9,479.00	56,023.00	65,502.00	-
4.2.26	Service Tax-Proj	-	68,95,455.00	68,95,455.00	-
4.2.27	Sub Total	6,01,151.00	2335,55,890.00	2308,96,199.00	32,60,842.00
(B) Other Liabilities(Non-Plan):					
4.2.28	Adv. for Gen. Parliament Ele. 2009	1,200.00	-	-	1,200.00
4.2.29	ADVANCE FEE	5,22,094.00	-	-	5,22,094.00
4.2.30	Advance Fee From IIT-JEE	42.00	-	-	42.00
4.2.31	Alumni Subscription	11,82,500.00	26,36,400.00	1,22,400.00	36,96,500.00
4.2.32	ANRENT	1,000.00	-	-	1,000.00
4.2.33	B R S Liability	79,51,224.05	92,40,997.50	99,31,744.00	72,60,477.55
4.2.34	Backward Scholarship	33,570.00	-	-	33,570.00
4.2.35	Basant Subscription	1,49,225.00	23,49,550.00	21,31,075.00	3,67,700.00
4.2.36	Bihar SC/ST Student Scholarship	49,560.00	-	-	49,560.00
4.2.37	Can Bank, SDL Br. Loan to Employees	-	83,81,158.00	83,81,158.00	-
4.2.38	Central Sector Scholarship for SC	(1,85,681.00)	17,32,500.00	17,36,000.00	(1,89,181.00)
4.2.39	Central Sector Scholarship for ST STUDENT	-	5,24,000.00	-	5,24,000.00
4.2.40	Children Act. Centre Subscription	5,210.00	1,78,575.00	1,78,575.00	5,210.00
4.2.41	Court Attachment Deduction	-	43,800.00	43,800.00	-
4.2.42	CPF Subscription & Loan Recovery	-	70,58,000.00	70,58,000.00	-
4.2.43	Cultural, Scientific & Literary Society	9,882.00	-	-	9,882.00
4.2.44	Cyber Society	20,504.00	-	-	20,504.00
4.2.45	DCPS SUBSCRIPTION	3,88,703.00	419,42,739.00	320,02,843.00	103,28,599.00
4.2.46	Delhi Ext. Centre, CSE	-	12,97,000.00	2,81,308.00	10,15,692.00
4.2.47	Delhi Ext. Centre, ECE	-	7,33,500.00	78,490.00	6,55,010.00
4.2.48	Delhi Ext. Centre, Elect. Engg.	-	8,79,000.00	1,59,958.00	7,19,042.00
4.2.49	Delhi Ext. Centre, Mech. Engg.	-	9,13,500.00	80,070.00	8,33,430.00
4.2.50	DST/INSPIRE/SCHOLARSHIP	(1,39,506.00)	-	-	(1,39,506.00)
4.2.51	EARNEST MONEY DEPOSIT	187,44,448.00	111,65,718.00	134,79,530.00	164,30,636.00
4.2.52	Executive MBA	29,26,672.00	27,76,672.00	29,26,672.00	27,76,672.00
4.2.53	GIS Premium	2,74,111.00	33,76,821.00	25,58,229.00	10,92,703.00
4.2.54	GPF Subscription & Loan Recovery	500.00	501,72,900.00	501,72,900.00	500.00
4.2.55	Hostel Mess Fee Liability	-	2030,36,810.00	2025,36,810.00	5,00,000.00
4.2.56	Hostel Security Deposit	123,73,500.00	-	-	123,73,500.00
4.2.57	IIT JEE Advanced Admission	-	38,88,893.06	24,47,555.00	14,41,338.06
4.2.58	Institute Amenities Deposit	19,46,000.00	25,96,000.00	1,95,000.00	43,47,000.00
4.2.59	JASPER HOSTEL	49,500.00	-	-	49,500.00
4.2.60	Kolkata Ext. Centre, Mech. Engg.	11,93,605.00	30,55,009.00	3,12,963.00	39,35,651.00
4.2.61	Kolkata Extension Centre ECE	4,73,699.00	19,88,000.00	6,35,813.00	18,25,886.00
4.2.62	Kolkata Extension Centre, Elec. Engg.	28,90,462.00	57,71,071.00	31,06,463.00	55,55,070.00



4.2.63	Kolkata Extension Centre, CSE	13,88,314.00	25,12,500.00	14,80,920.00	24,19,894.00
4.2.64	Liability Towards Convocation Deceased Labours	15,43,320.00	-	-	15,43,320.00
4.2.65	Library Security Deposit	48,67,500.00	64,91,000.00	4,87,500.00	108,71,000.00
4.2.66	Library Security	8,51,687.00	-	2,500.00	8,49,187.00
4.2.67	LIC Premium	31,023.00	59,85,149.00	59,85,137.00	31,035.00
4.2.68	Misc. Receipts (Liab)	5,84,139.00	303,33,432.00	213,49,085.00	95,68,486.00
4.2.69	Muquabala'07	1,894.00	-	-	1,894.00
4.2.70	Music Club	14,420.00	-	-	14,420.00
4.2.71	N.E.C. Merit Scholarship	10,600.00	-	-	10,600.00
4.2.72	Outside Scholarship Control A/c	24,62,829.00	46,32,712.00	28,46,104.00	42,49,437.00
4.2.73	Plan Commissioner of Customs Adv	-	7,00,000.00	4,18,769.00	2,81,231.00
4.2.74	P.F. Control A/c	50,31,399.00	670,00,000.00	720,74,894.00	(43,495.00)
4.2.75	Photographic Society	9,548.00	-	-	9,548.00
4.2.76	Post Office CTD/RD	-	3,81,500.00	3,81,500.00	-
4.2.77	PRAKARM 11	723.00	-	-	723.00
4.2.78	Relief Fund (DEATH BENEFIT PAYABLE)	64,593.00	-	-	64,593.00
4.2.79	Remuneration of GJLT/ Penman	(16,250.00)	16,250.00	-	-
4.2.80	SBI Cash Award for Non-Teaching Employees	-	50,000.00	50,000.00	-
4.2.81	Scolomin Club	700.00	3,10,200.00	3,08,350.00	2,550.00
4.2.82	SECURITY DEPOSIT	84,79,256.00	77,75,225.00	54,56,084.00	107,98,397.00
4.2.83	SRIJAN FUND	33,000.00	1,00,000.00	1,00,000.00	33,000.00
4.2.84	Staff Recreation Club	-	3,22,800.00	3,22,600.00	200.00
4.2.85	STUDENT CAUTION MONEY	420,34,371.00	37,16,880.00	107,34,000.00	350,17,251.00
4.2.86	Student Insurance Scheme	49,47,378.00	78,76,168.00	61,36,795.00	66,86,751.00
4.2.87	Student Uniform Deposit	73,05,557.00	50,58,200.00	4,18,626.00	119,45,131.00
4.2.88	Vidhan Sabha Election	4,400.00	-	-	4,400.00
4.2.89	Unpaid Liability	1,76,443.00	-	-	1,76,443.00
4.2.90	Lokshabha Election -2014	400.00	-	-	400.00
4.2.91	Panchayat Election	17,600.00	-	-	17,600.00
4.2.92	Sub Total	1307,06,868.05	5090,00,629.56	4691,10,220.00	1705,97,277.61

(C) Outstanding Expenses / Provisions(Non-Plan):

4.2.93	Outstanding Expenses	23,37,269.00	-	23,37,269.00	-
4.2.94	Outstanding Pay & Allowance	466,45,659.00	604,11,750.00	466,45,659.00	604,11,750.00
4.2.95	Provision for CPF Matching Contribution	-	107,61,347.00	-	107,61,347.00
4.2.96	Sub Total	489,82,928.00	711,73,097.00	489,82,928.00	711,73,097.00
4.2.97	Total Current Liabilities & Provisions (Non Plan)	1802,90,947.05	8137,29,616.56	7489,89,347.00	2450,31,216.61

Project: Current Liabilities & Provisions**(A) ISM R&D PROJECTS**

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.1	FRS(100)/2015-16/APH	13,11,643.00	-	2,43,750.00	10,67,893.00



4.3.2	FRS(101)/2016-17/AGP	8,30,000.00	-	-	8,30,000.00
4.3.3	FRS(10)/2010-2011/AC	7,218.00	-	-	7,218.00
4.3.4	FRS(102)/2016-17/AGP	10,00,000.00	-	-	10,00,000.00
4.3.5	FRS(103)/2016-17/AGP	10,00,000.00	-	-	10,00,000.00
4.3.6	FRS(104)/2016-17/CE	10,00,000.00	-	2,86,800.00	7,13,200.00
4.3.7	FRS(105)/2016-17/CE	9,70,000.00	-	7,24,268.00	2,45,732.00
4.3.8	FRS(106)/2016-17/CE	9,90,000.00	-	8,13,826.00	1,76,174.00
4.3.9	FRS(107)/2016-17/PE	9,00,000.00	-	-	9,00,000.00
4.3.10	FRS(108)/2016-17/ME	10,00,000.00	-	-	10,00,000.00
4.3.11	FRS(109)/2016-17/ESE	7,41,745.00	-	4,99,364.00	2,42,381.00
4.3.12	FRS(11)/2010-2011/AC	2,574.00	-	-	2,574.00
4.3.13	FRS(1)2009-10/1/ESE	1,15,491.00	-	-	1,15,491.00
4.3.14	FRS(12)/2010-2011/AC	8,85,970.00	-	-	8,85,970.00
4.3.15	FRS(13)/2010-2011/AGL	1,800.00	-	-	1,800.00
4.3.16	FRS(14)/2010-2011/AGP	1,28,290.00	-	-	1,28,290.00
4.3.17	FRS(15)/2010-2011	1,30,066.00	-	-	1,30,066.00
4.3.18	FRS(16)/2010-2011	3,29,271.00	-	-	3,29,271.00
4.3.19	FRS(17)/2010-2011/AM	26,048.00	-	-	26,048.00
4.3.20	FRS(18)/2010-2011/APH	27,609.00	-	-	27,609.00
4.3.21	FRS(19)/2010-2011/APH	9,04,145.00	-	-	9,04,145.00
4.3.22	FRS(20)/2010-2011/EE	232.00	-	-	232.00
4.3.23	FRS(21)/2010-2011/EE	2,07,470.00	-	-	2,07,470.00
4.3.24	FRS(2)/2009-10/2/AC	4,928.00	-	-	4,928.00
4.3.25	FRS(22)/2010-2011/ECE	389.00	-	-	389.00
4.3.26	FRS(23)/2010-2011/ESE	1,659.00	-	-	1,659.00
4.3.27	FRS(25)/2010-2011/ME&MME	2,19,971.00	-	-	2,19,971.00
4.3.28	FRS(26)/2010-2011/ME &MME	34,260.00	-	-	34,260.00
4.3.29	FRS(27)/2010-2011/MS	4,32,728.00	-	-	4,32,728.00
4.3.30	FRS(28)/2010-2011/PE	43,480.00	-	-	43,480.00
4.3.31	FRS(29)/2010-2011/PE	35,448.00	-	-	35,448.00
4.3.32	FRS(30)/2012-13/AC	1,97,296.00	-	1,80,190.00	17,106.00
4.3.33	FRS(31)/2012-13/AC	20,530.00	-	-	20,530.00
4.3.34	FRS(3)/2009-10/3/AC	22,857.00	-	-	22,857.00
4.3.35	FRS(32)/2012-13/AC	9,751.00	-	-	9,751.00
4.3.36	FRS(33)/2012-13/AM	2,75,100.00	-	-	2,75,100.00
4.3.37	FRS(34)/2012-13/APH	3,45,899.00	-	18,550.00	3,27,349.00
4.3.38	FRS(35)/2012-13/EE	10,115.00	-	-	10,115.00
4.3.39	FRS(36)/2012-13/EE	5,220.00	-	-	5,220.00
4.3.40	FRS(37)/2012-13/EE	2,09,550.00	-	-	2,09,550.00
4.3.41	FRS(38)/2012-13/ECE	2,64,500.00	-	2,58,719.00	5,781.00
4.3.42	FRS(39)/2012-13/ESE	2,35,540.00	-	2,34,469.00	1,071.00
4.3.43	FRS(40)/2012-13/ESE	68,718.00	-	-	68,718.00
4.3.44	FRS(41)/2012-13/ME	4,56,270.00	-	-	4,56,270.00
4.3.45	FRS(4)/2009-10(4)APH	86,384.00	-	-	86,384.00
4.3.46	FRS(42)/2012-13/PE	37,139.00	-	24,851.00	12,288.00



4.3.47	FRS(43)/13-14/AC	2,24,015.00	-	2,08,650.00	15,365.00
4.3.48	FRS(44)/13-14/AC	67.00	-	-	67.00
4.3.49	FRS(45)/13-14/AC	70.00	-	-	70.00
4.3.50	FRS(46)/13-14/AGL	79,134.00	-	-	79,134.00
4.3.51	FRS(47)/13-14/AGL	2,38,173.00	-	1,13,500.00	1,24,673.00
4.3.52	FRS(48)/13-14/AGL	4,90,235.00	-	4,67,203.00	23,032.00
4.3.53	FRS(49)/13-14/AGP	2,55,862.00	-	-	2,55,862.00
4.3.54	FRS(50)/13-14/APH	4,856.00	-	-	4,856.00
4.3.55	FRS(51)/13-14/APH	8,53,646.00	-	-	8,53,646.00
4.3.56	FRS(5)/2009-10/5/EE	1,168.00	-	-	1,168.00
4.3.57	FRS(52)/13-14/APH	1,08,305.00	-	-	1,08,305.00
4.3.58	FRS(53)/13-14/APH	3,36,473.00	-	1,59,504.00	1,76,969.00
4.3.59	FRS(54)/13-14/APH	801.00	-	-	801.00
4.3.60	FRS(55)/13-14/APH	8,678.00	-	8,501.00	177.00
4.3.61	FRS(56)/13-14/CHE	5,65,382.00	-	16,866.00	5,48,516.00
4.3.62	FRS(57)/13-14/CHE	1,02,089.00	-	92,022.00	10,067.00
4.3.63	FRS(58)/13-14/CHE	1,72,023.00	-	49,602.00	1,22,421.00
4.3.64	FRS(59)/13-14/CHE	24,583.00	-	-	24,583.00
4.3.65	FRS(60)/13-14/CHE	1,19,103.00	-	95,430.00	23,673.00
4.3.66	FRS(61)/13-14/CHE	1,02,990.00	-	-	1,02,990.00
4.3.67	FRS(6)/2009-10/6/ME&MME	3,00,000.00	-	-	3,00,000.00
4.3.68	FRS(63)/13-14/ECE	3,942.00	-	-	3,942.00
4.3.69	FRS(64)/13-14/ECE	17,953.00	-	7,245.00	10,708.00
4.3.70	FRS(65)/13-14/FME	6,55,425.00	-	-	6,55,425.00
4.3.71	FRS(66)/13-14/FME	33,166.00	-	-	33,166.00
4.3.72	FRS(67)/13-14/FME	3,73,724.00	-	14,791.00	3,58,933.00
4.3.73	FRS(68)/13-14/FME	68,230.00	-	-	68,230.00
4.3.74	FRS(69)/13-14/MS	1,88,602.00	-	-	1,88,602.00
4.3.75	FRS(70)/13-14/MECH	25,996.00	-	-	25,996.00
4.3.76	FRS(71)/13-14/MECH	1,940.00	-	-	1,940.00
4.3.77	FRS(72)/13-14/ME	1,16,753.00	-	-	1,16,753.00
4.3.78	FRS(73)/2014-15/AC	3,89,212.00	-	3,89,185.00	27.00
4.3.79	FRS(74)/2014-15/APH	11,425.00	-	9,939.00	1,486.00
4.3.80	FRS(75)/2014-15/APH	1,96,329.00	-	88,837.00	1,07,492.00
4.3.81	FRS(76)/2014-15/CHE	42,510.00	-	32,632.00	9,878.00
4.3.82	FRS(77)/2014-15/CHE	3,40,630.00	-	-	3,40,630.00
4.3.83	FRS(78)/2014-15/CE	99,674.00	-	96,859.00	2,815.00
4.3.84	FRS(79)/2014-15/CE	1,02,828.00	-	-	1,02,828.00
4.3.85	FRS(80)/2014-15/CE	1,68,975.00	-	-	1,68,975.00
4.3.86	FRS(81)/2014-15/EE	10,00,000.00	-	9,72,467.00	27,533.00
4.3.87	FRS(8)/2009-10/8/CSE	1,95,197.00	-	-	1,95,197.00
4.3.88	FRS(82)/2014-15/EE	38,333.00	-	37,674.00	659.00
4.3.89	FRS(83)/2014-15/ECE	6,34,208.00	-	5,60,120.00	74,088.00
4.3.90	FRS(84)/2014-15/ECE	10,00,000.00	-	7,65,462.00	2,34,538.00
4.3.91	FRS(85)/2014-15/ECE	6,75,000.00	-	-	6,75,000.00
4.3.92	FRS(86)/2014-15/ESE	4,78,442.00	-	4,75,717.00	2,725.00



4.3.93	FRS(87)/2014-15/FME	8,47,063.00	-	2,70,758.00	5,76,305.00
4.3.94	FRS(88)/2014-15/HSS	2,25,000.00	-	-	2,25,000.00
4.3.95	FRS(89)/2014-15/ME	7,85,050.00	-	6,12,682.00	1,72,368.00
4.3.96	FRS (90)/2015-16/CE	10,07,026.00	-	8,49,498.00	1,57,528.00
4.3.97	FRS(91)/2015-16/CE	37,851.00	-	22,760.00	15,091.00
4.3.98	FRS(9)/2009-10/9/CSE	1,50,145.00	-	-	1,50,145.00
4.3.99	FRS(92)/2015-16/CE	4,83,585.00	-	2,86,326.00	1,97,259.00
4.3.100	FRS(93)/2015-16/ME	13,50,000.00	-	37,261.00	13,12,739.00
4.3.101	FRS(94)/2015-16/MECH. ENGG.	5,88,161.00	-	3,37,503.00	2,50,658.00
4.3.102	FRS(95)/2015-16/MECH. ENGG.	8,00,000.00	-	40,126.00	7,59,874.00
4.3.103	FRS(96)/2015-16/MECH. ENGG.	10,80,000.00	-	82,251.00	9,97,749.00
4.3.104	FRS(97)/2015-16/MECH. ENGG.	75,000.00	-	70,875.00	4,125.00
4.3.105	FRS(98)/2015-16/MECH. ENGG.	87,206.00	-	64,052.00	23,154.00
4.3.106	FRS(99)/2015-16/MME	1,60,000.00	-	-	1,60,000.00
4.3.107	Sub-total (ISM FRS Projects)	340,49,538.00	-	106,21,085.00	234,28,453.00

(B) R&D Projects:

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.108	AICTE/NDF/NK/07	2,17,012.00	-	-	2,17,012.00
4.3.109	AICTE/NDF/Shankar Purby/MS/04	45,000.00	-	-	45,000.00
4.3.110	ARDB(MoD)/534/ MECH.ENGG /17-18	-	18,76,500.00	86,500.00	17,90,000.00
4.3.111	CIL/410/AGP/2014-15	8,74,962.00	163,00,000.00	44,47,794.00	127,27,168.00
4.3.112	CIL/461/2015-16/ME	409,99,202.00	32,799.00	70,152.00	409,61,849.00
4.3.113	CIL/474/CHEM ENGG/ 2016-17	199,63,818.00	-	16,26,925.00	183,36,893.00
4.3.114	CIL/479/ME/ 2016-17	149,96,250.00	-	14,66,210.00	135,30,040.00
4.3.115	CIL/514/FME/ 2017-18	-	1150,00,000.00	10,11,292.00	1139,88,708.00
4.3.116	CIL/539/CHEMICAL ENGG/ 2017-18	-	1580,00,000.00	22,66,931.00	1557,33,069.00
4.3.117	CIL/540/CHEMICAL ENGG/ 2017-18	-	1250,00,000.00	1,68,224.00	1248,31,776.00
4.3.118	CME-4079	4,45,269.00	-	-	4,45,269.00
4.3.119	CME-ENVIS	3,78,120.00	QA14,15,747.00	11,63,272.00	6,30,595.00
4.3.120	CONS/3238/ 2016-17	6,30,668.00	-	6,30,668.00	-
4.3.121	CPRI/2016-17/492/ME	79,96,251.00	-	21,58,786.00	58,37,465.00
4.3.122	CSIR/029	0.40	-	0.40	-
4.3.123	CSIR/09/085/0109/ EMR-1	436.00	4,14,764.00	4,13,785.00	1,415.00
4.3.124	CSIR/09/085/0111/ 2014-EMR-1	6,667.00	2,82,133.00	2,88,800.00	-
4.3.125	CSIR/09/085/0114/ 2015-EMR-1	3,87,730.00	-	3,61,483.00	26,247.00
4.3.126	CSIR/09/85(102) 2009-EMR-1	645.00	-	-	645.00
4.3.127	CSIR/108/ 2012-EMR-I	4,19,867.00	-	4,19,867.00	-
4.3.128	CSIR/109/ 2012-EMR-I	800.00	-	800.00	-
4.3.129	CSIR/110/ 2013 EMR-1	4,23,200.00	-	4,23,200.00	-
4.3.130	CSIR/112/ EMRI	5,698.00	-	-	5,698.00



4.3.131	CSIR/116/ 2016-EMR-I	37,903.00	-	37,877.00	26.00
4.3.132	CSIR/117/ 2016=EMR-I	-	5,45,000.00	50,000.00	4,95,000.00
4.3.133	CSIR/250/AC	5,41,645.00	-	-	5,41,645.00
4.3.134	CSIR/327/ME/ 2012-13	46,88,255.00	1,32,284.00	44,32,732.00	3,87,807.00
4.3.135	CSIR/362/AM/12-13	1,18,367.00	-	1,18,367.00	-
4.3.136	CSIR/369/PE/ 2013-14	31,367.00	-	29,680.00	1,687.00
4.3.137	CSIR/371/AC/ 13-14	2,72,077.00	3,015.00	2,46,127.00	28,965.00
4.3.138	CSIR/380/APH/ 2013-14	1,29,269.00	-	-	1,29,269.00
4.3.139	CSIR/406/2014-15/ FME	3,74,583.00	-	69,788.00	3,04,795.00
4.3.140	CSIR/430/15-16/ AM	1,16,723.00	1,87,665.00	2,13,713.00	90,675.00
4.3.141	CSIR/467/AP/ 2016-17	7,55,621.00	-	2,70,259.00	4,85,362.00
4.3.142	CSIR/468/AM/ 2016-17	2,03,744.00	5,94,263.00	6,74,652.00	1,23,355.00
4.3.143	CSIR/469/AM/ 2016-17	4,54,200.00	3,74,442.00	3,04,190.00	5,24,452.00
4.3.144	CSIR/470/ 2016-17/EE	9,94,580.00	3,60,000.00	5,52,925.00	8,01,655.00
4.3.145	CSIR/518/AM/ 2017-18	-	1,91,667.00	14,189.00	1,77,478.00
4.3.146	CSIR/520/AM/ 2017-18	-	1,91,667.00	15,899.00	1,75,768.00
4.3.147	CSIR/521/17-18/ CSE	-	1,45,833.00	1,10,506.00	35,327.00
4.3.148	CSIR/522/2017-18/ AM	-	4,96,853.00	3,12,381.00	1,84,472.00
4.3.149	CSIR/525/ APPLIED CHEM./ 2017-18	-	4,75,000.00	2,74,915.00	2,00,085.00
4.3.150	DAE/375/AGL/ 2013-14	3,04,885.00	-	-	3,04,885.00
4.3.151	DAE/386/APH/ 2014-15	9,48,326.00	-	9,216.00	9,39,110.00
4.3.152	DAE/473/ME/ 2016-17	14,40,469.00	3,00,924.00	7,48,953.00	9,92,440.00
4.3.153	DBT/440/FME/ 2015-16	3,54,643.00	8,58,515.00	10,91,507.00	1,21,651.00
4.3.154	DEPT OF SCIENCE & ENGINEERING (GOI)	1,17,448.00	-	1,17,448.00	-
4.3.155	DRDO/401/ 2014-15/ECE	67,521.00	71,461.00	1,38,982.00	-
4.3.156	DRDO/431/ 15-16/CSE	1,85,549.00	9,05,514.00	5,16,793.00	5,74,270.00
4.3.157	DRDO/437/MECH /15-16	71,88,978.00	13,75,000.00	77,84,075.00	7,79,903.00
4.3.158	DRDO/444/MECH/ 2015-16	1,98,947.00	1,49,978.00	3,07,351.00	41,574.00
4.3.159	DRDO/464/CSE/ 2016-17	44,890.00	3,75,000.00	4,19,890.00	-
4.3.160	DRDO/491/AC/ 2016-17	21,50,000.00	39,531.00	3,71,001.00	18,18,530.00
4.3.161	DRDO/494/MECH / 2016-17	-	4,49,978.00	1,52,502.00	2,97,476.00
4.3.162	DRDO/531/MECH / 2017-18	-	8,20,000.00	-	8,20,000.00
4.3.163	DST/14/MATHS/ 15-16	1,37,250.00	-	-	1,37,250.00
4.3.164	DST/161/ ME&MME	1,94,409.00	-	-	1,94,409.00
4.3.165	DST/16/AGL/ 15-16	1,45,535.00	-	10,256.00	1,35,279.00
4.3.166	DST/214/AC/ 07-08	3,393.00	-	-	3,393.00
4.3.167	DST/216/ME/07-08	95,341.00	-	-	95,341.00
4.3.168	DST/21/MATHS/ 2016-17	(26,444.00)	20,000.00	-	(6,444.00)
4.3.169	DST/223/AM/ 08-09	86,307.00	-	-	86,307.00
4.3.170	DST/23/AGP/2016-17	61,029.00	48,971.00	1,10,000.00	-
4.3.171	DST/244/MEMME/ 08-09	5,810.00	-	-	5,810.00
4.3.172	DST/24/AM/ 17-18	-	5,99,625.00	5,99,625.00	-
4.3.173	DST/25/AM/ 17-18(GIAN)	-	6,11,000.00	5,75,252.00	35,748.00
4.3.174	DST/269/AP/ 10-11	2,978.00	-	-	2,978.00
4.3.175	DST/26/AM/ 17-18(GIAN)	-	6,17,000.00	5,90,124.00	26,876.00



4.3.176	DST/274/AM/ 10-11	24,178.00	-	-	24,178.00
4.3.177	DST/276/AGL/ 10-11	1,60,000.00	-	-	1,60,000.00
4.3.178	DST/280/AGP/ 10-11	34,20,918.00	-	19,26,432.00	14,94,486.00
4.3.179	DST/281/AC/ 10-11	16,079.00	-	15,079.00	1,000.00
4.3.180	DST/28/CSE/ 17-18	-	5,99,000.00	27,624.00	5,71,376.00
4.3.181	DST/299/ 2011-12/APH	3,27,626.00	-	-	3,27,626.00
4.3.182	DST/301/AGL/ 11-12	634.00	-	-	634.00
4.3.183	DST/303/2012-13/ AGL	1,08,297.00	-	1,08,297.00	-
4.3.184	DST/315/AC/12-13	2,868.00	-	-	2,868.00
4.3.185	DST/339/ME&MME/ 2013-14	18,127.00	-	-	18,127.00
4.3.186	DST/344/ECE/ 2013-14	6,43,393.00	-	-	6,43,393.00
4.3.187	DST/350/ 2013-14/PE	30,821.00	-	-	30,821.00
4.3.188	DST/351/ 13-14/AGL	2,42,871.00	-	2,42,871.00	-
4.3.189	DST/352/AGP/ 2013-14	39,332.00	-	39,332.00	-
4.3.190	DST/356/ 13-14/AC	2,02,499.00	-	2,02,499.00	-
4.3.191	DST/358/ 2013-14/AGL	50,731.00	-	47,968.00	2,763.00
4.3.192	DST/359/APP PHY/13-14	2,41,909.00	-	2,41,909.00	-
4.3.193	DST/360/MECH. ENGG	2,52,151.00	-	2,52,151.00	-
4.3.194	DST/361/AGL (FIST)/ 2013-14	14,55,764.00	-	6,14,482.00	8,41,282.00
4.3.195	DST/363/ CE	66,560.00	5,00,000.00	3,00,637.00	2,65,923.00
4.3.196	DST/364/ 2013-14/AGP	1,74,063.00	-	-	1,74,063.00
4.3.197	DST/365/ 2013-14/AGP	2,44,463.00	-	1,23,280.00	1,21,183.00
4.3.198	DST/368/MECH/ 2013-14	6,89,539.00	4,00,000.00	7,41,295.00	3,48,244.00
4.3.199	DST/370/AC/ 2013-14	3.00	53,163.00	53,166.00	-
4.3.200	DST/372/2013-14/ AC(FIST)	154,26,363.00	-	150,58,124.00	3,68,239.00
4.3.201	DST/373/APP PHY/ 13-14	1,69,012.00	-	92,311.00	76,701.00
4.3.202	DST/374/2013-14/ AC	1,16,144.00	7,15,332.00	4,11,699.00	4,19,777.00
4.3.203	DST/376/APH/ 13-14	15,33,738.00	-	3,34,669.00	11,99,069.00
4.3.204	DST/378/APPL PHY /13-14	47,949.00	46,948.00	36,332.00	58,565.00
4.3.205	DST/379/APPL PHYS/13-14	15,56,706.00	-	-	15,56,706.00
4.3.206	DST/381/2013-14/ ESE	3,48,091.00	3,20,000.00	3,68,664.00	2,99,427.00
4.3.207	DST/382/APP PHYS	(6,294.00)	38,032.00	31,738.00	-
4.3.208	DST/382/APP PHYS/ 2013-14	3,38,778.00	6,00,000.00	9,38,778.00	-
4.3.209	DST/383/APP PHYS/ 13-14	5,00,308.00	-	-	5,00,308.00
4.3.210	DST/384/AGP/ 14-16	1,13,542.00	1,06,574.00	2,19,500.00	616.00
4.3.211	DST/385/APH/ 14-15	2,80,649.00	-	2,80,649.00	-
4.3.212	DST/387/ 2014-15/AC	3,42,427.00	-	3,29,778.00	12,649.00
4.3.213	DST/388/ 2014-15/AC	113.00	303.00	416.00	-
4.3.214	DST/389/ FME/2014-15	4,412.00	3,56,000.00	3,54,368.00	6,044.00
4.3.215	DST/390/ 14-15/APH	1,32,716.00	3,50,000.00	4,82,716.00	-
4.3.216	DST/391/ ME/2014-15	8,531.00	-	800.00	7,731.00
4.3.217	DST/392/ 14-15/AC	-	50,000.00	50,000.00	-
4.3.218	DST/393/ AM (FIST)/2014-15	1,94,187.00	-	14,389.00	1,79,798.00
4.3.219	DST/394/ 14-15/AC	1,73,126.00	3,466.00	1,76,592.00	-
4.3.220	DST/395/ MS/14-15	1,09,683.00	-	1,09,593.00	90.00
4.3.221	DST/398/ AC/14-15	2,45,239.00	5,00,000.00	5,51,355.00	1,93,884.00



4.3.222	DST/403/ PE/2014-15	59,95,485.00	-	31,28,051.00	28,67,434.00
4.3.223	DST/404/ AGL/14-15	3,26,139.00	-	3,24,266.00	1,873.00
4.3.224	DST/405/MECH/2014-15	6,00,711.00	2,00,000.00	2,04,657.00	5,96,054.00
4.3.225	DST/409/2014-15/AGL	1,85,925.00	9,04,716.00	10,90,641.00	-
4.3.226	DST/415/AC	18,72,796.00	6,00,000.00	23,24,592.00	1,48,204.00
4.3.227	DST/418/AC	64,103.00	6,99,532.00	1,78,720.00	5,84,915.00
4.3.228	DST/420/15-16/CSE	39,189.00	4,50,000.00	4,14,182.00	75,007.00
4.3.229	DST/421/2015-16/APP PHY	6,81,089.00	-	6,73,731.00	7,358.00
4.3.230	DST/422/2015-16/ APP CHEM	27,16,928.00	6,00,000.00	30,54,486.00	2,62,442.00
4.3.231	DST/423/AGL/ 2015-16	10,98,110.00	-	10,97,110.00	1,000.00
4.3.232	DST/427/2015-16 /AM	3,75,961.00	-	74,330.00	3,01,631.00
4.3.233	DST/429/ESE/ 15-16	9,30,007.00	-	7,32,114.00	1,97,893.00
4.3.234	DST/432/15-16/ ECE	2,31,682.00	2,00,000.00	1,80,892.00	2,50,790.00
4.3.235	DST/432/2015-16/ APH	6,85,479.00	4,00,000.00	5,25,339.00	5,60,140.00
4.3.236	DST/433/2015-16/APPL PHY	16,28,312.00	1,80,000.00	17,33,969.00	74,343.00
4.3.237	DST/442/ECE/2015-16	41,710.00	-	-	41,710.00
4.3.238	DST/446/MME/15-16	18,38,100.00	1,40,000.00	1,78,341.00	17,99,759.00
4.3.239	DST /447/AGL/128/15-16	19,22,578.00	-	18,68,263.00	54,315.00
4.3.240	DST/448/2015-16/ CHEM ENGG	15,598.00	2,88,330.00	2,83,868.00	20,060.00
4.3.241	DST/452/SERB /AGL/15-16	21,20,888.00	-	4,31,119.00	16,89,769.00
4.3.242	DST/454/MECH/ 2015	17,74,699.00	1,07,320.00	18,48,799.00	33,220.00
4.3.243	DST/455/MECH / 2015-16	19,76,131.00	3,00,000.00	14,29,498.00	8,46,633.00
4.3.244	DST/457/AGL/2015-16	9,90,113.00	4,00,000.00	10,10,511.00	3,79,602.00
4.3.245	DST/458/ELECTRICAL ENGG	73,357.00	4,48,000.00	4,16,538.00	1,04,819.00
4.3.246	DST/459/CIVIL ENGG/2015-16	14,12,333.00	-	4,33,236.00	9,79,097.00
4.3.247	DST/460/CIVIL ENGG/2015-16	2,20,335.00	2,93,660.00	3,16,588.00	1,97,407.00
4.3.248	DST/462/ESE/2016-17	6,788.00	-	-	6,788.00
4.3.249	DST/463/ME/2016-17	30,82,154.00	-	30,36,084.00	46,070.00
4.3.250	DST/466/16-17/CE	13,90,444.00	10,19,500.00	13,21,534.00	10,88,410.00
4.3.251	DST/475/AC/2016-17	21,58,755.00	4,00,000.00	21,73,617.00	3,85,138.00
4.3.252	DST/477/PE/2016-17	30,32,788.00	-	4,78,098.00	25,54,690.00
4.3.253	DST/478/AC/2016-17	31,69,951.00	-	19,35,707.00	12,34,244.00
4.3.254	DST/480/MME/2016-17	28,20,185.00	-	9,19,099.00	19,01,086.00
4.3.255	DST/482/AM/16-17	5,67,533.00	1,00,000.00	4,73,561.00	1,93,972.00
4.3.256	DST/483/MECH /2016-17	17,99,763.00	-	10,13,170.00	7,86,593.00
4.3.257	DST/484/MECH ENGG.	9,08,661.00	-	8,04,355.00	1,04,306.00
4.3.258	DST/485/AM/2016-17	4,96,109.00	1,20,000.00	3,90,950.00	2,25,159.00
4.3.259	DST/486/INSPIRE/AGP /16-17	6,03,165.00	3,32,643.00	6,37,458.00	2,98,350.00
4.3.260	DST/487/APH/2016-17	42,52,447.00	2,00,000.00	45,49,815.00	(97,368.00)
4.3.261	DST/488/MECH /2016-17	23,24,241.00	-	22,20,754.00	1,03,487.00
4.3.262	DST/489/ME/2016-17	30,96,320.00	2,82,839.00	3,55,265.00	30,23,894.00
4.3.263	DST/490/MECH /2016-17	19,30,211.00	-	12,81,376.00	6,48,835.00
4.3.264	DST/496/2016-17/AC	17,68,917.00	3,00,000.00	15,85,315.00	4,83,602.00
4.3.265	DST/497/CE/2016-17 (SERB)	17,33,234.00	-	10,56,978.00	6,76,256.00
4.3.266	DST/498/ESE/2016-17	1,09,990.00	4,55,190.00	3,44,127.00	2,21,053.00



4.3.267	DST/499/2016-17/ECE	35,23,150.00	-	20,35,160.00	14,87,990.00
4.3.268	DST/501/2016-17/AM	2,00,000.00	7,55,000.00	3,46,772.00	6,08,228.00
4.3.269	DST/503/ECE/2016-17	24,73,500.00	6,50,000.00	8,57,140.00	22,66,360.00
4.3.270	DST/504/PE/2016-17	-	21,15,000.00	3,01,245.00	18,13,755.00
4.3.271	DST/505/2016-17/ESE	35,03,681.00	-	24,815.00	34,78,866.00
4.3.272	DST/506/AM/2016-17	8,00,000.00	5,00,000.00	9,86,526.00	3,13,474.00
4.3.273	DST/507/2016-17/AGP	-	26,30,000.00	10,14,503.00	16,15,497.00
4.3.274	DST/508/PDF/AC/2016-17	2,97,000.00	8,50,000.00	8,62,993.00	2,84,007.00
4.3.275	DST/509/AC/2016-17	9,12,440.00	-	7,00,943.00	2,11,497.00
4.3.276	DST/510/AM/2016-17	5,56,400.00	-	3,33,390.00	2,23,010.00
4.3.277	DST/511/ME/2017-18	-	14,72,500.00	3,75,202.00	10,97,298.00
4.3.278	DST/512/2017-18/AM	-	3,10,000.00	2,04,605.00	1,05,395.00
4.3.279	DST/517/CE/2017-18	-	21,55,120.00	6,70,698.00	14,84,422.00
4.3.280	DST/523/MECH /2017-18	-	21,87,200.00	3,21,624.00	18,65,576.00
4.3.281	DST/524/CSE/2017-18	-	8,53,960.00	6,67,028.00	1,86,932.00
4.3.282	DST/526/ESE/17-18	-	8,46,000.00	8,32,014.00	13,986.00
4.3.283	DST/527/CIVIL ENGG /17-18	-	17,39,150.00	4,49,190.00	12,89,960.00
4.3.284	DST/529/AC/2017-18	-	16,33,300.00	3,64,918.00	12,68,382.00
4.3.285	DST/530/AGP/2017-18	-	37,00,000.00	1,10,333.00	35,89,667.00
4.3.286	DST/532/AM/2017-18	-	5,73,030.00	1,87,191.00	3,85,839.00
4.3.287	DST/533/MECH /2017-18	-	29,36,340.00	1,52,402.00	27,83,938.00
4.3.288	DST/536/2017-18/AGL	-	13,79,000.00	2,48,279.00	11,30,721.00
4.3.289	DST/542/ECE/2017-18	-	9,60,000.00	4,93,064.00	4,66,936.00
4.3.290	DST/544/AM/17-18	-	8,51,200.00	21,063.00	8,30,137.00
4.3.291	DST/546/MS/2017-18	-	10,00,000.00	1,54,415.00	8,45,585.00
4.3.292	DST/547/2017-18/ME	-	4,60,000.00	4,12,083.00	47,917.00
4.3.293	DST/550/AC/2017-18	-	4,80,000.00	-	4,80,000.00
4.3.294	DST/554/AP/2017-18	-	8,49,500.00	-	8,49,500.00
4.3.295	DST/555/AP/2017-18	-	25,70,000.00	-	25,70,000.00
4.3.296	DST(FIST)/140/2016-17/ 471/ ESE	83,00,000.00	-	72,27,572.00	10,72,428.00
4.3.297	DST/ INPIRE FELLOWSHIP/ MADHU KANT THAKUR/ 2016	-	3,80,000.00	3,48,813.00	31,187.00
4.3.298	DST/INSPIRE	46,40,000.00	19,78,699.00	61,18,699.00	5,00,000.00
4.3.299	DST/INSPIRE/ 000032/ KALYAN KOLOY	-	19,00,000.00	15,39,665.00	3,60,335.00
4.3.300	DST/Inspire Faculty/ 2013-17	3,30,100.00	4,41,065.00	3,27,789.00	4,43,376.00
4.3.301	DST/ Inspire Faculty Award AGL/ 14	89,002.00	12,99,294.00	11,95,518.00	1,92,778.00
4.3.302	DST/INSPIRE FACULTY WARD 2014/ LSPA-25	2,68,408.00	16,31,368.00	17,85,157.00	1,14,619.00
4.3.303	DST/ INSPIRE FELLOWSHIP/ 2016/ MANOJ KR SAHOO	-	3,80,000.00	3,63,259.00	16,741.00
4.3.304	DST/INSPIRE FELLOWSHIP / 2017/ ARPITA ROY	-	3,68,000.00	1,00,000.00	2,68,000.00
4.3.305	DST/ INSPIRE FELLOWSHIP/ 459/2013	-	3,20,000.00	3,00,000.00	20,000.00
4.3.306	DST /INSPIRE FELLOWSHIP/ INJAMAMUL HAQUE /2016	-	4,10,000.00	3,19,973.00	90,027.00
4.3.307	DST /INSPIRE FELLOWSHIP/M MAHANTY / 2016-17	2,02,581.00	-	1,94,469.00	8,112.00
4.3.308	EC(1)/2008-09/239/AGL	8,181.00	-	-	8,181.00
4.3.309	HUDCO/436/CE/2015-16	2,12,790.00	6,56,640.00	8,43,639.00	25,791.00



4.3.310	ICHR(I)/434/HSS/2015-16	93,535.00	-	9,415.00	84,120.00
4.3.311	ICMR/476/ESE/2016-17	56,167.00	1,72,401.00	2,28,412.00	156.00
4.3.312	ICPR/408/HSS	10,401.00	-	7,531.00	2,870.00
4.3.313	ICPR/451/15-16/HSS	1,29,643.00	-	71,273.00	58,370.00
4.3.314	ICSSR/355/13-14/MS	83.00	-	-	83.00
4.3.315	ICSSR/414/MS	17,945.00	-	17,242.00	703.00
4.3.316	IICP(I)/2007-2008/01/FME	5,73,106.00	-	-	5,73,106.00
4.3.317	IIT(ISM) & Tata Steel MOU/519/ Inst/17-18	-	8,00,000.00	2,160.00	7,97,840.00
4.3.318	Inspire Fellowship	(16,000.00)	-	-	(16,000.00)
4.3.319	INSPIRE/JRF	82,609.00	4,51,871.00	3,92,000.00	1,42,480.00
4.3.320	IPEM/367/INST/2013-14	1,84,856.00	-	200.00	1,84,656.00
4.3.321	IPEM/399/INST/2014-15	1,54,450.00	-	71,868.00	82,582.00
4.3.322	ISRO/493/AGP/2016-17	16,13,430.00	-	4,23,984.00	11,89,446.00
4.3.323	ISRO/500/AGL/2016-17	5,10,000.00	3,00,000.00	3,75,635.00	4,34,365.00
4.3.324	ISRO/502/ME/2016-17	1,06,000.00	3,83,000.00	4,76,665.00	12,335.00
4.3.325	ISRO/513/ECE/2017-18	-	7,20,000.00	3,42,974.00	3,77,026.00
4.3.326	ISRO/515/APH/17-18	-	16,90,000.00	14,41,464.00	2,48,536.00
4.3.327	ISRO/538/ 2017-18/ECE	-	10,10,000.00	1,86,754.00	8,23,246.00
4.3.328	ISRO/541/AM/2017-18	-	5,97,000.00	2,46,903.00	3,50,097.00
4.3.329	KRC/ESE/2014-15	-	3,72,600.00	1,24,816.00	2,47,784.00
4.3.330	MCIT/419/CSE	5,08,100.00	-	2,93,517.00	2,14,583.00
4.3.331	MDWS/453/ESE/2015-16	4,63,938.00	9,91,724.00	9,61,157.00	4,94,505.00
4.3.332	MHRD/402/INST/14-15	143,84,376.00	250,00,000.00	157,51,514.00	236,32,862.00
4.3.333	MHRD/438/ 15-16/ (FDC)/ INST	22,54,326.00	288,24,000.00	247,25,767.00	63,52,559.00
4.3.334	MISC RECEIPTS - R&D PROJECTS	56,10,625.00	-	47,98,125.00	8,12,500.00
4.3.335	MIT/189/CSE	549.00	-	-	549.00
4.3.336	MOC/188	-	11,586.00	-	11,586.00
4.3.337	MOC/441/15-16/ME	9,75,487.00	20,00,000.00	23,67,602.00	6,07,885.00
4.3.338	MOC/449/CE/15-16	130,62,333.00	100,00,000.00	59,66,599.00	170,95,734.00
4.3.339	MOEF/443/ESE/2015-16	17,12,320.00	-	4,13,793.00	12,98,527.00
4.3.340	MOES/322/12-13/AGP	12,317.00	-	-	12,317.00
4.3.341	MOES/357/2013-14/AGP	5,35,748.00	5,40,000.00	9,23,020.00	1,52,728.00
4.3.342	MOES/396/ESE/2014-15	5,72,056.00	-	63,087.00	5,08,969.00
4.3.343	MOES/407/2014-15/AGL	42,49,903.00	19,14,003.00	43,86,687.00	17,77,219.00
4.3.344	MOES/416/AGP	94,232.00	5,81,770.00	3,58,854.00	3,17,148.00
4.3.345	MOES/424/2015-16/AGL	20,502.00	7,81,148.00	1,80,610.00	6,21,040.00
4.3.346	MOES/425/2015-16/ME	11,06,228.00	-	2,59,726.00	8,46,502.00
4.3.347	MOES/426/2015-16/AGL	35,77,628.00	-	66,030.00	35,11,598.00
4.3.348	MoES/456/AGP/2015-16	1,98,720.00	4,15,000.00	5,27,549.00	86,171.00
4.3.349	MOES/543/2017-18/PE	-	30,54,000.00	1,97,155.00	28,56,845.00
4.3.350	MOM/417/15-16/ME	13,45,596.00	-	6,44,448.00	7,01,148.00
4.3.351	MOM/450/2015-16/ME	20,39,556.00	9,70,000.00	12,74,749.00	17,34,807.00
4.3.352	MOM/537/ME/2017-18	-	14,86,500.00	46,576.00	14,39,924.00
4.3.353	MOT/548/2017-18/MS	-	5,96,200.00	-	5,96,200.00
4.3.354	MSME(1)/09-10/263/ DRD/ MS	82,500.00	-	-	82,500.00



4.3.355	MWR/184/MIN	97,072.00	-	-	97,072.00
4.3.356	MWR/307/AGL (2)/2011-12	189,46,745.00	-	-	189,46,745.00
4.3.357	MWR/308/ESE (3)/2012-13	4,99,246.00	-	3,429.00	4,95,817.00
4.3.358	NAMAMI GANGE A/C	(1,13,139.00)	5,00,000.00	15,412.00	3,71,449.00
4.3.359	NBHM/528/2017-18/AM	-	2,26,000.00	55,022.00	1,70,978.00
4.3.360	NIRDPR/516/MS/2017-18	-	8,20,050.00	6,99,724.00	1,20,326.00
4.3.361	OIDB/4111	18,71,671.51	-	-	18,71,671.51
4.3.362	OIL/321/PE/12-13	7,58,020.00	-	5,07,407.00	2,50,613.00
4.3.363	OIL/377/2013-14/PE	1,17,398.00	2,14,500.00	77,848.00	2,54,050.00
4.3.364	OIL/428/PE/2016	5,31,258.00	5,08,860.00	4,57,933.00	5,82,185.00
4.3.365	ONGC VIDESH LTD.	101,01,156.00	92,40,997.00	19,53,323.00	173,88,830.00
4.3.366	OTHER PROJECT	146,35,016.13	-	-	146,35,016.13
4.3.367	PDF NBHM DAE RACHNA BHATIA	1,61,600.00	-	-	1,61,600.00
4.3.368	SAC/183/AGP	4,425.00	-	-	4,425.00
4.3.369	S K SINHA/NCGG/2017	-	22,45,332.00	22,45,332.00	-
4.3.370	TATA STEEL/535/ESE	-	9,74,576.00	3,82,404.00	5,92,172.00
4.3.371	Tata Steel & IIT (ISM) MOU/549 /2017-18/INST	-	6,25,000.00	-	6,25,000.00
4.3.372	TEQIP-II	39,32,484.00	1,51,674.00	31,31,364.00	9,52,794.00
4.3.373	UGC/397/ME/2014-15	2,98,634.00	2,991.00	3,01,625.00	-
4.3.374	UK SINGH/ ME/TRAVEL GRANT	-	15,493.25	15,493.25	-
4.3.375	Sub total (R&D Projects)	3398,16,938.04	5867,32,319.25	2238,50,787.65	7026,98,469.64

(C) Department Development Fund - TEQIP:

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj. during the year	Balance as on 31.03.2018
4.3.376	Anand Shankar Hari/ MRP-DDF/MME/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.377	Arijit Baral/MRP-DDF/EE/ TEQIP	1,10,820.00	-	1,10,801.00	19.00
4.3.378	B K Naick/MRP-DDF/EE/ TEQIP	2,00,000.00	-	500.00	1,99,500.00
4.3.379	Chandan Guria/MRP-DDF/PE/ TEQIP	96,255.00	-	96,254.00	1.00
4.3.380	Gauri Shankar/MRP-DDF/EE/ TEQIP	2,00,000.00	-	5,750.00	1,94,250.00
4.3.381	G SRINIVAS RAO/MRP-DDF/ AGP/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.382	Jaisingh T /MRP-DDF/ECE/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.383	Kaushik Mazumdar/MRP-DDF/ ECE/ TEQIP	2,00,000.00	-	30,136.00	1,69,864.00
4.3.384	Lutukurthi D N V V Konda/ MRP- DDF / CHE/ TEQIP	2,00,000.00	-	75,971.00	1,24,029.00
4.3.385	Md. Soyeb Alam/MRP-DDF/ ME/ TEQIP	1,57,659.00	-	42,699.00	1,14,960.00
4.3.386	MRINAL SEN/MRP-DDF/ECE/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.387	Paidnaidu Paluri/ MRP-DDF/ CHE/ TEQIP	2,00,000.00	-	1,959.00	1,98,041.00
4.3.388	Patitapaban Sahu/ MRP-DDF/ ME/ TEQIP	2,00,000.00	-	1,55,875.00	44,125.00
4.3.389	Pawan Kr. Singh/MRP-DDF/ MECH/ TEQIP	50,491.00	-	50,491.00	-
4.3.390	P K NAYAK/MRP-DDF/ EE/ TEQIP	2,00,000.00	-	-	2,00,000.00



4.3.391	P R SAHOO/ MRP/DDF /AGL/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.392	Radhakanta Koner/MRP-DDF/ ME/ TEQIP	2,00,000.00	-	41,872.00	1,58,128.00
4.3.393	Rahul Bhattacharya /MRP-DDF/ ECE/ TEQIP	2,00,000.00	-	1,72,003.00	27,997.00
4.3.394	Rajeev Kr. Ranjan/ MRP /ECE/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.395	RAJIV SARKAR /MRP/DDF/CE/ TEQIP	1,96,270.00	-	1,96,270.00	-
4.3.396	Rakesh Kumar/MRP-DDF/ MECH/ TEQIP	74,066.00	-	73,676.00	390.00
4.3.397	R K SINHA/MRP-DDF/ ME/ TEQIP	2,00,000.00	-	32,960.00	1,67,040.00
4.3.398	R R Das/MRP-DDF/ MME/ TEQIP	2,00,000.00	-	49,200.00	1,50,800.00
4.3.399	Sanjoy Mondal/ MRP-DDF/ EE/TEQIP	2,00,000.00	-	59,813.00	1,40,187.00
4.3.400	Saurabh Datta Gupta/ MRP-DDF/ AGP/TEQIP	2,00,000.00	-	1,99,984.00	16.00
4.3.401	Shatrughan Soren/ MRP-DDF/ FME/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.402	Sheeja Jegadevan/ MRP-DDF/ ESE/ TEQIP	1,50,098.00	-	1,50,098.00	-
4.3.403	S Narayanan/ MRP-DDF/ MECH/T EQIP	1,01,626.00	-	1,01,626.00	-
4.3.404	Sowmiya Chawla/MRP-DDF/ CE/ TEQIP	114.00	-	114.00	-
4.3.405	Srinivas Pasupuleti/MRP-DDF/ CE/ TEQIP	3,573.00	-	3,573.00	-
4.3.406	Subhankar Sen/ MRP-DDF/ MECH/ TEQIP	1,61,000.00	-	1,61,000.00	-
4.3.407	Subrata K Ghosh/ MRP-DDF /MECH/ TEQIP	2,00,000.00	-	88,901.00	1,11,099.00
4.3.408	Tanish Dey /MRP/DD F/CE/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.409	Tanweer Alam/ MRP/DDF/ MME/ TEQIP	2,00,000.00	-	2,00,000.00	-
4.3.410	Tarachand Amgoth/ MRP-DDF/ CSE/ TEQIP	2,00,000.00	-	58,100.00	1,41,900.00
4.3.411	T K NAIYA/ MRP-DDF/ PE/ TEQIP	1,55,441.00	-	1,55,441.00	-
4.3.412	Vijaya Bhaskar/ MRP-DDF/ EE/ TEQIP	1,88,558.00	-	1,88,558.00	-
4.3.413	Vivek Bajpai/ MRP-DDF/ MECH/ TEQIP	2,00,000.00	-	580.00	1,99,420.00
4.3.414	V V Govind Kumar/ MRP-DDF/ ME/ TEQIP	2,00,000.00	-	96,871.00	1,03,129.00
4.3.415	(DDF - TEQIP) Sub Total)	66,45,971.00	-	42,01,076.00	24,44,895.00



(D) UGC Sponsored Projects					
C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.416	JRF/SRF Fellowship (F.17-161/98 (SA-1))	4,26,637.00	-	-	4,26,637.00
4.3.417	Spl. Assistance/CAS Programme	10,34,801.32	-	-	10,34,801.32
4.3.418	UGC/192/AC	64,104.00	-	64,104.00	-
4.3.419	UGC/193/APPL. MATHS	3,700.00	-	-	3,700.00
4.3.420	UGC/195/APPL. MATHS	71,671.00	-	-	71,671.00
4.3.421	UGC/204/AM	7,653.00	-	-	7,653.00
4.3.422	UGC/205/PET ENGG.	4,80,781.00	-	-	4,80,781.00
4.3.423	UGC/214(43)/2008-09/AM	12,07,403.00	-	-	12,07,403.00
4.3.424	UGC/222/(34)/2008-09/MS	14,969.00	-	-	14,969.00
4.3.425	UGC/229(38)/2008-09/AM	546.00	-	-	546.00
4.3.426	Ugc/249/(48)/2009-10/APH	92,847.00	-	92,847.00	-
4.3.427	UGC/255/AM	9,805.00	-	-	9,805.00
4.3.428	UGC/257/APPL. PHY	3,904.00	-	-	3,904.00
4.3.429	UGC/266/PE	5,00,000.00	-	-	5,00,000.00
4.3.430	UGC/277/APH	19,404.00	-	-	19,404.00
4.3.431	UGC/284/FME	38,143.00	-	37,143.00	1,000.00
4.3.432	UGC/285/AC	18,819.00	-	-	18,819.00
4.3.433	UGC/287/APH	499.00	-	-	499.00
4.3.434	UGC/288/10-11/ME&MME	19,450.00	-	-	19,450.00
4.3.435	UGC/289/HSS/10-11	1,10,412.00	-	-	1,10,412.00
4.3.436	UGC/292/AM	6.00	-	-	6.00
4.3.437	UGC-295/DCSR.APH	160.00	-	-	160.00
4.3.438	UGC/296/11-12/AGP	5,31,927.00	-	-	5,31,927.00
4.3.439	UGC/297/ECE	3,991.00	-	2,991.00	1,000.00
4.3.440	UGC/316/CSE/2012-13	7,092.00	-	7,092.00	-
4.3.441	UGC/317/AGL/2012-13	1,65,091.00	-	-	1,65,091.00
4.3.442	UGC/318/ESE/2012-13	527.00	-	-	527.00
4.3.443	UGC/323/APH	5,778.00	-	5,778.00	-
4.3.444	UGC/330/MS	47,966.00	-	44,319.00	3,647.00
4.3.445	UGC/331/13-14/MS	74,773.00	-	72,773.00	2,000.00
4.3.446	UGC/332/MS	8,605.00	-	8,605.00	-
4.3.447	UGC/333/MS	75.00	-	-	75.00
4.3.448	UGC/334/PF	4.00	-	-	4.00
4.3.449	UGC/340/2013-14/PE	198.00	-	-	198.00
4.3.450	UGC/98/JRF/F.17-161	2,64,493.00	13,10,731.00	11,97,065.00	3,78,159.00
4.3.451	UGC/98/JRF/GYAN PRAKASH	56,500.00	-	-	56,500.00
4.3.452	UGC/CAS/ME Phase-II (Grants)	4,84,687.87	-	-	4,84,687.87
4.3.453	UGC/HEPSN-TEPSE	4,18,302.00	-	-	4,18,302.00
4.3.454	UGC Misc. Project	5,00,000.00	-	-	5,00,000.00
4.3.455	UGC/SAP/179/AGP/Phase-III	2,17,006.00	-	-	2,17,006.00
4.3.456	UGC/SAP/AGP Phase - II	1,90,112.00	-	-	1,90,112.00
4.3.457	UGC - Unassigned Grant	1,37,161.75	-	-	1,37,161.75
4.3.458	Sub total (UGC Projects)	72,40,003.94	13,10,731.00	15,32,717.00	70,18,017.94
4.3.459	Total R&D PROJECTS (A+B+C+D)	3877,52,450.98	5880,43,050.25	2402,05,665.65	7355,89,835.58

**(E) Statutory Liabilities(Projects):**

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.460	Central Tax (CGST)	-	61,22,274.75	59,88,262.50	1,34,012.25
4.3.461	Income Tax Empllyess, Cii Chair	-	92,000.00	92,000.00	-
4.3.462	Income Tax From Contractors	-	32,92,510.00	32,92,510.00	-
4.3.463	INCOME TAX FROM EMPLOYEES	-	275,78,473.00	275,78,473.00	-
4.3.464	Income Tax From Employees, Rajeev Gandhi Chair	-	4,11,829.00	4,11,829.00	-
4.3.465	Income Tax From NMDC Chair (Employees)	-	6,14,470.00	6,14,470.00	-
4.3.466	Income TaxFrom Professional Services	-	90,801.00	90,801.00	-
4.3.467	INCOME TAX FROM TEQIP-II (Contractors)	-	1,166.00	1,166.00	-
4.3.468	Income Tax From TEQIP-II (Prof. Services)	-	3,000.00	3,000.00	-
4.3.469	Integrated Tax (IGST)	-	169,59,076.50	136,08,065.00	33,51,011.50
4.3.470	JVAT	-	22,36,533.00	22,36,533.00	-
4.3.471	LABOUR WELFARE CESS	-	4,427.00	4,427.00	-
4.3.472	Sales Tax	-	6,505.00	6,505.00	-
4.3.473	Service Tax	4,33,511.00	68,00,772.00	70,74,455.00	1,59,828.00
4.3.474	State Tax (SGST)	-	61,22,274.75	59,88,262.50	1,34,012.25
4.3.475	Sub-total	4,33,511.00	703,36,112.00	669,90,759.00	37,78,864.00

(F) Other Current Liabilities (Projects):

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.476	Short Term Courses	10,685.00	5,82,315.00	5,43,155.00	49,845.00
4.3.477	Central Research Facility	15,45,089.00	8,80,750.00	-	24,25,839.00
4.3.478	Earnest Money	1,66,750.00	-	-	1,66,750.00
4.3.479	SECURITY DEPOSIT	9,45,935.85	44,276.00	1,63,487.00	8,26,724.85
4.3.480	AAPG/AGL	-	4,61,491.00	4,61,491.00	-
4.3.481	ASGE 2018	-	1,00,000.00	-	1,00,000.00
4.3.482	ASTM	-	1,67,000.00	1,67,000.00	-
4.3.483	Athletica-2k8	206.00	-	-	206.00
4.3.484	B E Course for Afghan Students -2014	88,16,854.00	230,47,280.00	66,71,637.00	251,92,497.00
4.3.485	Best Research Award Fund	54,280.00	1,80,000.00	1,74,439.00	59,841.00
4.3.486	BRS Liabilities	6,86,002.49	-	-	6,86,002.49
4.3.487	CALCIO CUP	248.00	-	-	248.00
4.3.488	CCL RANCHI	8,19,963.04	-	-	8,19,963.04
4.3.489	Centre of Societal Mission	-	1,75,000.00	1,75,000.00	-
4.3.490	Certificate Course-DMS	15,765.00	-	-	15,765.00
4.3.491	Children Activity Centre	675.00	-	-	675.00
4.3.492	CRF - FESEM	70,000.00	23,750.00	-	93,750.00
4.3.493	CRF-SPM	2,20,835.00	33,750.00	-	2,54,585.00
4.3.494	CRF : TGA	1,200.00	-	-	1,200.00



4.3.495	CSES	-	30,000.00	30,000.00	-
4.3.496	CTC 2014-15/AM	3,06,636.00	-	-	3,06,636.00
4.3.497	DST/459/inspire Fellowship	8,810.00	-	8,810.00	-
4.3.498	DST/SERB/Anand Sharma/Travel Grant	-	92,344.00	92,344.00	-
4.3.499	East Zone Inter University Youth	1,34,373.10	-	-	1,34,373.10
4.3.500	ECO CLUB DEPTT. OF ESE	4,500.00	-	-	4,500.00
4.3.501	ETGRMI	-	3,05,000.00	3,05,000.00	-
4.3.502	FTPMA 2015	-	-	-	-
4.3.503	GATE-JAM	-	1,61,690.10	1,45,900.00	15,790.10
4.3.504	GEOCONFLUENCE 2016	1,55,678.00	30,000.00	1,36,298.00	49,380.00
4.3.505	HSS- Foreign Language Course	2,79,196.00	-	2,79,196.00	-
4.3.506	ICMAP 2013	-	1,00,000.00	1,00,000.00	-
4.3.507	IDL/ESE. DEPT.	800.00	-	-	800.00
4.3.508	Industry Institute Interaction	1,00,000.00	-	-	1,00,000.00
4.3.509	International Conf. on MSEMI-2007	15,38,817.00	-	-	15,38,817.00
4.3.510	INTL/PG/ARIANA/2016-17	2,17,638.00	-	9,000.00	2,08,638.00
4.3.511	ISFA	-	-	-	-
4.3.512	ISM ALUMNI FUND	3,34,250.00	1,36,733.00	15,000.00	4,55,983.00
4.3.513	Linux Certificate Course (CSE)	68,000.00	-	-	68,000.00
4.3.514	MENTCA	-	11,03,995.00	11,03,995.00	-
4.3.515	MESS FEE (LIB)	6,45,744.00	1996,72,881.00	1992,79,794.00	10,38,831.00
4.3.516	MESS FEE-Amber Hostel	258,46,515.00	456,75,000.00	533,52,834.00	181,68,681.00
4.3.517	MESS FEE-Diamond Hostel	69,60,403.00	108,90,000.00	121,82,859.00	56,67,544.00
4.3.518	MESS FEE-Emerald Hostel	63,73,635.00	113,10,000.00	116,70,055.00	60,13,580.00
4.3.519	MESS FEE-Jasper Hostel	437,49,702.00	695,87,000.00	838,38,618.00	294,98,084.00
4.3.520	MESS FEE-Opal Hostel	74,88,129.00	106,95,850.00	149,43,883.00	32,40,096.00
4.3.521	MESS FEE-Ruby Hostel	123,83,052.00	182,10,750.00	218,25,065.00	87,68,737.00
4.3.522	MESS FEE-Sapphire Hostel	92,15,993.00	188,25,000.00	208,69,333.00	71,71,660.00
4.3.523	MESS FEE-Topaz Hostel	68,89,932.00	113,85,000.00	134,77,811.00	47,97,121.00
4.3.524	MESS FEE-ROSALENE HOSTEL	60,000.00	-	60,000.00	-
4.3.525	Misc Receipts	299,62,323.10	737,00,501.00	511,10,447.80	525,52,376.30
4.3.526	MOES/17/2015-16	0.50	-	-	0.50
4.3.527	MSME (Arti Hansda)	1,02,000.00	-	-	1,02,000.00
4.3.528	M Tech Course of Afghan Student S	4,02,543.00	-	79,932.00	3,22,611.00
4.3.529	National Seminar MTGST-2007	1,721.00	-	-	1,721.00
4.3.530	National Workshop on E - Governance Awareness	1,778.00	-	-	1,778.00
4.3.531	NCLC-2016	-	-	-	-
4.3.532	NIT DURGAPUR	2,33,607.00	-	-	2,33,607.00
4.3.533	NSS (Regular)	3,537.00	-	-	3,537.00
4.3.534	NTPC LTD,	49,000.00	-	-	49,000.00
4.3.535	PEDJP-2017	-	10,48,174.00	10,48,174.00	-
4.3.536	RAG-2011	9,000.00	-	-	9,000.00
4.3.537	RAIT 2016	-	50,000.00	50,000.00	-



4.3.538	RAMSE	-	3,00,000.00	3,00,000.00	-
4.3.539	REMTAI 2016	-	-	-	-
4.3.540	RTBC-2016	-	-	-	-
4.3.541	Scolomin Club	5,300.00	2,000.00	-	7,300.00
4.3.542	SERB-SANTANKUMAR	-	-	-	-
4.3.543	SRIJAN 2018	-	2,45,000.00	2,45,000.00	-
4.3.544	Student Society PET	-	-	-	-
4.3.545	Travel Grant	(1,17,448.00)	14,51,049.00	13,33,601.00	-
4.3.546	Unpaid Salary	12,516.75	-	-	12,516.75
4.3.547	WORKSHOP COMPUTER METHOD FOR ENGG OF SCIENTIST	45,773.00	-	-	45,773.00
4.3.548	Workshop on Catalysis	-	6,91,880.00	2,67,128.00	4,24,752.00
4.3.549	Workshop on NCEP Awareness	345.00	-	-	345.00
4.3.550	Workshop on Pandit M M Malya	24.00	-	-	24.00
4.3.551	Workshop TEQIP III	-	20,000.00	-	20,000.00
4.3.552	Outstanding Expense	20,12,308.00	-	7,46,982.00	12,65,326.00
4.3.553	Sub-total	1688,40,619.83	5014,15,459.10	4972,63,268.80	1729,92,810.13
4.3.554	Statutory + Other Liability	1692,74,130.83	5717,51,571.10	5642,54,027.80	1767,71,674.13

(G) Inter-Unit Liabilities (Project)

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.555	BENEVOLENT FUND	-	30,26,974.64	30,26,974.64	-
4.3.556	EDC Room Rent	-	71,54,762.00	71,54,762.00	-
4.3.557	Electric Charges for CIL Chair	-	9,351.00	9,351.00	-
4.3.558	Electric Charges for Rajiv Gandhi Chair	-	6,266.00	6,266.00	-
4.3.559	Electric Charges From NMDC CHAIR	-	4,455.00	4,455.00	-
4.3.560	GJLT Rent	-	16,100.00	16,100.00	-
4.3.561	Hostel Room Rent	-	2,550.00	2,550.00	-
4.3.562	ISM BASANT A/C	-	21,58,971.25	21,58,971.25	-
4.3.563	IIIF, Delhi	-	1,000.00	1,000.00	-
4.3.564	IIIF, Kolkata	-	81,500.00	81,500.00	-
4.3.565	Licence Fee From NMDC CHAIR	-	11,715.00	11,715.00	-
4.3.566	Medical Charges for CIL Chair	-	4,000.00	4,000.00	-
4.3.567	Medical Charges From NMDC Chair	-	5,500.00	5,500.00	-
4.3.568	Medical Charges From Rajiv Gandhi Chair	-	5,500.00	5,500.00	-
4.3.569	NON PLAN CONTROL A/C	488,64,221.57	608,80,005.73	2067,66,661.00	(970,22,433.70)
4.3.570	N.PlanEnd. Fund (Surplus Payable)	569,52,916.25	767,81,075.08	569,52,916.00	767,81,075.33
4.3.571	P.F. Control A/c	-	14,32,845.00	-	14,32,845.00
4.3.572	SAH Room Rent	-	1,56,800.00	1,56,800.00	-
4.3.573	School Development Fund	-	25,92,497.00	25,92,497.00	-
4.3.574	School Support Charges	-	473,26,163.09	473,26,163.09	-



4.3.575	Scolomin Club for CIL Chair	-	800.00	800.00	-
4.3.576	Scolomin Club for Rajeev Gandhi Chair	-	1,100.00	1,100.00	-
4.3.577	Vehicle Charges from TEQIP II	-	2,574.00	2,574.00	-
4.3.578	VEHICLE CHARGES	-	1,23,672.00	1,23,672.00	-
4.3.579	Vehicle Charges for CIL Chair	-	410.00	410.00	-
4.3.580	Vehicle Charges of NMDC CHAIR	-	610.00	610.00	-
4.3.581	Vehicle Charges of Rajiv Gandhi Chair	-	60.00	60.00	-
4.3.582	Sub-total	1058,17,137.82	2017,87,256.79	3264,12,907.98	(188,08,513.37)
4.3.582	Total Other Current Liabilities (Project)	6628,43,719.63	13615,81,878.14	11308,72,601.43	8935,52,996.34

(H) Provisions:

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.583	Provisions for payment to CPWD	-	176,00,000.00	-	176,00,000.00
4.3.584	Sub-total	-	176,00,000.00	-	176,00,000.00

(I) Fellowship & Associate ship Funds:

C	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
4.3.585	DST/Inspire Fellowship Funds	-	3,78,000.00	1,50,000.00	2,28,000.00
4.3.586	Sub-total	-	3,78,000.00	1,50,000.00	2,28,000.00

(J) Consultancy Projects:

C	Particulars	2017-18	2017-18	2016-17	2016-17
4.3.587	Opening Balance	1466,33,657.22		1097,53,911.12	
4.3.588	Add: Total Receipts during the year	1968,60,239.41		1350,82,189.70	
4.3.589	Less: Payments from consultancy projects during the year	1991,59,567.16	1443,34,329.47	982,02,443.60	1466,33,657.22
4.3.590	Balance as on 31 March		1443,34,329.47		1466,33,657.22
4.3.591	Total Current Liabilities (Projects)		10557,15,325.81		8094,77,376.85
4.A	Current Liabilities & Provisions (Plan)		1605,78,069.40		1113,02,031.05
4.B	Current Liabilities & Provisions (Non Plan)		2450,31,216.61		1802,90,947.05
4.C	Current Liabilities (Projects)		10557,15,325.81		8094,77,376.85
4.00	Total Current Liabilities & Provisions		14613,24,611.82		11010,70,354.95



SCHEDULE - V: FIXED ASSETS

Plan:

S No	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Gross Total	Upto 2016-17	Dep. %	For 2017-18	Total Depreciation	Closing Balance as on 31.3.2018
	Tangible Assets:									
5.1.1	Land	146,62,250.00	-	-	146,62,250.00	-	0%	-	-	146,62,250.00
5.1.2	Roads & Buildings	14651.49,777.00	480,68,544.00		15132,18,321.00	5231,21,467.72	2%	302,64,366.42	5533,85,834.14	9598,32,486.86
5.1.3	Tube Wells & Water Supply	-	3,10,958.00	-	3,10,958.00	-	2%	6,219.16	6,219.16	3,04,738.84
5.1.4	Electrical Installation & Equipment	1189,76,716.00	349,59,415.00	7,056.00	1539,29,075.00	452,57,572.58	5%	79,00,251.75	531,57,824.33	1007,71,250.67
5.1.5	Scientific & Laboratory Equipment	7952,60,027.19	648,00,016.00	3,32,333.00	8597,27,710.19	4246,84,859.69	8%	688,02,940.82	4934,87,800.51	3662,39,909.68
5.1.6	Office Automation	28,70,045.00	50,40,654.00	-	79,10,699.00	10,00,260.02	8%	6,32,855.92	16,33,115.94	62,77,583.06
5.1.7	Office Equipment	-	26,32,566.00	-	26,32,566.00	-	7.5%	1,97,442.45	1,97,442.45	24,35,123.55
5.1.8	Audio Visual Equipment	234,96,925.00	24,40,264.00	-	259,37,189.00	90,70,863.54	7.5%	19,45,289.18	110,16,152.71	149,21,036.29
5.1.9	Computers & Peripherals	2101,86,327.00	509,71,091.00	-	2611,57,418.00	2101,86,326.00	20%	101,94,218.20	2203,80,544.20	407,76,873.80
5.1.10	Furniture, Fixtures & Fittings	1622,64,518.00	811,40,094.00	-	2434,04,612.00	567,66,461.73	7.5%	182,55,345.90	750,21,807.63	1683,82,804.37
5.1.11	Vehicles	143,83,564.00	12,96,280.00	-	156,79,844.00	78,54,096.00	10%	18,33,572.40	96,87,668.40	59,92,175.60
5.1.12	Library Books & Scientific Journals	3782,01,118.00	449,87,861.00	97,992.00	4230,90,987.00	3566,19,970.34	10%	260,73,695.56	3826,93,665.90	403,97,321.10
	Intangible Assets:									
5.1.13	E - Journals	546,83,141.00	315,33,816.00	-	862,16,957.00	384,76,412.40	40%	288,20,254.00	672,96,666.40	189,20,290.60
5.1.14	Computer Software	291,52,509.00	44,76,931.00	-	336,29,440.00	291,52,508.00	40%	17,90,772.40	309,43,280.40	26,86,159.60
5.1.15	Total - Current year (Plan)	32892,86,917.19	3726,58,490.00	4,37,381.00	36415,08,026.19	17021,90,796.29		1967,17,224.15	18989,08,020.44	17426,00,005.75



Non Plan:

SI No	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Gross Total	Upto 2016-17	Dep. %	For 2017-18	Total Depreciation	Closing Balance as on 31.3.2018
	Tangible Assets:									
5.2.1	Roads & Buildings (On Freehold Land):	97,69,200.00	-	-	97,69,200.00	60,98,161.63	2%	1,95,384.00	62,93,545.63	34,75,654.37
5.2.2	Building including Gen set at NBCC Kolkata - Endowment Fund	1571,24,798.00	4,43,051.00	-	1575,67,849.00	121,52,025.96	2%	31,51,356.98	153,03,382.94	1422,64,466.06
5.2.3	Building including Gen set at NBCC N Delhi - Endowment Fund	3503,21,003.00	-	-	3503,21,003.00	70,06,420.06	2%	70,06,420.06	140,12,840.12	3363,08,162.88
5.2.4	Tube wells & Water Supply	16,22,311.00	1,78,824.00	-	18,01,135.00	9,37,364.19	2%	36,022.70	9,73,386.89	8,27,748.11
5.2.5	Electrical installation & Equipment	40,52,962.00	-	-	40,52,962.00	25,03,650.30	5%	2,02,648.10	27,06,298.40	13,46,663.60
5.2.6	Scientific & Laboratory Equipment	141,85,544.00	-	-	141,85,544.00	133,70,407.91	8%	8,15,135.09	141,85,543.00	1.00
5.2.7	Office Equipment	181,51,317.00	73,060.00	-	182,24,377.00	100,46,318.20	7.5%	13,66,828.28	114,13,146.47	68,11,230.53
5.2.8	Audio Visual Equipment	101,30,378.00	71,248.00	-	102,01,626.00	66,81,364.41	7.5%	7,65,121.95	74,46,486.36	27,55,139.64
5.2.9	Computers & Peripherals	53,65,066.00	8,42,294.00	-	62,07,360.00	41,55,157.95	20%	12,41,472.00	53,96,629.95	8,10,730.05
5.2.10	Furniture, Fixtures & Fittings	157,68,164.00	2,62,119.00	-	160,30,283.00	132,15,503.23	7.5%	12,02,271.23	144,17,774.45	16,12,508.55
5.2.11	Vehicles	5,51,432.00	-	-	5,51,432.00	4,98,012.60	10%	53,418.40	5,51,431.00	1.00
5.2.12	Library Books & Scientific Journals	368,44,775.00	-	-	368,44,775.00	368,44,774.00	10%	0.00	368,44,774.00	1.00
	Intangible Assets:									
5.2.13	Computer Software	16,18,126.00	-	-	16,18,126.00	16,18,125.00	40%	0.00	16,18,125.00	1.00
5.2.14	Total - Current year (Non Plan)	6255,05,076.00	18,70,596.00	0.00	6273,75,672.00	1151,27,276.79		160,36,078.78	1311,63,355.57	4962,12,316.43
5.2.15	Total (Plan & Non Plan)	38947,91,993.19	3745,29,086.00	4,37,381.00	42688,83,698.19	4495,68,031.00		2127,53,302.94	20300,71,376.01	22388,12,322.18



Project:

SI No	Particulars	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Gross Total	Upto 2016-17	Dep. %	For 2017-18	Total Depreciation	Closing Balance as on 31.3.2018
	Tangible Assets:									
5.3.1	Roads & Buildings (On Freehold Land)	400,96,799.06	-	-	400,96,799.06	283,73,675.81	2%	8,01,935.98	291,75,611.80	108,21,187.26
5.3.2	Electrical Installation		5,29,270.00		5,29,270.00	-	5%	26,463.50	26,463.50	5,02,806.50
5.3.3	Scientific & Laboratory Equipment	3751,73,482.27	667,79,027.00	-	4419,52,509.27	1949,96,451.53	8%	353,76,188.74	2303,72,640.27	2115,79,869.00
5.3.4	Office Equipment	54,22,752.00	67,78,360.00	-	122,01,112.00	15,69,316.70	7.5%	9,15,083.40	24,84,400.10	97,16,711.90
5.3.5	Audio Visual Equipment		5,44,640.00		5,44,640.00	-	7.5%	40,848.00	40,848.00	5,03,792.00
5.3.6	Computers & Peripherals	386,90,925.40	81,22,763.00	-	468,13,688.40	386,90,924.40	20%	16,24,552.60	403,15,477.00	64,98,211.40
5.3.7	Furniture & Fixtures	57,14,136.00	17,88,925.00	-	75,03,061.00	17,77,071.52	7.5%	5,62,729.58	23,39,801.09	51,63,259.91
5.3.8	Vehicles	10,43,602.00		-	10,43,602.00	9,70,515.21	10%	73,085.79	10,43,601.00	1.00
5.3.9	Library Books & Scientific Journals	106,55,845.00	2,78,674.00	-	109,34,519.00	81,89,513.50	10%	10,93,451.90	92,82,965.40	16,51,553.60
	Intangible Assets:									
5.3.10	Computer Software	233,25,192.00	140,82,456.00	-	374,07,648.00	233,25,191.00	40%	56,32,982.40	289,58,173.40	84,49,474.60
5.3.11	Current year (Project)	5001,22,733.73	989,04,115.00	0.00	5990,26,848.73	2978,92,659.67		461,47,321.89	3440,39,981.57	2549,86,867.16
5.3.12	TOTAL - Current year	43949,14,726.92	4734,33,201.00	4,37,381.00	48679,10,546.92	21152,10,732.75		2589,00,624.82	23741,11,357.58	24937,99,189.34
	* Depreciation has been calculated as per prescribed rates (Details are explained under Notes on Accounts)									



SCH.- VI : CURRENT ASSETS, LOANS, ADVANCES, ETC.					
VI (A) - Cash and Bank Balances :					
Plan:					
	Particulars	2017-18	2017-18	2016-17	2016-17
	Balance with Scheduled Banks:				
6.1.1	Plan SBI, Saving Bank Account	54,29,683.66		-	
6.1.2	SBI, ISM Campus Br, Dhn (Plan C/A)	30,13,797.75		276,49,994.16	
6.1.3	Sub Total (Plan)		84,43,481.41		276,49,994.16
Non-Plan:					
	Balance with Scheduled Banks:				
6.2.1	SBI, ISM Campus Br, Dhn (N Plan C/A)	88,276.00		736,08,615.17	
6.2.2	Non Plan SBI Saving Bank A/c	113,27,116.69		-	
6.2.3	Canara Bank, SDL Br., Dhanbad	28,953.00		28,953.00	
6.2.4	Canara Bank, Parlm. St. Br., N.Delhi	9,537.00		9,537.00	
6.2.5	SBI, ISM,Dhanbad (Endow Fund SB A/c)	34,22,361.01		23,25,814.01	
6.2.6	SBI Online Fee A/c 7697 (S/B A/c)	-		-	
6.2.7	SBI Online Fee A/c 8197 (Current A/c)	6,591.00		-	
6.2.8	SBI Power Jyoti online	-		1,25,878.86	
6.2.9	E-payment SBI Bank Account	3,32,674.50		48,022.50	
6.2.10	Sub Total (Non Plan)	152,15,509.20	152,15,509.20	761,46,820.54	761,46,820.54
6.2.11	Cash in Hand	14,726.20	14,726.20	39,275.20	39,275.20
6.2.12	Total Cash & Bank Balances (Non Plan)	152,30,235.40	152,30,235.40	761,86,095.74	761,86,095.74
Project:					
	Balance with Scheduled Banks:				
6.3.1	Bank of India, ISM Branch, SB A/c	63,018.00		57,163.00	
6.3.2	Canara Bank Sandvik Chair A/ C	10,71,779.00		5,45,550.00	
6.3.3	Canara Bank TEQIP Bank A/C	9,52,794.00		39,21,322.00	
6.3.4	CanBank, SDL Br., Dh. - S.B. A/c	165,61,439.56		1072,30,560.78	
6.3.5	CIL Chair, Canara Bank A/c	16,33,679.44		14,18,532.44	
6.3.6	ISMAANA CANARA BANK S B A/C	13,954.00		14,339.00	
6.3.7	MOLE CHAIR SB A/C CANARA BANK	12,27,786.00		8,09,445.00	
6.3.8	NMDC Chair in Open Cast, Canara Bank A/c	3,43,377.50		20,30,248.00	
6.3.9	ONGC AMNGhosh Chair , Canara Bank A/c	9,25,993.58		5,37,915.58	
6.3.10	Rajiv Gandhi Chair, Canara Bank A/c	3,97,352.83		8,60,999.83	
6.3.11	Sail NMDC Chair, Canara Bank A/c	33,76,956.48		18,47,130.48	



6.3.12	SBI, ISM Br., Dhn.- Current A/c	2,30,297.03		2,31,578.53	
6.3.13	TATA Steel Chair, Canara Bank A/c	2,02,030.50		7,95,088.00	
6.3.14	Uranium Chair Canara Bank A/c	3,92,129.00		3,57,612.00	
6.3.15	Sub Total (Project)	273,92,586.92	273,92,586.92	1206,57,484.64	1206,57,484.64
6.3.16	Cash in hand	4,018.00	4,018.00	1,211.00	1,211.00
6.3.17	Total Cash & Bank Balances (Project)	273,96,604.92	273,96,604.92	613,61,176.09	1206,58,695.64
6.3.18	Total Cash & Bank Balances		510,70,321.73		2244,94,785.54

VI (B) : INVESTMENTS

SI No	PARTICULARS	Balance as on 01.04.2017	Investments/ Renewals during the year	Investments Encashed/ adj. during the year	Balance as on 31.03.2018
Plan:					
6.1.4	Bank Fixed Deposits	500,00,000.00	-	-	500,00,000.00
6.1.5	Fixed Deposit with SBI	1080,00,000.00	9090,00,000.00	8460,00,000.00	1710,00,000.00
6.1.6	Accrued Interest	47,74,100.00	145,20,500.00	47,74,100.00	145,20,500.00
6.1.7	Sub-total-Plan	1627,74,100.00	9235,20,500.00	8507,74,100.00	2355,20,500.00
Non Plan:					
6.2.13	8% GOI Bond (End. Fund Invst.)	-			-
6.2.14	Accrued Interest on End Fund FDRs	52,08,062.00	215,69,113.00	52,08,062.00	215,69,113.00
6.2.15	Accrued Interest on NP Investments	15,81,656.00	78,13,012.00	15,81,656.00	78,13,012.00
6.2.16	Endowment fund: Bank FDs	501,92,269.00	-	18,87,853.00	483,04,416.00
6.2.17	Endowment Fund FD with CBI Bartand	-	512,00,000.00	-	512,00,000.00
6.2.18	ENDOWMENT FUND FD - CBI, BANK MORE	1140,00,000.00	-	-	1140,00,000.00
6.2.19	Endowment Fund FD - SBI, SME Branch	350,00,000.00	-	-	350,00,000.00
6.2.20	FD with SBI Main Br Dhanbad	15,43,320.00	-	-	15,43,320.00
6.2.21	GIA & School income: Bank FDs	1753,00,055.00	18450,00,000.00	14500,00,000.00	5703,00,055.00
6.2.22	Scholarship funds: Bank FDs	103,38,522.00	92,94,734.00	82,13,522.00	114,19,734.00
6.2.23	Sub-total-Non Plan	3931,63,884.00	19348,76,859.00	14668,91,093.00	8611,49,650.00
Project:					
6.3.19	Accrued Interest	947,45,097.19	841,64,905.67	947,45,097.19	841,64,905.67
6.3.20	Bank FDs & GOI Bonds	9039,73,360.65	16414,85,506.30	12496,59,001.42	12957,99,865.53
6.3.21	Sub-total-Projects	9987,18,457.84	17256,50,411.97	13444,04,098.61	13799,64,771.20
6.3.22	GRAND TOTAL INVESTMENTS	15546,56,441.84	45840,47,770.97	36620,69,291.61	24766,34,921.20

**VI (C) - LOANS, ADVANCES & OTHER CURRENT ASSETS:****(a) Loans/Advances to employees:****1. Plan:**

Sl No	PARTICULARS	Balance as on 01.04.2017	Investments/ Renewals during the year	Investments Encashed/ adj. during the year	Balance as on 31.03.2018
6.1.8	House Building Advance	59,235.00	-	-	59,235.00
6.1.9	Staff Advance	4,966.00	-	-	4,966.00
6.1.10	Sub-total (Plan)	64,201.00	-	-	64,201.00

2. Non-Plan:

6.2.24	Cycle Advance	(1,446.00)	3,246.00	1,800.00	-
6.2.25	Car Advance	4,73,000.00	56,482.00	1,40,482.00	3,89,000.00
6.2.26	Festival Advance	5,88,124.00	9,58,500.00	10,47,600.00	4,99,024.00
6.2.27	H.B. Advance (Against Rev.Fund)	10,600.00	-	-	10,600.00
6.2.28	House Building Advance	133,38,100.00	98,24,124.00	66,20,793.00	165,41,431.00
6.2.29	Imprest Advances	2,19,428.00	3,25,000.00	3,83,893.00	1,60,535.00
6.2.30	PC Advance	10,43,200.00	4,92,352.00	9,38,352.00	5,97,200.00
6.2.31	Scooter/Motorcycle Advance	2,41,500.00	2,91,119.00	3,80,119.00	1,52,500.00
6.2.32	Staff Advance	22,19,334.00	146,60,824.00	152,22,924.50	16,57,233.50
6.2.33	Sub-total (Non Plan)	181,31,840.00	266,11,647.00	247,35,963.50	200,07,523.50

3. Project

6.3.23	Staff Advance	10,17,029.02	47,47,504.00	49,71,353.00	7,93,180.02
6.3.24	Sub-total (Project)	10,17,029.02	47,47,504.00	49,71,353.00	7,93,180.02

(b) WIP / Advances / Prepaid Expenses**1. Plan:**

6.1.11	Adv to Contractors	-	2,60,959.00	2,60,959.00	-
6.1.12	Adv. for ISM Work-in-progress	3,91,086.00	-	-	3,91,086.00
6.1.13	Advance of books and Journals	5,779.00	-	-	5,779.00
6.1.14	Capital Work In Progress with CPWD	52923,44,104.00	6519,90,000.00	357,47,000.00	59085,87,104.00
6.1.15	Advances to suppliers	646,58,789.00	220,20,363.00	733,82,919.00	132,96,233.00
6.1.16	Prepaid Expenses	142,34,018.00	-	52,97,970.00	89,36,048.00
6.1.17	WIP - Equipments	-	-	-	-
6.1.18	WIP - Power & Augmentation	40,75,958.00	178,56,000.00	40,75,958.00	178,56,000.00
6.1.19	Sub-total	53757,09,734.00	6921,27,322.00	1187,64,806.00	59490,72,250.00

2. Non Plan:

6.2.34	Advances to suppliers	80,45,308.00	114,05,485.00	3,05,058.00	191,45,735.00
6.2.35	Prepaid Expenses	135,16,852.00	-	31,80,436.00	103,36,416.00
6.2.36	Sub-total	215,62,160.00	114,05,485.00	34,85,494.00	294,82,151.00

3. Project:

6.3.25	Advance to suppliers	271,06,626.62	27,57,015.00	88,29,947.00	210,33,694.62
6.3.26	Sub-total	271,06,626.62	27,57,015.00	88,29,947.00	210,33,694.62



(c) - Other Deposits / Receivables					
1. Plan:					
SI No	PARTICULARS	Balance as on 01.04.2017	Additions during the year	Deduction/Adj during the year	Balance as on 31.03.2018
6.1.20	Damodar Valley Corporation	498,34,247.00	-	-	498,34,247.00
6.1.21	Grants in aid receivable from MHRD	-	-	-	-
6.1.22	Namami Gange - Receivable	-	5,00,000.00	-	5,00,000.00
6.1.23	Non Plan Control Account	-	-	-	-
6.1.24	SD with DVC	50,000.00	-	-	50,000.00
6.1.25	SD with IOC/Mahavir Gas, Dhanbad	-	-	-	-
6.1.26	SD with JSEB	40,05,318.00	-	-	40,05,318.00
6.1.27	Sub-total	538,89,565.00	5,00,000.00	-	543,89,565.00
2. Non Plan:					
6.2.37	Plan Control Account	674,60,371.36	28,60,247.35	55,43,197.00	647,77,421.71
6.2.38	Plan Control Account(End Fund)	141,15,917.00	228,89,329.00	-	370,05,246.00
6.2.39	Project Control Account (End Fund)	569,52,916.09	778,65,575.08	580,37,416.00	767,81,075.17
6.2.40	Project Control Account (General)	488,64,221.57	608,80,005.73	2067,66,661.00	(970,22,433.70)
6.2.41	Rent Receivable	-	13,04,407.00	12,79,346.00	25,061.00
6.2.42	SD with Sunita Rani Marwaha	28,500.00	-	-	28,500.00
6.2.43	SD with BSNL, Dh.	67,500.00	-	-	67,500.00
6.2.44	SD with JSEB	79,15,856.00	-	-	79,15,856.00
6.2.45	TDS Receivable	7,29,804.00	-	7,29,804.00	-
6.2.46	Sub-total	1961,35,086.02	1657,99,564.16	2723,56,424.00	895,78,226.18
3. Project:					
6.3.27	Consultancy Receivable	-	23,22,000.00	-	23,22,000.00
6.3.28	GST receivable on supplies to SEZ	-	51,382.00	-	51,382.00
6.3.29	Security Deposit with Samanta & Co	12,000.00	-	-	12,000.00
6.3.30	Plan Control Account	159,93,638.19	16,63,349.00	2,97,581.00	173,59,406.19
6.3.31	TDS Receivable	-	75,600.00	-	75,600.00
6.3.32	Sub-total	160,05,638.19	41,12,331.00	2,97,581.00	198,20,388.19
6.3.33	Total (Loans & Advances)	441,29,293.83	116,16,850.00	140,98,881.00	416,47,262.83
Total Loan, Advances & Deposits					
6.1.28	Total (Loan, Advances & Deposits) - PLAN	56200,87,594.16			62474,89,997.41
6.2.47	Total (Loan, Advances & Deposits) - NON-PLAN	7051,79,065.76			10154,47,786.08
6.3.34	Total (Loan, Advances & Deposits) - PROJECT	11635,06,447.31			14490,08,638.95
6	Total Current Assets	74887,73,107.23			87119,46,422.44

SCHEDULE: INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31ST MARCH, 2018

(Amount in Rs)

SCHEDULE. VII - GRANTS IN AID					
Sl.No.	Particulars	Current Year : 2017-18		Previous Year : 2016-17	
7.1.1	Grants-in-aid from MHRD (Plan)	950,000,000.00		1,000,000,000.00	
7.1.2	Add: GIA Receivable for the year	-		-	
7.1.3	Total	950,000,000.00		1,000,000,000.00	
7.1.4	Less: Transferred to Capital Fund towards non recurring expenses	950,000,000.00		788,585,519.00	211,414,481.00
7.2.1	Grants-in-aid from MHRD (Non-Plan)	1,450,000,000.00		852,000,000.00	
7.2.2	Less: Transferred to Capital Fund towards non recurring expenses	-	1,450,000,000.00	-	852,000,000.00
7.00	Total Grants in Aid	2,400,000,000.00	1,450,000,000.00	1,852,000,000.00	1,063,414,481.00
SCH.- VIII - ACADEMIC RECEIPTS:					
Non-Plan:					
8.2.1	Admission Fees	2,173,500.00		1,385,500.00	
8.2.2	Annual Fees	6,930,000.00		6,036,000.00	
8.2.3	Application for PDF	500.00		4,600.00	
8.2.4	Computer & Internet Fee	12,913,500.00		12,023,000.00	
8.2.5	Convocation Receipts	840,700.00		-	
8.2.6	Course Materials Fees	-		5,000.00	
8.2.7	DEGREE CERTIFICATE	643,560.00		622,600.00	
8.2.8	Dissertation Charges	-		26,764.00	
8.2.9	Electric Charges (Students)	7,637,036.00		5,989,043.00	
8.2.10	Entrance Exam. Fees	8,136,048.52		17,887,183.00	
8.2.11	EXAM FEE	14,201,688.00		13,176,101.35	
8.2.12	Fine/Penalty From Students	1,846,093.00		450,717.00	
8.2.13	Hostel Admission Fees	1,123,000.00		913,500.00	
8.2.14	Hostel & Mess Management Fee	3,717,965.00		2,639,500.00	
8.2.15	Hostel Seat Rent	26,392,920.00		25,458,400.00	
8.2.16	Hostel Seat Rent(Outside Students)	29,700.00		6,600.00	
8.2.17	Identity Card	305,150.00		254,250.00	
8.2.18	International EDC Annxe Lodgin Fee	813,150.00		773,353.00	
8.2.19	Library Fees	10,090,288.00		9,348,995.95	
8.2.20	License Fees (Students)	855.00		-	
8.2.21	Marksheet Fees	126,919.00		31,125.00	
8.2.22	Medical Fees From Students	3,428,191.00		2,430,488.00	
8.2.23	Migration Certificate	1,766,050.00		1,051,750.00	
8.2.24	Other Academic Fee	-		2,789,276.84	
8.2.25	Outsider Students Training Fee	240,500.00		221,500.00	
8.2.26	Registration Fee	3,275,363.00		3,025,264.00	
8.2.27	School Development Fees	6,917,997.00		3,656,000.00	
8.2.28	Semester Rule Book Fee	1,648,400.00		1,483,300.00	



8.2.29	Sports Fee	2,456,300.00		2,334,400.00	
8.2.30	Student Activity Centre Fee	455,300.00		80,800.00	
8.2.31	Student Activity Fees	7,519,768.00		6,761,300.00	
8.2.32	Students Other Fees	971,355.00		1,518,039.00	
8.2.33	Student Summer Training	1,000.00		8,000.00	
8.2.34	THESIS EVALUATION FEE	2,520,000.00		1,250,000.00	
8.2.35	Training & Placement Support Fee	11,903,700.00		11,322,000.00	
8.2.36	Transcript Fee	1,196,122.00		332,700.00	
8.2.37	Tuition Fees	355,710,449.00		322,707,250.00	
8.2.38	TOTAL		497,933,067.52		458,004,300.14

SCH. - IX: INTEREST EARNED**Plan:****Interest from Bank**

9.1.1	Interest on FDRs	22,889,329.00		14,115,917.00	
9.1.2	Less: Transfer to Non Plan Endowment	<u>22,889,329.00</u>	-	<u>14,115,917.00</u>	-
9.1.3	Interest on Plan S/B Bank Account	356,631.00			
9.1.4	Miscellaneous Income	400.00	357,031.00		-
9.1.5	Sub Total (Plan)		357,031.00		-

Non Plan:**A. Interest from Bank**

9.2.1	Interest on Endowment Fund	-		-	
9.2.2	Interest from FDRs	30,448,813.00		13,716,115.00	
9.2.3	Less : Transfer to End Fund	28,867,157.00		13,255,663.00	
9.2.4	Less: Transfer to other funds/adjustments	<u>1,581,656.00</u>	-	<u>460,452.00</u>	-
9.2.5	Interest on Non Plan SB Bank A/c	607,195.00		-	
9.2.6	Interest on Online Fee Collect SB A/c	48,451.00	655,646.00	-	-
9.2.7	Total Interest Income		655,646.00		-

B. Interest from employees:

9.2.8	(a) Interest from HBA to Employees	1,363,861.00		469,781.00	
9.2.9	(b) Less: Transfer to HBA	-	1,363,861.00	-	469,781.00
9.2.10	Interest on Other Adv. to Employees	77,085.00		2,920.00	
9.2.11	Interest from Cycle Advance	-		-	
9.2.12	Interest on LTC Advance	3,136.00		13,640.00	
9.2.13	Interest on PC Advance	147,551.00		278,347.00	
9.2.14	Interest from Scooter Advance	144,986.00		320,946.00	
9.2.15	Interest from Car Advance	56,482.00	429,240.00	122,607.00	738,460.00
9.2.16	Total Interest Income from Employees		1,793,101.00		1,208,241.00
9.2.17	Sub Total (Non Plan)		2,448,747.00		1,208,241.00



Project:					
Interest from Bank					
9.3.1	Interest on Investment	75,322,768.59		57,415,978.07	
9.3.2	Less: Transfer to different Projects / Funds / Other Adjustments	-	75,322,768.59	1,998,013.00	55,417,965.07
9.3.3	Interest on Hostel Receipts	-		981,325.00	
9.3.4	Interest on S.B. A/cs	1,480,207.00		555,787.88	
9.3.5	Miscellaneous Income	-	1,480,207.00	8,409.00	1,545,521.88
9.3.6	Sub total (Project)		76,802,975.59		56,963,486.95
9.A	INTEREST INCOME - PLAN		357,031.00		-
9.B	INTEREST INCOME - NON PLAN		2,448,747.00		1,208,241.00
9.C	INTEREST INCOME - PROJECT		76,802,975.59		56,963,486.95
9.00	TOTAL - INTEREST INCOME		79,608,753.59		58,171,727.95
SCH. - X: OTHER INCOME					
Non-Plan:					
A. Recoveries from employees:					
10.2.1	Bus fare / vehicle charges	387,092.00		328,619.00	
10.2.2	Electricity charges	3,033,520.00		2,969,858.50	
10.2.3	License fees	3,144,740.00		3,909,694.00	
10.2.4	Medical charges	3,177,128.00		2,985,152.00	
10.2.5	Water charges	7,457.00	9,749,937.00	5,047.00	10,198,370.50
B. Income from others:					
10.2.6	Application fees for employment	58,225.00		147,925.00	
10.2.7	CRF Analysis Charges	641,350.00		486,217.00	
10.2.8	EDC room rent	10,136,942.00		6,687,425.00	
10.2.9	Electric charges from tenants	3,506,120.00		4,072,450.00	
10.2.10	GJLT/Penman Rent	486,302.00		497,484.00	
10.2.11	Income from BRS	74,259.00		3.00	
10.2.12	Interest on I.T. Refund	105,483.00		-	
10.2.13	ISM IIIF Delhi Accommodation	127,000.00		-	
10.2.14	ISM IIIF Kolkata Accommodation	483,000.00		400,624.00	
10.2.15	License fees from tenants	966,776.00		706,358.00	
10.2.16	Miscellaneous income	416,789.30		445,059.00	
10.2.17	Sr. Acad. Hostel Room Rent	2,010,347.00		1,810,540.33	
10.2.18	Tender Cost	817,710.00	19,830,303.30	1,016,030.00	16,270,115.33
10.2.19	Sub Total (Other Income)		29,580,240.30		26,468,485.83
C. Income from Consultancy /Projects:					
10.2.20	School share from Consultancy	269,689.00		219,560.00	
10.2.21	School support from Consultancy/ Projects	60,285,551.09		32,124,072.67	



10.2.22	Sub Total (Income form Projects)		60,555,240.09		32,343,632.67
10.00	Total School Income (N Plan)		90,135,480.39		58,812,118.50
SCH. XI - ESTABLISHMENT EXPENSES					
Plan:					
		Current Year : 2017-18		Previous Year : 2016-17	
11.1.1	Pay & Allowances				
Non-Plan:					
11.2.1	Pay and Allowances:				
11.2.2	Arrear 7th CPC Non Teaching Employee	48,922,392.00		-	
11.2.3	Arrear 7th CPC Teaching Employee	131,769,896.00		-	
11.2.4	Bonus	-		1,206,124.00	
11.2.5	Children Education Allowance - Non Teaching	2,029,104.00		2,082,917.00	
11.2.6	Children Education Allowance - Teaching	3,360,283.00		2,909,901.00	
11.2.7	Conveyance/Transport Allowance	-		2,475,923.00	
11.2.8	Conveyance/transport Allowance Non-Teaching Emp.	3,320,447.00		2,359,156.00	
11.2.9	Conveyance/transport Allowance Teaching	5,531,282.00		4,027,143.00	
11.2.10	Dearness Allowance	-		76,662,137.00	
11.2.11	Dearness Allowance Non-Teaching Emp.	84,725,829.00		71,772,475.00	
11.2.12	DEARNESS ALLOWANCE - TEACHINGEMP.	212,439,958.00		166,218,887.00	
11.2.13	GRADE PAY	-		11,214,163.00	
11.2.14	Grade Pay Non-Teaching Emp.	10,558,074.00		8,799,100.00	
11.2.15	GRADE PAY - TEACHING EMP.	23,705,352.00		20,753,140.00	
11.2.16	Honorarium	6,454,995.00		5,137,737.00	
11.2.17	HONORARIUM (MOLE CHAIR)	-		-	
11.2.18	HONORARIUM (Tata Steel Chair)	240,000.00		240,000.00	
11.2.19	HONORARIUM (URANIUM CHAIR)	-		46,000.00	
11.2.20	House Rent Allowance	-		1,942,818.00	
11.2.21	House Rent Allowance Non-Teaching Emp.	4,138,065.00		3,114,028.00	
11.2.22	Leave Travel Concession - Non Teaching	1,118,244.00		1,123,489.00	
11.2.23	Leave Travel Concession - Teaching	5,814,123.00		6,030,071.00	
11.2.24	NPA	385,248.00		307,638.00	
11.2.25	Other Allowances	1,372,541.00		1,326,758.00	
11.2.26	Overtime	-		611,698.00	
11.2.27	P.P	367,889.00		380,054.00	
11.2.28	Pay of Non-Teaching Emp.	74,431,787.00		42,535,477.00	
11.2.29	Pay of Officers	-		35,944,219.00	



11.2.30	Pay of Staff	-		12,139,072.00	
11.2.31	PAY OF TEACHING EMP.	197,688,410.00		105,085,994.00	
11.2.32	PERSONAL DEVELOPMENT ALLOWANCE	16,633,058.00		13,379,814.00	
11.2.33	WAGES	74,516,968.00		44,126,005.00	
11.2.34	Washing Allowance	107,850.00		122,886.00	
11.2.35	Sub-total(N Plan)		909,631,795.00		644,074,824.00
11.2.36	Retirement Benefits:				
11.2.37	Deposit Linked Insurance	-		106,110.00	
11.2.38	Gratuity	-		368,777.00	
11.2.39	GRATUITY - NON TEACHING	15,348,464.00		17,350,279.00	
11.2.40	GRATUITY - TEACHING	3,000,000.00		993,124.00	
11.2.41	Leave Salary	-		499,444.00	
11.2.42	LEAVE SALARY - TEACHING	6,214,742.00		4,247,744.00	
11.2.43	Leave Salary Non-Teaching Emp.	6,907,499.00		7,065,141.00	
11.2.44	MATCHING CONT. TO DCPS -NON TEACHING	3,556,834.00		2,295,455.00	
11.2.45	MATCHING CONT. TO DCPS - TEACHING	28,423,810.00		16,987,406.00	
11.2.46	Matching Contribution to DCPS	-		9,057,574.00	
11.2.47	Matching Contribution to CPF	10,761,347.00		2,420,386.00	
11.2.48	Medical Allowance	265,000.00		278,742.00	
11.2.49	Pension	-		31,742,037.00	
11.2.50	PENSION NON-TEACHING EMP.	73,979,536.00		36,546,542.00	
11.2.51	PENSION TEACHING EMP	78,783,548.00		26,971,827.00	
11.2.52	Retirement TA	537,110.00		470,160.00	
11.2.53	T O T A L (Non Plan)		227,777,890.00		157,400,748.00
11.A	ESTABLISHMENT EXPS - PLAN		-		-
11.B	ESTABLISHMENT EXPS - NON PLAN		1,137,409,685.00		801,475,572.00
11.00	TOTAL - ESTABLISHMENT EXPENSES		1,137,409,685.00		801,475,572.00

SCH. XII - ACADEMIC EXPENSES

Plan:		Current Year : 2017-18		Previous Year : 2016-17	
12.1.1	Dual Degree Fellowship	-		3,223,246.00	
12.1.2	Grant for R&D Projects	-		20,015,000.00	
12.1.3	MCM Scholarship	-		46,578,000.00	
12.1.4	MESS Bill/ Pocket Money(SC/ ST)	-		2,829,345.00	
12.1.5	ONGC Scholarship	-		-	
12.1.6	PG Fellowship	-		9,468,135.00	
12.1.7	PG Contingency	-		2,092,779.00	
12.1.8	Post Doctral Fellowship	-		1,589,918.00	
12.1.9	Post Doctral Contingency	-		114,547.00	
12.1.10	Research Contingency	-		16,380,867.00	



12.1.11	Research Fellowship	-		25,311,059.00	
12.1.12	Sub-total (Plan)		-		127,602,896.00
Non-Plan:		Current Year : 2017-18		Previous Year : 2016-17	
12.2.1	ACADEMIC DATA	207,000.00		207,000.00	
12.2.2	Administrative Dept. Exp.	767,646.00		750,139.00	
12.2.3	Applied Chemistry	1,630,619.00		1,503,908.00	
12.2.4	Applied Geology	1,185,534.00		1,322,045.00	
12.2.5	Applied Geophysics	497,644.00		777,083.00	
12.2.6	Applied Mathematics	421,504.00		527,426.00	
12.2.7	Applied Physics	811,540.00		761,550.00	
12.2.8	B. Tech- Entrance Exam. & Adm. Exp.	57,047.00		663,161.00	
12.2.9	Central Library	428,544.00		504,045.00	
12.2.10	CHEMICAL ENGG. DEPT.	1,107,284.00		382,799.00	
12.2.11	Civil Engineering Dept.	513,430.00		249,509.00	
12.2.12	Computer Centre	327,951.00		322,923.00	
12.2.13	Computer Science & Engg.	352,470.00		637,981.00	
12.2.14	Contribution to Seminars/Symposia	137,396.00		113,750.00	
12.2.15	Convocation / Annual Day / Exhibition / Fair	392,782.00		4,876,612.00	
12.2.16	Electrical Engg.	505,261.00		505,187.00	
12.2.17	Electronics & Communication Engg	1,050,859.00		799,508.00	
12.2.18	Entrance Examination & Admission Expenses	226,271.00		129,372.00	
12.2.19	Environmental Science & Engg	594,866.00		1,092,097.00	
12.2.20	Examination Remuneration	10,089,814.00		8,393,384.00	
12.2.21	Examination SEC. EXP.	262,979.00		701,038.00	
12.2.22	Executive Development Centre	1,053,773.00		1,198,009.00	
12.2.23	Fuel & Mineral Engg	702,202.00		766,236.00	
12.2.24	Humanities and Social Sciences	231,657.00		220,689.00	
12.2.25	JRF- Entrance Exam. & Adm. Exp.	3,866,526.00		4,763,232.00	
12.2.26	Library Periodicals / Binding Expenses	149,561.00		176,899.00	
12.2.27	Management Studies	393,666.00		448,641.00	
12.2.28	MBA- Entrance Exam. & Adm. Exp.	144,780.00		336,050.00	
12.2.29	Mechanical Engg.	500,663.00		634,203.00	
12.2.30	Mining Engg	1,369,002.00		1,326,572.00	
12.2.31	Mining Machinery Engg. Deptt.	384,790.00		422,292.00	
12.2.32	M.Sc. & M.Sc. Tech - Entrance Exam. & Adm. Exp.	1,750,066.00		1,683,164.00	
12.2.33	M. Tech- Entrance Exam & Adm. Exp.	1,598,869.00		1,927,129.00	
12.2.34	Petroleum Engg	563,580.00		1,017,450.00	
12.2.35	Prizes to Students	360,750.00		667,850.00	
12.2.36	Publications	589,609.00		239,623.00	
12.2.37	Sports & Gymnasium	9,829,867.00		6,297,114.00	
12.2.38	Student Activities	4,288,739.00		3,236,159.00	



12.2.39	Student Amenities	1,979,152.00		2,321,087.00	
12.2.40	Training to Employees	86,876.00		73,694.00	
12.2.41	Visiting Part-Time Lecturers	2,607,433.00		1,213,792.00	
12.2.42	WORKSHOP	2,024,056.00	56,044,058.00	1,607,220.00	55,797,622.00
12.2.43	Scholarship to Students:				
12.2.44	Dual Degree Contingency	28,092.00		-	
12.2.45	Dual Degree Fellowship	3,494,340.00		-	
12.2.46	MCM SCHOLARSHIP	152,408,466.00		-	
12.2.47	Mess Bill/pocket Exp. (Sc/st)	4,294,200.00		-	
12.2.48	PG Contingency	2,270,382.00		-	
12.2.49	P G Fellowship	96,989,187.00		55,533,155.00	
12.2.50	Post Doct. Fellowship	957,570.00		-	
12.2.51	POST DOCTORATE CONTINGENCY	81,647.00		-	
12.2.52	Research Contingency	22,917,006.00		-	
12.2.53	Research Fellowship	272,117,007.00	555,557,897.00	255,955,076.00	311,488,231.00
12.2.54	Sub-total (N Plan)		611,601,955.00		367,285,853.00
12.2.55	Total Academic Expenses (Plan & Non Plan)		611,601,955.00		494,888,749.00

SCH. XIII - ADMINISTRATIVE & GENERAL EXPENSES

Plan:		Current Year : 2017-18		Previous Year : 2016-17	
13.1.1	Bank Charges	1,362.10		11,783.50	
13.1.2	Electricity Charges	-		26,046,767.00	
13.1.3	Generator Running & Maint. Exp.	-		1,918,629.00	
13.1.4	Health Centre & Medical Care Exp.	-		12,036,566.25	
13.1.5	Security Services	-		3,362,735.00	
13.1.6	Staff Selection Expenses	-		3,252,287.00	
13.1.7	Telephone/fax/internet/Website exp.	-		7,845,428.00	
13.1.8	Sub-total (Plan)		1,362.10		54,474,195.75
N Plan:					
13.2.1	Advertisement & Publicity	3,788,400.00		10,732,789.00	
13.2.2	Audit Expenses	435,051.00		176,640.00	
13.2.3	Chairman Secretarial Facility, Bhubneshwar	1,288,621.00		929,087.00	
13.2.4	Electricity Charges	55,094,256.00		33,639,528.00	
13.2.5	Generator Running & Maintenance Exp	11,592,472.00		15,811,060.00	
13.2.6	HC - Medical TA Bills	748,636.00		1,096,420.00	
13.2.7	HC-Diagnostic Laboratories	2,504,638.00		341,366.00	
13.2.8	HC-Medical Expenses to Employee	3,704,600.00		4,016,738.00	
13.2.9	HC-Other Expenses	568,913.00		843,408.00	
13.2.10	HC-Purchase Of Medicine	10,302,489.00		14,383,595.00	
13.2.11	HC-Referral Hospital Bills	5,289,035.00		2,451,115.00	
13.2.12	HC-Remuneration to Specialist	2,008,572.00		1,726,935.00	



13.2.13	Health Centre Exp. & Medical Cover to Employees/stu	-	102,679.00	
13.2.14	Hospitality and Public Relation	-	19,585.00	
13.2.15	IIIF Delhi	379,994.00	-	
13.2.16	IIIF Kolkata	191,750.00	(63,755.00)	
13.2.17	LIASION OFFICE EXP.	-	-	
13.2.18	Municipal Taxes	-	70,332.00	
13.2.19	Postage and Telegram	2,403,982.00	315,264.00	
13.2.20	Printing & Stationary	3,873,728.00	4,393,109.00	
13.2.21	School's Membership of Professional Bodies	1,000,000.00	54,000.00	
13.2.22	Security Services	79,137,799.00	41,658,162.00	
13.2.23	TA for Meetings & Meeting Expenses	2,506,658.00	2,411,555.00	
13.2.24	TA for Trg./Seminar/Conf.Abroad	-	71,407.00	
13.2.25	TA for Trg/seminar/conf.in India	185,910.00	159,847.00	
13.2.26	TA to External Experts/examiners/officials	3,159,871.00	2,007,595.00	
13.2.27	TA to School Employees	2,390,495.00	1,386,845.00	
13.2.28	Telephone/Telex/Fax/Internet Connectivity	11,672,156.00	5,729,347.00	
13.2.29	Uniform to Staff	454,233.00	111,168.00	
13.2.30	Water Supply Expenses	3,310,766.00	9,153,972.00	
13.2.31	Sub-total (N Plan)		207,993,025.00	153,729,793.00
13	Total Administrative & General Expenses (Plan & Non Plan)		207,994,387.10	208,203,988.75

SCH. XIV - REPAIR & MAINTENANCE

N. Plan		Current Year : 2017-18		Previous Year : 2016-17	
14.2.1	Horticulture & Gardening	7,019,897.00	4,933,705.00		
14.2.2	Public Health & Pest Control	1,196,448.00	386,263.00		
14.2.3	Repair & Maint. Exp. - Civil	38,420,727.00	25,218,782.00		
14.2.4	Repair & Maint. Exp. - Computer	1,109,715.00	1,823,012.00		
14.2.5	Repair & Maint. Exp. - Electrical	13,845,751.00	3,987,510.00		
14.2.6	Repair & Maint. Exp. - Furniture & Fixtures	237,342.00	566,086.00		
14.2.7	REPAIR & MAINT. EXP.- LIFT	3,557,401.00	766,626.00		
14.2.8	Repair & Maint. Exp. - Office & Lab. Equipment	5,104,019.00	352,346.00		
14.2.9	Repair & Maint. Exp. - Refrig. & Air-Con.	-	495,000.00		
14.2.10	Water Purification AMC ETC.	1,816,980.00	3,145.00		
14.2.11	Sub-total (N Plan)		72,308,280.00	38,532,475.00	



SCH. XV - TRANSPORTATION EXPENSES					
N. Plan					
15.2.1	Vehicle Hiring Expenses	2,114,199.00		848,709.00	
15.2.2	Vehicle Insurance	399,316.00		-	
15.2.3	Vehicle Repairing & Maintenance	763,480.00		613,737.00	
15.2.4	Vehicle Running and Maintenance Exp	2,829,410.00		2,662,733.00	
15.2.5	Vehicle Running Expenses	316,955.00		130,894.00	
15.2.6	Sub-total (N Plan)		6,423,360.00		4,256,073.00
SCH. XVI - MISCELLANEOUS / OTHER EXPENSES					
Plan:					
16.1.1	Repair & Maintenance	-		29,342,155.00	
16.1.2	Sub-total (Plan)		-		29,342,155.00
N Plan:					
16.2.1	BANK CHARGES	391,526.87		65,268.06	
16.2.2	Contingent Expenses	2,567,061.00		2,271,844.00	
16.2.3	CRF / CII REVENUE EXP.	295,572.00		93,865.00	
16.2.4	Legal Expenses	94,267.00		627,361.00	
16.2.5	MISCELLANEOUS EXP.	-		7,418.00	
16.2.6	Rajbhasha & Other Statutory Exp.	687,615.00		487,250.00	
16.2.7	Senior Academic Hostel	193,783.00		287,071.00	
16.2.8	Welfare Measures	778,801.00		906,951.00	
16.2.9	Sub-total (N Plan)		5,008,625.87		4,747,028.06
Project Account:					
16.3.1	Bank Charges	20,197.04		10,570.37	
16.3.2	Miscellaneous	1,703.47		-	
16.3.3	Total Admn Expenses Projects		21,900.51		10,570.37
16.00	Total Miscellaneous Expenses (Plan, Non Plan & Projects)		5,030,526.38		34,099,753.43

**SCHEDULES: RECEIPTS AND PAYMENTS ACCOUNTS FOR THE YEAR ENDED ON 31ST MARCH, 2018**

Sch No.	RECEIPTS	Non Plan 2017-18	Plan 2017-18	Project 2017-18	Total Current Year 2017-18	Total Previous Year 2016-17
R 1	I. Opening Balances					
R.1.1	(a) Cash Balances	39,275.20	-	1,211.00	40,486.20	395,860.70
R.1.2	(b) Bank Balances					
R.1.3	i. In Current Accounts					
R.1.4	CAN BANK PARLIAMENT STREET - N. DELHI	9,537.00	-		9,537.00	9,537.00
R.1.5	E - PAYMENT ACCOUNT - SBI	48,022.50	-		48,022.50	48,786.00
R.1.6	NON PLAN A/c (10230776189)	73,608,615.17	-		73,608,615.17	218,078,437.35
R.1.7	SBI POWER JYOTI	125,878.86	-		125,878.86	817,032.00
R.1.8	SBI Online Fee A/c	-	-		-	
R.1.9	PLAN A/c (10230776532)		27,649,994.16		27,649,994.16	86,570,741.91
R.1.10	PROJECTS - ISM BRANCH		-	231,578.53	231,578.53	232,363.90
		73,792,053.53	27,649,994.16	231,578.53	101,673,626.22	305,756,898.16
R.1.11	ii. In Deposit Accounts					
R.1.12	iii. In Savings Accounts					
R.1.13	Canara Bank SDL Branch, Dhanbad	28,953.00			28,953.00	28,953.00
R.1.14	Endowment Fund S/B Account	2,325,814.01			2,325,814.01	2,880,678.01
R.1.15	Non Plan SBI S/B Account (37052696309)	-				
R.1.16	Non Plan SBI Online Fee S/B Account (37052697697)	-				
R.1.17	Projects-Bank of India-ISM Branch			57,163.00	57,163.00	57,163.00
R.1.18	Sandvik Chair A/c-Canara Bank			545,550.00	545,550.00	164,609.00
R.1.19	TeqipII A/c-Canara Bank			3,921,322.00	3,921,322.00	25,259,196.00
R.1.20	Projects-Canara Bank			107,230,560.78	107,230,560.78	27,281,576.86
R.1.21	CIL Chair-Canara Bank			1,418,532.44	1,418,532.44	40,330.44
R.1.22	ISMAANA-Canara Bank			14,339.00	14,339.00	7,843.00
R.1.23	Mole Chair-Canara Bank			809,445.00	809,445.00	453,306.00
R.1.24	NMDC Chair-Open Cast-Canara Bank			2,030,248.00	2,030,248.00	1,845,656.00
R.1.25	ONGC-AMN Ghosh Chair-Canara Bank			537,915.58	537,915.58	907,525.58
R.1.26	Rajiv Gandhi Chair-Canara Bank			860,999.83	860,999.83	1,164,440.83
R.1.27	SAIL-NMDC Chair-Canara Bank			1,847,130.48	1,847,130.48	1,213,144.48
R.1.28	TATA Steel Chair-Canara Bank			795,088.00	795,088.00	2,531,872.00
R.1.29	Uranium Chair-Canara Bank			357,612.00	357,612.00	24,903.00
		2,354,767.01	-	120,425,906.11	122,780,673.12	63,861,197.20
R 2	II. Grants Received					
R.2.1	a) From Government of India	1,450,000,000.00	950,000,000.00	-	2,400,000,000.00	1,852,000,000.00
R.2.2	b) From State Government	-	-	-	-	-
R.2.3	c) From other sources (details)	-	-	-	-	-
		1,450,000,000.00	950,000,000.00	-	2,400,000,000.00	1,852,000,000.00



R 3	III. Academic Receipts					
R.3.1	Fees from Students	514,078,601.52			514,078,601.52	461,512,029.14
R.3.2	Academic Expenses	1,313,096.00			1,313,096.00	1,182,866.00
		515,391,697.52			515,391,697.52	462,694,895.14
R 4	IV. Receipts against Earmarked / Endowment Funds / Other Reserve Funds					
R.4.1	School Development Fund	658,500.00		2,592,497.00	3,250,997.00	156,614.00
R.4.2	Student Innovative Project Fund	31,515,000.00			31,515,000.00	23,592,000.00
R.4.3	Basant Scholarship Fund	-			-	300.00
R.4.4	BENEVOLENT FUND	511,776.00		3,022,628.64	3,534,404.64	2,027,595.00
R.4.5	Endowment Fund (Block Grant Scheme)	264,656.00			264,656.00	47,738,553.00
R.4.6	ISM Alumni Association					
R.4.7	Mess Subsidy Fund				-	-
R.4.8	Student Medical Fund	1,011,000.00			1,011,000.00	1,778,850.00
R.4.9	CHAIR FUNDS			28,767,925.00	28,767,925.00	12,566,070.00
R.4.10	Deptt. Dev. Funds			13,019,626.46	13,019,626.46	10,895,270.84
R.4.11	Professional Dev. Funds			6,045,370.65	6,045,370.65	3,250,410.84
		33,960,932.00		53,448,047.75	87,408,979.75	102,005,663.68
R 5	V. Receipts against Sponsored Projects / Schemes / Others					
R.5.1	Received from Teqip II			-	-	1,573,040.00
R.5.2	Income Tax Refund	796,383.00			796,383.00	
R.5.3	Consultancy Services - Liability			193,059,921.57	193,059,921.57	134,571,494.45
R.5.4	ISM R&D PROJECTS			-	-	20,015,000.00
R.5.5	R & D Projects			549,291,037.25	549,291,037.25	207,380,627.00
R.5.6	Departmental Development Fund - Teqip II			-	-	3,400,000.00
R.5.7	UGC Sponsored Projects			1,310,731.00	1,310,731.00	1,822,939.00
R.5.8	ICAFD - 2016			-	-	290,000.00
R.5.9	SERB - ABHAY KUMAR BHARTI			-	-	103,567.00
R.5.10	SERB-Vikram Palodiya			-	-	151,502.00
R.5.11	SME ISM STUDENT CHAPTER			-	-	421,000.00
R.5.12	Other Projects			145,115,552.10	145,115,552.10	87,617,887.35
		796,383.00		888,777,241.92	889,573,624.92	457,347,056.80
R 6	VI. Receipts against sponsored Fellowships and Scholarships					
R.6.1	Outside Scholarships	6,789,112.00			6,789,112.00	2,987,755.00
R.6.2	<u>Scholarship Funds:</u>					
R.6.3	ATLAS CAPCO SCH. FUND			75.00	75.00	43,874.00
R.6.4	Bhaskar Bhattacharya Memorial Fund			14,142.00	14,142.00	56,495.00
R.6.5	Inderjit & Satyawat Bodhar Scholarship			1,755.00	1,755.00	
R.6.6	Inder Mohan Thapar Foundation Research Award			-	-	200,000.00
R.6.7	ISM AANA Scholarship Award			319,427.60	319,427.60	341,825.00



R.6.8	L J JHONSON AWARD			30.00	30.00	17,550.00
R.6.9	Late Chitra Bhattacharya Memorial Award			3,646.00	3,646.00	
R.6.10	NAA Scholarship Fund			35,428.00	35,428.00	22,500.00
R.6.11	Nagendra Kumar Memorial Award Fund			-	-	800,000.00
R.6.12	Nirja Sahay Memorial Fund			18,522.00	18,522.00	
R.6.13	Poonam (Khanna) Singh Endowment Mem. Fund				-	150,000.00
R.6.14	Renuka Rajhans Memorial Gold Medal Fund				-	27,072.00
R.6.15	Smt. Sneha Lata Srivastava Memorial Gold Medal			11,146.00	11,146.00	1,521.00
R.6.16	Vishesvaraya Ph.D Scheme for Elec. & IT				-	1,620,300.00
		6,789,112.00	-	404,171.60	7,193,283.60	6,268,892.00
R 7	VIII. Interest received on:					
R.7.1	a) Bank Deposits				-	-
R.7.2	Interest from Fixed Deposits	22,589,257.00	13,142,929.00	48,233,854.00	83,966,040.00	36,317,689.00
R.7.3	b) Loans & Advances				-	-
R.7.4	Interest from Advance to Employees	465,748.00		2,125.00	467,873.00	187,289.00
R.7.5	c) Savings Bank Accounts	655,646.00	356,631.00	1,480,207.00	2,492,484.00	-
R.7.6	Hostel receipts	-	-	-	-	981,325.00
R.7.7	Other S/B Accounts	-	-	-	-	1,067,884.88
		655,646.00	356,631.00	1,480,207.00	2,492,484.00	2,049,209.88
R 8	IX. Investments encashed					
R.8.1	8% GOI BOND (End. Fund Investment)	-	-	-	-	70,000,000.00
		-	-	-	-	70,000,000.00
R 9	X. Term Deposits with Schedules Banks encashed					
R.9.1	Endowment Fund Investment	1,887,853.00			1,887,853.00	
R.9.2	GIA & School Income Investments	1,450,000,000.00	846,000,000.00		2,296,000,000.00	1,516,500,000.00
R.9.3	Projects Investments	-		501,731,028.00	501,731,028.00	80,000,000.00
		1,451,887,853.00	846,000,000.00	501,731,028.00	2,799,618,881.00	1,596,500,000.00
R 10	XI. Other Income (Including Prior Period Income)					
R.10.1	(I) Income From Projects					
R.10.2	School Share Charges	269,689.00			269,689.00	219,560.00
R.10.3	School Support Charges	12,984,939.00			12,984,939.00	6,379,608.00
R.10.4	(II) Other Income				-	-
R.10.5	Recoveries From Employees	9,651,772.00			9,651,772.00	10,180,469.50
R.10.6	CRF Analysis Charges	642,100.00			642,100.00	486,717.00
R.10.7	Appl. Fee for Admission/ Entrance Exam.	-			-	-
R.10.8	Application Fees for Employment	58,225.00			58,225.00	148,025.00
R.10.9	EDC Room Rent	3,023,668.00			3,023,668.00	2,669,800.00
R.10.10	Electricity Charges From Tenant	2,874,691.00			2,874,691.00	4,122,450.00
R.10.11	GJLT, PENMAN, LHC RENT	375,567.00			375,567.00	539,084.00



R.10.12	Income From BRS	74,259.00			74,259.00	3.00
R.10.13	Interest on IT Refund	105,483.00			105,483.00	
R.10.14	ISM-IIIF, DELHI ACCOMMODATION	2,000.00			2,000.00	
R.10.15	ISM-IIIF, KOLKATA ACCOMMODATION	80,000.00			80,000.00	49,000.00
R.10.16	License Fee From Tenents	604,426.00			604,426.00	706,358.00
R.10.17	Fine / Penalty			20,000.00	20,000.00	
R.10.18	Miscellaneous Income	322,278.30	400.00		322,678.30	446,689.00
R.10.19	SAH Room Rent	1,820,950.00			1,820,950.00	1,636,100.33
R.10.20	TENDER COST	818,210.00			818,210.00	1,016,030.00
		33,708,257.30	400.00	20,000.00	33,728,657.30	28,599,893.83
R 11	XII. Deposits and Advances					
R.11.1	(A) Deposits (Asset)					
R.11.2	Security Deposit with JSEB	-	-	-	-	2,733,076.00
R.11.3	Security Deposit with Mahabir Gas, Dhn	-	-	-	-	187,400.00
R.11.4	(B) Deposits (Liabilities)					
R.11.5	EARNEST MONEY DEPOSIT	11,145,908.00	1,739,994.00	44,276.00	12,930,178.00	22,980,668.00
R.11.6	SECURITY DEPOSIT	7,518,278.00	-	-	7,518,278.00	7,624,319.00
R.11.7	Retention Money	-	8,451,107.00	-	8,451,107.00	-
R.11.8	(B) Loans & Advances (Asset)				-	-
R.11.9	Advances To Suppliers/ Contractors	305,058.00	18,160,793.00	8,082,496.00	26,548,347.00	303,682.00
R.11.10	Advances to Employees					
R.11.11	H.B.Advance (Non-Plan)	3,883,093.00			3,883,093.00	4,126,314.00
R.11.12	Staff Advance	10,517,126.50		2,884,999.00	13,402,125.50	10,356,519.00
R.11.13	Car Advance	140,482.00			140,482.00	270,607.00
R.11.14	IMPREST ADVANCE	27,068.00			27,068.00	8,127.00
R.11.15	PERSONAL COMPUTER ADV.	579,152.00			579,152.00	921,843.00
R.11.16	Scooter Moter Cycle Adv.	261,119.00			261,119.00	739,846.00
R.11.17	Cycle Advance	1,800.00			1,800.00	10,200.00
R.11.18	Festival Advance	1,047,600.00			1,047,600.00	1,216,050.00
R.11.19	SURESH MAHATO (MAZDOOR) STAFF ADVANCE	-			-	10,000.00
R.11.20	(C) Sundry Debtors					
R.11.21	Plan Control A/C	134,137.00		297,581.00	431,718.00	3,287,382.00
R.11.22	Plan Control Account - Endowment Interest Receivable	-			-	11,339,254.00
R.11.23	ProjectControl A/c (Endowment Fund)	58,037,416.00			58,037,416.00	46,016,460.00
R.11.24	Project Control A/c (General)	49,156,566.00			49,156,566.00	79,747,557.00
R.11.25	Rent Receivable	1,279,346.00			1,279,346.00	
R.11.26	TDS Receivable	729,804.00			729,804.00	
R.11.27	(D) Work in Progress					
R.11.28	Capital Work in Progress with CPWD	-	272.00	-	272.00	
	Total	144,763,953.50	28,352,166.00	11,309,352.00	184,425,471.50	191,879,304.00
R 12	XIII. Miscellaneous Receipts including Statutory Receipts					



R.12.1	(A) Statutory Receipts					
R.12.2	(i) Statutory Liabilities - Employees					
R.12.3	Income Tax (Employees)	156,311,268.00	35,993.00	28,548,702.00	184,895,963.00	90,459,659.00
R.12.4	Jharkhand State Professional Tax	1,080,927.00		-	1,080,927.00	1,068,730.00
R.12.5	(ii) Statutory Liabilities - Parties					
R.12.6	Central Tax (CGST)	75,322.50		5,040,779.25	5,116,101.75	
R.12.7	Integrated Tax (IGST)		77,217.00	16,946,872.50	17,024,089.50	
R.12.8	Income-Tax (Contractors/Suppliers)	3,959,509.00	1,071,579.00	3,293,676.00	8,324,764.00	6,279,112.00
R.12.9	Income Tax (u/s 194 I)	4,590.00		-	4,590.00	
R.12.10	Income Tax (Professional Services)	2,457,882.00	26,342.00	93,801.00	2,578,025.00	1,416,643.00
R.12.11	Labour Welfare	477,198.00	143,307.00	4,427.00	624,932.00	844,476.00
R.12.12	Project Commissioner of Customs, Kolkata	87,525.00		-	87,525.00	
R.12.13	SALES TAX @ 4%	266,518.00	162,430.00	6,505.00	435,453.00	3,471,424.00
R.12.14	Service Tax	56,023.00		6,681,163.00	6,737,186.00	20,043,216.00
R.12.15	State Tax (SGST)	75,322.50		5,040,779.25	5,116,101.75	
R.12.16	(iii) Endowment Fund Income Tax (Contractors)	127,298.00			127,298.00	661,970.00
R.12.17	(v) Plan Income Tax A/c					
R.12.18	Plan Income Tax (Contractors)	1,296,301.00			1,296,301.00	2,210,022.00
R.12.19	Plan Income Tax (Employees)	35,993.00			35,993.00	2,500.00
R.12.20	PLAN INCOME TAX (PROFESSION)	134,041.00			134,041.00	691,741.00
R.12.21	Plan IGST	77,217.00			77,217.00	
R.12.22	PLAN SALES TAX A/C	367,987.00			367,987.00	77,187.00
R.12.23	(vi) Project - Taxes					
R.12.24	Project CGST	6,014,161.00			6,014,161.00	
R.12.25	Project IGST	13,608,065.00			13,608,065.00	
R.12.26	Project Income Tax A/c (Employees)	28,421,165.00			28,421,165.00	14,964,983.00
R.12.27	Project Income Tax (Contractors)	3,291,182.00			3,291,182.00	126,146.00
R.12.28	Project Income Tax (u/s 194 J)	86,501.00			86,501.00	
R.12.29	Project JVAT	2,243,038.00			2,243,038.00	
R.12.30	PROJECT SALES TAX A/C	-			-	321.00
R.12.31	Project Service Tax A/c	6,895,455.00			6,895,455.00	17,905,434.00
R.12.32	Project SGST	6,014,161.00			6,014,161.00	
R.12.33	(vii) J VAT	-		2,236,533.00	2,236,533.00	149,784.00
R.12.34	(B) Misc Receipts					
R.12.35	B R S Liability	9,240,997.50			9,240,997.50	7,473,791.50
R.12.36	Misc. Receipts (Liab)	30,333,432.00	82.00		30,333,514.00	2,689,109.00
	Total	273,039,079.50	1,516,950.00	67,893,238.00	342,449,267.50	170,536,248.50
R 13	XIV. Any Other Receipts					
R.13.1	<u>Current Liabilities to Employees</u>					
R.13.2	CanBank, SDL Br. Loan to Employees	8,381,158.00			8,381,158.00	9,594,895.00
R.13.3	Children Act. Centre Subscription	178,575.00			178,575.00	158,200.00
R.13.4	Court Attachment Deduction	43,800.00			43,800.00	27,000.00
R.13.5	GIS Premium	3,363,636.00			3,363,636.00	2,771,264.00



R.13.6	LIC Premium	5,985,149.00			5,985,149.00	5,957,704.00
R.13.7	Post Office CTD/RD	381,500.00			381,500.00	397,300.00
R.13.8	P M Relief Fund	-			-	-
R.13.9	Relief Fund (Death Benefit Payable)	-			-	-
R.13.10	Scolomin Club	308,300.00			308,300.00	305,950.00
R.13.11	Staff Recreation Club	322,800.00			322,800.00	339,100.00
R.13.12	CPF Subscription & Loan Recovery	7,058,000.00			7,058,000.00	13,430,100.00
R.13.13	DCPS SUBSCRIPTION	41,942,739.00			41,942,739.00	28,166,084.00
R.13.14	GPF Subscription & Loan Recovery	50,172,900.00			50,172,900.00	42,720,400.00
R.13.15	P.F. Control A/c	67,000,000.00			67,000,000.00	605,503.00
R.13.16	<u>Current Liabilities to Students</u>				-	-
R.13.17	Delhi Ext Centre, CSE	1,297,000.00			1,297,000.00	
R.13.18	Delhi Ext Centre, ECE	733,500.00			733,500.00	
R.13.19	Delhi Ext Centre, Elect. Engg	879,000.00			879,000.00	
R.13.20	Delhi Ext Centre, Mech. Engg	913,500.00			913,500.00	
R.13.21	Executive MBA	2,776,672.00			2,776,672.00	2,926,672.00
R.13.22	Kolkata Ext. Centre, Mech. Engg.	3,050,000.00			3,050,000.00	1,920,000.00
R.13.23	Kolkata Extension Centre ECE	1,838,000.00			1,838,000.00	570,000.00
R.13.24	Kolkata Extension Centre, Elec. Engg.	5,765,500.00			5,765,500.00	3,120,000.00
R.13.25	Kolkata Extension Centre, CSE	2,512,500.00			2,512,500.00	1,409,000.00
R.13.26	Alumni Subscription	2,636,400.00			2,636,400.00	2,074,400.00
R.13.27	Basant Subscription	2,349,500.00			2,349,500.00	1,659,250.00
R.13.28	DST/Inspire Scholarship	-			-	-
R.13.29	Hostel Mess Fee - Liability	203,036,810.00			203,036,810.00	
R.13.30	IIT JEE Advanced Admission	3,888,893.06			3,888,893.06	
R.13.31	Institute Amenities Deposit	2,596,000.00			2,596,000.00	1,967,000.00
R.13.32	INSTITUTE CAUTION MONEY	3,703,450.00			3,703,450.00	3,395,400.00
R.13.33	Library Security Deposit	6,491,000.00			6,491,000.00	4,917,500.00
R.13.34	SRIJAN FUND	100,000.00			100,000.00	-
R.13.35	Student Insurance Scheme	7,860,468.00			7,860,468.00	6,685,984.00
R.13.36	Students Loan	-			-	19,200.00
R.13.37	Student Uniform Deposit	5,058,200.00			5,058,200.00	3,276,600.00
R.13.38	Plan Commissioner of Customs Advance	700,000.00			700,000.00	
R.13.39	SBI Cash Award for Non Teaching Employees	50,000.00			50,000.00	
R.13.40	<u>Current Liabilities - Inter Unit</u>				-	-
R.13.41	Non Plan Control Account		154,617,350.35	311,903.00	154,929,253.35	4,276,396.00
R.13.42	EDC Room Rent			1,200.00	1,200.00	102,035.00
R.13.43	Electric Charges for CIL Chair			9,351.00	9,351.00	14,033.00
R.13.44	Electric Charges for Rajiv Gandhi Chair			4,485.00	4,485.00	11,269.00
R.13.45	Electric Charges From NMDC CHAIR			3,213.00	3,213.00	6,101.00
R.13.46	ISM BASANT A/C			2,158,971.25	2,158,971.25	1,120,971.75
R.13.47	Licence Fee From NMDC CHAIR			10,650.00	10,650.00	12,248.00
R.13.48	Medical Charges for CIL Chair			4,000.00	4,000.00	6,000.00
R.13.49	Medical Charges From NMDC Chair			5,000.00	5,000.00	6,726.00



R.13.50	Medical Charges From Rajiv Gandhi Chair			5,500.00	5,500.00	5,500.00
R.13.51	Medical Charges From Sail NMDC CHAIR FUND			-	-	5,500.00
R.13.52	Medical Charges From Sandvik Chair				-	5,500.00
R.13.53	PF Control Account			1,432,845.00	1,432,845.00	
R.13.54	School Support Charges			40,786,578.09	40,786,578.09	22,774,739.67
R.13.55	Scolomin Club for Cil Chair			800.00	800.00	1,200.00
R.13.56	Scolomin Club for Rajeev Ghandhi Chair			1,100.00	1,100.00	1,100.00
R.13.57	Vehicle Charges for CIL Chair			410.00	410.00	500.00
R.13.58	Vehicle Charges of NMDC CHAIR			550.00	550.00	530.00
R.13.59	Vehicle Charges for Rajiv Gandhi Chair			60.00	60.00	
R.13.60	<u>Deduction in Fixed Assets</u>				-	-
R.13.61	Tubewells & Water Supply				-	498,270.00
R.13.62	Books & Journals		97,992.00		97,992.00	2,828,130.00
R.13.63	Electrical Installation and Equipment		7,056.00		7,056.00	
R.13.64	Scientific and Laboratory Equipment		314,155.00		314,155.00	55,906.00
R.13.65	<u>HOSTELS</u>				-	-
R.13.66	Amber Hostel - Mess Fee			75,000.00	75,000.00	27,949,617.00
R.13.67	Diamond Hostel - Mess Fees			60,000.00	60,000.00	6,960,403.00
R.13.68	Emerald Hostel - Mess Fee			30,000.00	30,000.00	6,373,635.00
R.13.69	Jasper Hostel - Mess Fees			135,000.00	135,000.00	43,749,702.00
R.13.70	Opal Hostel - Mess Fees			15,000.00	15,000.00	7,488,129.00
R.13.71	Ruby Hostel - Mess Fees			30,000.00	30,000.00	12,383,052.00
R.13.72	Sapphire Hostel- Mess Fee			15,000.00	15,000.00	11,007,266.00
R.13.73	Topaz Hostel - Mess Fee			15,000.00	15,000.00	6,889,932.00
R.13.74	HOSTELS MESS CHARGES			-	-	60,000.00
R.13.75	<u>Other Liabilities</u>				-	-
R.13.76	DST/SERB/PARADHA KUMAR/TRAVEL GRANT			120,859.00	120,859.00	-
R.13.77	ESEMR 2013			35,000.00	35,000.00	-
R.13.78	Students of Societies			50,000.00	50,000.00	-
R.13.79	Fellowship & Associate ship Funds			378,000.00	378,000.00	-
R.13.80	<u>Expenses</u>					
R.13.81	Administrative & General Expenses	391,600.00			391,600.00	2,027,775.75
R.13.82	Other Expenses - Miscellaneous	31,216.61			31,216.61	11,106.87
R.13.83	Establishment Expenses	70,873,292.00			70,873,292.00	8,366,570.00
R.13.84	Repairs & Maintenance	-			-	
	Total	514,671,058.67	155,036,553.35	45,695,475.34	715,403,087.36	303,414,350.04



	PAYMENTS	Non Plan 2017-18	Plan 2017-18	Project 2017-18	Total Current Year 2017-18	Total Previous Year 2016-17
P 1	I. Expenses:					
P.1.1	a) Establishment Expenses	1,135,152,578.00	-	-	1,135,152,578.00	757,300,331.00
P.1.2	b) Academics Expenses	610,754,828.00	-	-	610,754,828.00	492,018,168.00
P.1.3	c) Administrative Expenses	206,638,060.00	957.10	76,406.04	206,715,423.14	209,476,236.50
P.1.4	d) Transportation Expenses	6,060,507.00	-	-	6,060,507.00	4,059,616.00
P.1.5	e) Other expenses - Miscellaneous	4,810,882.48	-	-	4,810,882.48	28,953,020.30
P.1.6	f) Repairs & Maintenance	64,208,407.00	-	-	64,208,407.00	35,858,291.00
	Total	2,027,625,262.48	957.10	76,406.04	2,027,702,625.62	1,527,665,662.80
P 2	II. Payments against Earmarked / Endowment Funds / Other Reserve Funds					
P.2.1	School Development Fund	168,000.00	-	-	168,000.00	-
P.2.2	Student Innovative Project Fund	740,000.00			740,000.00	145,000.00
P.2.3	BENEVOLENT FUND	3,005,732.00			3,005,732.00	3,543,800.00
P.2.4	Budhwanti Mrig Mem. Edn. Sch. Fund	-			-	16,000.00
P.2.5	Ishan Rajbanshi Merit Scholarshi	16,000.00			16,000.00	14,000.00
P.2.6	ISM Alumni Association Award Fund	-			-	346,063.00
P.2.7	ISS SCHOLARSHIP FUND	15,000.00			15,000.00	6,000.00
P.2.8	Student Medical Fund	45,450.00			45,450.00	9,050.00
P.2.9	CHAIR FUNDS	-		4,730,463.00	4,730,463.00	8,630,721.00
P.2.10	Deptt. Dev. Funds	-		7,811,522.00	7,811,522.00	4,854,435.00
P.2.11	Professional Dev. Funds	-		1,688,581.00	1,688,581.00	863,757.00
	Total	3,990,182.00	-	14,230,566.00	18,220,748.00	18,428,826.00
P 3	III. Payments against sponsored Projects / Schemes					
P.3.1	Consultancy Services - Liability			186,967,930.44	186,967,930.44	93,415,463.35
P.3.2	ISM R&D PROJECTS			10,010,803.00	10,010,803.00	16,389,619.00
P.3.3	R & D Projects			188,651,259.00	188,651,259.00	151,074,541.00
P.3.4	Departmental Development Fund - Teqip			4,139,207.00	4,139,207.00	1,154,029.00
P.3.5	UGC Sponsored Projects			1,529,726.00	1,529,726.00	6,041,557.00
P.3.6	OTHERS - PROJECTS			35,715,806.00	35,715,806.00	26,509,536.25
	Total	-	-	427,014,731.44	427,014,731.44	294,584,745.60
P 4	IV. Payments against Sponsored Fellowships / Scholarships					
P.4.1	Outside Scholarships	4,582,104.00		-	4,582,104.00	2,990,712.00
P.4.2	<u>SCHOLARSHIP FUND</u>					
P.4.3	ATLAS CAPCO SCH. FUND			18,000.00	18,000.00	12,000.00
P.4.4	Bhaskar Bhattacharya Memorial Fund			73,258.00	73,258.00	
P.4.5	Inderjeet & Satyawat Bodhwar Scholarship			10,000.00	10,000.00	
P.4.6	Inder Mohan Thapar Foundation Research Award			200,000.00	200,000.00	
P.4.7	ISM AANA Scholarship Award			319,812.60	319,812.60	335,288.00



P.4.8	Late Mrs. Chitra Bhattacharya Memorial Fund				-	17,000.00
P.4.9	L J Johnson Award			4,000.00	4,000.00	
P.4.10	Mata Gurdev Kaur Memorial Fund				-	5,500.00
P.4.11	Mitali Sen Gold Medal Memorial End. Fund				-	22,900.00
P.4.12	Nagendra Kumar Memorial Award Fund				-	800,000.00
P.4.13	Nirja Sahay Memorial Fund				-	10,000.00
P.4.14	Paritosh & Palikrit End. Fund			8,000.00	8,000.00	7,000.00
P.4.15	Poonam (Khanna) Singh Endowment Mem. Fund				-	50,000.00
P.4.16	Prof N L Sharma Mem Fund			4,000.00	4,000.00	
P.4.17	Prof S Srinivasan Mem. Fund			4,000.00	4,000.00	
P.4.18	Sandvik Scholarship			750,000.00	750,000.00	
P.4.19	Renuka Rajhans Memorial Gold Medal Fund				-	10,000.00
P.4.20	S.L. Sehgal Scholarship			8,000.00	8,000.00	4,000.00
P.4.21	Smt Kaushalia Devi Gold Medal			4,000.00	4,000.00	
P.4.22	Smt. Sneha Lata Srivastava Memorial Gold Medal				-	17,000.00
P.4.23	Subarna & Sashibhusan Bhattacharya Mem End Fund			11,700.00	11,700.00	
P.4.24	Vishesvaraya Ph.D Scheme for Elec. & IT			583,379.00	583,379.00	1,551,806.00
	Total	4,582,104.00	-	1,998,149.60	6,580,253.60	5,833,206.00
P 5	VI. Term Deposits with Scheduled Banks					
P.5.1	GIA - FD with SBI, ISM Br. (School Income)	1,845,000,000.00	909,000,000.00		2,754,000,000.00	1,797,000,000.00
P.5.2	ENDOWMENT FUND FIXED DEPOSITS	51,200,000.00			51,200,000.00	149,000,000.00
P.5.3	Projects Investments			853,537,000.00	853,537,000.00	136,700,000.00
	Total	1,896,200,000.00	909,000,000.00	853,537,000.00	3,658,737,000.00	2,082,700,000.00
P 6	VII. Expenditure on Fixed Assets and Capital Works-in-Progress					
	Tangible:					
P.6.1	Road & Building	-	12,321,816.00		12,321,816.00	40,594,208.00
P.6.2	ISM - IIIF, Kolkata -Endowment Fund Building	443,051.00	-		443,051.00	4,072,769.00
P.6.3	ISM - IIIF, New Delhi -Endowment Fund Building	59,360.00	-		59,360.00	
P.6.4	Tube Wells & Water Supply		310,958.00		310,958.00	
P.6.5	Electrical Installation & Equipment	178,824.00	10,992,296.00		11,171,120.00	9,705,212.00
P.6.6	Scientific & Laboratory Equipment	-	32,890,044.00		32,890,044.00	66,753,428.00
P.6.7	Office Automation	-	2,284,890.00		2,284,890.00	627,557.00
P.6.8	Office Equipment		2,632,566.00		2,632,566.00	
P.6.9	Audio Visual Equipment	-	2,440,264.00		2,440,264.00	3,230,988.00
P.6.10	Computers & Peripherals	-	50,581,931.00		50,581,931.00	12,674,398.00
P.6.11	Furniture, Fixtures & Fittings	262,119.00	81,140,094.00		81,402,213.00	111,01,106.00
P.6.12	VEHICLES	-	-		-	652,499.00
P.6.13	Library Books & Scientific Journals	-	39,395,315.00		39,395,315.00	36,573,452.00
	Intangible:					
P.6.14	Computer Software		4,476,931.00		4,476,931.00	



P.6.15	Science Direct and E Journal (Capital)	-	31,533,816.00		31,533,816.00	13,175,250.00
	Total	943,354.00	271,000,921.00	-	271,944,275.00	199,160,867.00
P 7	VIII. Other Payments Including statutory payments					
P.7.1	(A) Statutory Payments					
P.7.2	<u>(i) Statutory Liabilities - Employees</u>					
P.7.3	Income Tax (Employees)	153,386,092.00	35,993.00	28,696,772.00	182,118,857.00	90,404,810.00
P.7.4	Jharkhand State Professional Tax	1,080,927.00		-	1,080,927.00	1,068,730.00
P.7.5	<u>(ii) Statutory Liabilities - Parties</u>					
P.7.6	Central Tax (CGST)	100,551.50		5,986,737.00	6,087,288.50	
P.7.7	Income-Tax (Contractors/Suppliers)	4,143,727.00	1,296,301.00	3,293,676.00	8,733,704.00	5,394,581.00
P.7.8	Income Tax (u/s 194 I)	4,590.00			4,590.00	
P.7.9	Integrated Tax (IGST)		77,217.00	13,608,065.00	13,685,282.00	
P.7.10	Labour Welfare	442,907.00	218,108.00	4,427.00	665,442.00	665,751.00
P.7.11	Project Commissioner of Customs, Kolkata	87,525.00			87,525.00	
P.7.12	SALES TAX @ 4%	391,838.00	367,987.00	6,505.00	766,330.00	3,140,547.00
P.7.13	Service Tax	65,502.00		7,074,455.00	7,139,957.00	19,629,625.00
P.7.14	State Tax (SGST)	100,551.50		5,986,737.00	6,087,288.50	
P.7.15	Income Tax - Professional Services	2,475,367.00	134,041.00	93,801.00	2,703,209.00	1,281,384.00
P.7.16	Endowment Fund Income Tax (Contractors)	127,298.00			127,298.00	661,970.00
P.7.17	<u>(iii) Plan - Tax</u>					
P.7.18	Plan (IGST)	77,217.00			77,217.00	-
P.7.19	Plan Income Contractors	1,296,301.00			1,296,301.00	2,210,022.00
P.7.20	Plan Income Tax (Employees)	35,993.00			35,993.00	2,500.00
P.7.21	PLAN INCOME TAX (PROFESSION)	134,041.00			134,041.00	691,741.00
P.7.22	PLAN SALES TAX A/C	367,987.00			367,987.00	77,187.00
P.7.23	<u>(iv) Projects - Tax</u>					
P.7.24	Project (CGST)	6,014,161.00			6,014,161.00	-
P.7.25	Project (IGST)	13,608,065.00			13,608,065.00	-
P.7.26	Project (SGST)	6,014,161.00			6,014,161.00	
P.7.27	Project Income Tax A/c (Employees)	28,421,165.00			28,421,165.00	14,964,983.00
P.7.28	Project Income Tax (Contractors)	3,291,182.00			3,291,182.00	126,146.00
P.7.29	Project Income Tax (u/s 194 J)	86,501.00			86,501.00	
P.7.30	Project J VAT	2,243,038.00			2,243,038.00	
P.7.31	PROJECT SALES TAX A/C	-			-	321.00
P.7.32	Project Service Tax A/c	6,895,455.00			6,895,455.00	17,905,434.00
P.7.33	<u>(v) J VAT</u>			2,236,533.00	2,236,533.00	149,784.00
P.7.34	(B) Misc Payments					
P.7.35	B R S Liability	9,439,439.00			9,439,439.00	447,645.24
P.7.36	Misc. Receipts (Liab)	21,336,078.00			21,336,078.00	2,400,207.00
P.7.37	Plan Commissioner of Customs Advance	418,769.00			418,769.00	
P.7.38	SBI Cash Award for Non Teaching Employees	50,000.00			50,000.00	
	Total	262,136,429.00	2,129,647.00	66,987,708.00	331,253,784.00	161,223,368.24



P 8	IX. Refunds of Grants	-	-	-	-	-
P 9	X. Deposits and Advances					
P.9.1	Deposits (Assets)				-	-
P.9.2	Security Deposit with JSEB	-			-	5,466,152.00
P.9.3	GST receivable on Supply to SEZ			51,382.00	51,382.00	
P.9.4	TDS Receivable			75,600.00	75,600.00	
P.9.5	Deposits (Liabilities)					
P.9.6	EARNST MONEY DEPOSIT	13,465,480.00	5,027,683.00	163,487.00	18,656,650.00	17,644,490.00
P.9.7	SECURITY DEPOSIT	5,436,274.00		-	5,436,274.00	6,599,707.00
P.9.8	Retention Money					
P.9.9	Loans & Advances (Asset)				-	-
P.9.10	Advances To Suppliers/ Contractors	11,405,485.00	674,271,322.00	1,647,179.00	687,323,986.00	633,958,054.00
P.9.11	Advances to Employees				-	-
P.9.12	H.B.Advance (Non-Plan)	6,099,639.00			6,099,639.00	1,263,000.00
P.9.13	Staff Advance	14,484,273.00		3,884,654.00	18,368,927.00	19,909,517.00
P.9.14	Car Advance	-			-	-
P.9.15	IMPREST ADVANCE	325,000.00			325,000.00	396,485.00
P.9.16	PERSONAL COMPUTER ADV.	-			-	201,181.00
P.9.17	Scooter Moter Cycle Adv.	32,733.00			32,733.00	80,000.00
P.9.18	Cycle Advance	-			-	-
P.9.19	Festival Advance	958,500.00			958,500.00	1,116,900.00
P.9.20	SURESH MAHATO (MAZDOOR) STAFF ADVANCE	-			-	10,000.00
P.9.21	Sundry Debtors				-	-
P.9.22	CENVAT CREDIT RECEIVABLE	-			-	300,628.00
P.9.23	Plan Control A/C	2,561,723.35		1,163,349.00	3,725,072.35	4,018,441.00
P.9.24	ProjectControl A/c (Endowment Fund)	1,084,500.00			1,084,500.00	2,160,253.00
P.9.25	Project Control A/c (General)	23,000.00			23,000.00	10,772,550.00
	Total	55,876,607.35	679,299,005.00	6,985,651.00	742,161,263.35	703,897,358.00
P 10	XI. Other Payments					
P.10.1	(A) Outstanding Expenses & Allowances				-	-
P.10.2	Outstanding Expenses	2,337,269.00		581,899.00	2,919,168.00	
P.10.3	Outstanding Pay and Allowance	46,645,659.00			46,645,659.00	43,489,552.00
P.10.4	(B) Current Liabilities to Employees				-	-
P.10.5	CanBank, SDL Br. Loan to Employees	8,381,158.00			8,381,158.00	9,594,895.00
P.10.6	Children Act. Centre Subscription	178,575.00			178,575.00	158,950.00
P.10.7	Court Attachment Deduction	43,800.00			43,800.00	27,000.00
P.10.8	GIS Premium	2,558,229.00			2,558,229.00	2,587,607.00
P.10.9	LIC Premium	5,985,137.00			5,985,137.00	5,957,691.00
P.10.10	P M Relief Fund	-			-	-
P.10.11	Post Office CTD/RD	381,500.00			381,500.00	397,300.00
P.10.12	SBI Loan Recovery	-			-	7,030.00



P.10.13	Scolomin Club	308,350.00			308,350.00	311,450.00
P.10.14	Scolomin Club for CII Chair				-	800.00
P.10.15	Scolomin Club for Rajeev Gandhi Chair				-	700.00
P.10.16	Staff Recreation Club	322,600.00			322,600.00	339,100.00
P.10.17	Vehicle Charges - Teqip II					
P.10.18	Undisbursed Pay					
P.10.19	CPF Subscription & Loan Recovery	7,058,000.00			7,058,000.00	12,303,100.00
P.10.20	DCPS SUBSCRIPTION	32,002,843.00			32,002,843.00	28,344,748.00
P.10.21	GPF Subscription & Loan Recovery	50,172,900.00			50,172,900.00	39,147,220.00
P.10.22	P.F. Control A/c	5,043,399.00			5,043,399.00	5,293,683.00
P.10.23	(C) Current Liabilities to Students				-	-
P.10.24	Delhi Extension Centre (CSE)	248,139.00			248,139.00	
P.10.25	Delhi Extension Centre (ECE)	57,490.00			57,490.00	
P.10.26	Delhi Extension Centre (Electrical Engineering)	151,958.00			151,958.00	
P.10.27	Delhi Extension Centre (Mech Engineering)	68,070.00			68,070.00	
P.10.28	Executive MBA	2,926,672.00			2,926,672.00	2,938,341.00
P.10.29	Kolkata Ext. Centre, Mech. Engg.	272,454.00			272,454.00	1,770,882.00
P.10.30	Kolkata Extension Centre ECE	616,813.00			616,813.00	544,951.00
P.10.31	Kolkata Extension Centre, Elec. Engg.	2,948,893.00			2,948,893.00	1,800,601.00
P.10.32	Kolkata Extension Centre, CSE	1,313,920.00			1,313,920.00	1,035,097.00
P.10.33	Alumni Subscription	122,400.00			122,400.00	3,200,400.00
P.10.34	Basant Subscription	2,131,075.00			2,131,075.00	1,667,425.00
P.10.35	Hostel Mess Fee - Liability	45,223,929.00			45,223,929.00	
P.10.36	IIT JEE Advanced Admission	2,443,555.00			2,443,555.00	
P.10.37	Institute Amenities Deposit	195,000.00			195,000.00	47,000.00
P.10.38	INSTITUTE CAUTION MONEY	10,734,000.00			10,734,000.00	9,995,980.00
P.10.39	ISM Alumni Fund					
P.10.40	ISM 89 Silver Jubilee Fund				-	4,084,761.00
P.10.41	Library Security	2,500.00			2,500.00	
P.10.42	Library Security Deposit	487,500.00			487,500.00	115,000.00
P.10.43	SRIJAN Fund	100,000.00			100,000.00	
P.10.44	Student Insurance Scheme	6,136,795.00			6,136,795.00	5,421,416.00
P.10.45	Students Loan				-	19,200.00
P.10.46	Student Uniform Deposit	418,626.00			418,626.00	480,870.00
P.10.47	PRIZE TO STUDENT (DUE) / Unpaid				-	1,500.00
P.10.48	(D) Current Liabilities - Inter Unit					
P.10.49	Project Control A/c				-	500,000.00
P.10.50	Non Plan Control Endowment Fund			56,952,916.00	56,952,916.00	55,195,461.00
P.10.51	Non Plan Control A/c		152,173,417.00	49,216,516.00	201,389,933.00	168,327,783.00
P.10.52	ISM Basant A/c			2,158,971.25	2,158,971.25	1,120,971.75
P.10.53	(E) Hostels				-	-
P.10.54	Amber Hostel - Mess Fee			53,352,834.00	53,352,834.00	2,103,102.00
P.10.55	Diamond Hostel - Mess Fee			12,182,859.00	12,182,859.00	
P.10.56	Emerald Hostel - Mess Fee			11,670,055.00	11,670,055.00	



P.10.57	Jasper Hostel - Mess Fee			83,838,618.00	83,838,618.00	
P.10.58	Opal Hostel - Mess Fee			14,943,883.00	14,943,883.00	
P.10.59	Ruby Hostel - Mess Fee			21,825,065.00	21,825,065.00	
P.10.60	Sapphire Hostel- Mess Fee			20,869,333.00	20,869,333.00	1,791,273.00
P.10.61	Topaz Hostel - Mess Fee			13,477,811.00	13,477,811.00	
P.10.62	(F) Others					
P.10.63	Vidhan Sabha Election Panchayat					
P.10.64	Suspense Account					
P.10.65	Fellowship & Associateship Funds			150,000.00	150,000.00	
P.10.66	Fees from Students	19,954,849.00			19,954,849.00	21,183,313.00
P.10.67	Income from Projects	35,900.00			35,900.00	17,945.00
P.10.68	Other Income	310,942.00			310,942.00	221,758.00
P.10.69	Interest Income	-			-	279,772.00
P.10.70	Adjustments to Capital Fund		8,195.00		8,195.00	
P.10.71	DST/SERB/PARARDHA KUMAR/TRAVEL GRANT			120,859.00	120,859.00	
P.10.72	ESEMR 2013			35,000.00	35,000.00	
P.10.73	Students Society			50,000.00	50,000.00	
	Total	258,320,899.00	152,181,612.00	341,426,619.25	751,929,130.25	431,825,628.75
P 11	XII. Closing Balances					
P.11.1	(a) Cash in hand	14,726.20	-	4,018.00	18,744.20	40,486.20
P.11.2	(b) Bank Balances					
P.11.3	<u>I. In Current Accounts</u>					
P.11.4	CAN BANK PARLIAMENT STREET - N. DELHI	9,537.00	-	-	9,537.00	9,537.00
P.11.5	E - PAYMENT ACCOUNT - SBI	332,674.50	-	-	332,674.50	48,022.50
P.11.6	SBI DHN NON PLAN ACCOUNT	88,276.00	-	-	88,276.00	73,608,615.17
P.11.7	SBI Online Fee A/c	6,591.00	-	-	6,591.00	
P.11.8	SBI POWER JYOTI	-	-	-	-	125,878.86
P.11.9	PLAN A/c (10230776532)		3,013,797.75	-	3,013,797.75	27,649,994.16
P.11.10	PROJECTS - ISM BRANCH		-	230,297.03	230,297.03	231,578.53
	Total	437,078.50	3,013,797.75	230,297.03	3,681,173.28	101,673,626.22
P.11.11	<u>ii. In Deposit Accounts</u>					
P.11.12	<u>iii. In Savings Accounts</u>					
P.11.13	Canara Bank SDL Branch, Dhanbad	28,953.00			28,953.00	28,953.00
P.11.14	Endowment Fund S/B Account	3,422,361.01			3,422,361.01	2,325,814.01
P.11.15	Non Plan SBI S/B Account (37052696309)	11,327,116.69			11,327,116.69	
P.11.16	Non Plan SBI Online Fee S/B Account (37052697697)	-			-	
P.11.17	Plan Saving Account (37057541474)	-	5,429,683.66		5,429,683.66	
P.11.18	Projects - Bank of India - ISM Branch			63,018.00	63,018.00	57,163.00
P.11.19	Sandvik Chair A/c - Canara Bank			1,071,779.00	1,071,779.00	545,550.00
P.11.20	Teqip II A/c - Canara Bank			952,794.00	952,794.00	3,921,322.00
P.11.21	Projects - Canara Bank			16,561,439.56	16,561,439.56	107,230,560.78
P.11.22	CIL Chair - Canara Bank			1,633,679.44	1,633,679.44	1,418,532.44



P.11.23	ISMAANA - Canara Bank			13,954.00	13,954.00	14,339.00
P.11.24	Mole Chair - Canara Bank			1,227,786.00	1,227,786.00	809,445.00
P.11.25	NMDC Chair - Open Cast - Canara Bank			343,377.50	343,377.50	2,030,248.00
P.11.26	ONGC - AMN Ghosh Chair - Canara Bank			925,993.58	925,993.58	537,915.58
P.11.27	Rajiv Gandhi Chair - Canara Bank			397,352.83	397,352.83	860,999.83
P.11.28	SAIL - NMDC Chair - Canara Bank			3,376,956.48	3,376,956.48	1,847,130.48
P.11.29	TATA Steel Chair - Canara Bank			202,030.50	202,030.50	795,088.00
P.11.30	Uranium Chair - Canara Bank			392,129.00	392,129.00	357,612.00
	Total	14,778,430.70	5,429,683.66	27,162,289.89	47,370,404.25	122,780,673.12

**BALANCE SHEET OF G.P.F., C.P.F.AND D.C.P.S. ACCOUNT AS AT 31st MARCH 2018**

Sl. No.	LIABILITIES	Current Year 2017-18	Previous Year 2016-17
1	GPF MEMBERS' FUNDS:		
1.1	Balance at the beginning of the year	298,475,762.00	265,173,119.00
1.2	Add: Subscriptions/Loan Recovery during the year	50,375,157.00	43,594,240.00
1.3	Add: Interest credited to members	33,516,829.00	21,853,243.00
1.4	Add: Transfer from CPF Member's fund a/c	143,810,088.00	0.00
1.5	Sub-total	526,177,836.00	330,620,602.00
1.6	Less: Advances, withdrawals & final payments	62,566,177.00	32,144,840.00
1.7	Balance at the end of the year	463,611,659.00	298,475,762.00
2	CPF MEMBERS' FUNDS:		
2.1	Balance at the beginning of the year	206,429,558.00	182,356,434.00
2.2	Add: Subscriptions & Loan recovery during the year	7,248,117.00	14,235,300.00
2.3	Add: Interest credited to members	2,839,775.00	14,875,747.00
2.4	Add: Matching contribution to the members	22,383.00	2,515,186.00
2.5	Sub-total	216,539,833.00	213,982,667.00
2.6	Less: Advances, withdrawals & final payments	4,145,000.00	7,553,109.00
2.7	Less: Adjustment for transfer from CPF to GPF		
2.8	(a) Transferred to GPF Subscription Account	143,810,088.00	-
2.9	(b) Transferred to Non Plan Capital Account	67,031,495.00	-
2.10	Balance as at the end of the year	1,553,250.00	206,429,558.00
3	DCPS MEMBERS' FUNDS:		
3.1	Balance at the beginning of the year	404,103.00	404,103.00
3.2	Subscriptions during the year	-	0.00
3.3	Add: Matching contribution to the members	-	0.00
3.4	Add: Interest credited to members	-	0.00
3.5	Less: Amount transferred to NSDL Account	-	-
3.6	Balance as at the end of the year	404,103.00	404,103.00
4	GENERAL RESERVE:		
4.1	Balance at the beginning of the year	84,919,972.52	78,941,015.48
4.2	Add: Excess of income over exp. for the year and others	9,045,137.58	5,978,957.04
4.3	Less : Prior Period Interest Payment	-	-
4.4	Balance as at the end of the year	93,965,110.10	84,919,972.52
5	PROVISIONS		
5.1	Provisions for Intt on CPF Matching Contribution	2,301,118.00	-
6	TOTAL LIABILITIES	561,835,240.10	590,229,395.52



	ASSETS	Current Year 2017-18	Previous Year 2016-17
7	CURRENT ASSETS:		
7.1	Investments:		
7.2	Balance at the beginning of the year	491,517,520.93	456,517,520.93
7.3	Add: Investments made during the year	220,555,341.00	63,000,000.00
7.4	Less: Investments encashed during the year	247,466,068.00	28,000,000.00
7.5	Balance as at the end of the year	464,606,793.93	491,517,520.93
7.6	Accrued Interest on Investment:		
7.7	Opening Balance	88,467,108.42	64,888,566.00
7.8	Additions/Deductions during the year	6,293,466.58	23,578,542.42
7.9	Balance as at the end of the year	94,760,575.00	88,467,108.42
7.10	Total Investment incld. Accrued Interest	559,367,368.93	579,984,629.35
7.11	CASH & BANK BALANCES:		
7.12	Cash at Bank with SBI, ISM Br., Dhanbad	1,078,521.17	5,213,367.17
7.13	Sundry Debtors: Project Control A/c	1,432,845.00	0.00
7.14	Non Plan Control Account (Payable)	-43,495.00	5,031,399.00
7.15	TOTAL	561,835,240.10	590,229,395.52

(M N PANDEY)
ASST REGISTRAR (L&B)

(M S CHAMPIA)
ASST REGISTRAR (PA)

(PRABODH PANDEY)
DY REGISTRAR (F&A)

(COL M K SINGH)
REGISTRAR

(PROF RAJIV SHEKHAR)
DIRECTOR





**INCOME AND EXPENDITURE ACCOUNT OF G.P.F., C.P.F.AND D.C.P.S. ACCOUNT
FOR THE YEAR ENDED 31st MARCH 2018**

Sl. No.	INCOME	Current Year 2017-18	Previous Year 2016-17
1	Interest / Income from Investments	41,409,566.00	19,130,180.00
2	Interest Accrued on investment	6,293,466.58	23,578,542.42
3	TOTAL (A)	47,703,032.58	42,708,722.42
	EXPENDITURE		
4	Interest credited to members accounts	38,657,722.00	36,728,990.00
5	Bank charges	173.00	775.38
6	TOTAL (B)	38,657,895.00	36,729,765.38
7	Balance being excess of Income over Expenditure (A - B)	9,045,137.58	5,978,957.04
8	BALANCE BEING SURPLUS CARRIED TO GENERAL RESERVE	9,045,137.58	5,978,957.04

M.N. Pandey

(M N PANDEY)
ASST REGISTRAR (L&B)

(Signature)

(M S CHAMPIA)
ASST REGISTRAR (PA)

(Signature)

(PRABODH PANDEY)
DY REGISTRAR (F&A)

(Signature)

(COL M K SINGH)
REGISTRAR

(Signature)

(PROF RAJIV SHEKHAR)
DIRECTOR





**RECEIPTS AND PAYMENTS ACCOUNT OF G.P.F., C.P.F. AND D.C.P.S. ACCOUNT
FOR THE YEAR ENDED 31st MARCH 2018**

Sl. No.	RECEIPTS	Current Year 2017-18	Previous Year 2016-17
1	O.B: Cash at Bank with SBI,ISM Br, Dhanbad	5,213,367.17	2,892,497.55
2	Interest / Income from Investments	28,268,897.00	19,130,180.00
3	Subscription & loan rec. from GPF members	50,375,157.00	43,559,314.00
4	Subscription & loan rec. from CPF members	7,248,117.00	14,235,300.00
5	Subscription from DCPS members	-	-
6	Matching contribution to CPF members	22,383.00	94,800.00
7	Matching contribution to DCPS members	-	-
8	Investments encashed	205,618,551.00	28,000,000.00
9	Receipt from Plan / Non-Plan A/c	5,043,399.00	0.00
10	Receipt from Project Control A/c(General Res)	-	-
11	TOTAL	301,789,871.17	107,912,091.55
	PAYMENTS		
12	Advances / withdrawals / final payments to GPF members	62,566,177.00	32,144,840.00
13	Advances / withdrawals / final payments to CPF members	4,145,000.00	7,553,109.00
14	Refund/ Transfer from DCPS to NSDL A/c	-	-
15	Investments made during the year	167,000,000.00	63,000,000.00
16	Refund of dues to Non Plan / Plan / Project A/c	67,000,000.00	0.00
17	Interest Paid	-	0.00
18	Bank Charges	173.00	775.38
19	CB: Cash at Bank with SBI,ISM Br.,Dhanbad	1,078,521.17	5,213,367.17
20	TOTAL	301,789,871.17	107,912,091.55

(M N PANDEY)
ASST REGISTRAR (L&B)

(M S CHAMPIA)
ASST REGISTRAR (PA)

(PRABODH PANDEY)
DY REGISTRAR (F&A)

(C O M K SINGH)
REGISTRAR

(PROF RAJIV SHEKHAR)
DIRECTOR





SCHEDULE - XVII: SIGNIFICANT ACCOUNTING POLICIES

17.1 ACCOUNTING CONVENTION:

The financial statements of Plan, Non-Plan and Project have been prepared on the basis of historical cost convention unless otherwise stated and generally on accrual basis of accounting to the extent possible. However, provision for retirement benefits viz. gratuity, leave salary, pension liability etc. has not been made during the year.

17.2 REVENUE RECOGNITION

Fees from students, sale of admission forms, interest on saving bank a/c, Income from land, Building and other property etc., are accounted on realisation basis. The tuition fee is collected on semester basis commencing from July to June. Interests on Investments are accounted on accrual basis. Interests on interest bearing advances are accounted for on receipt basis.

17.3 INVENTORIES VALUATION:

Expenditure on purchase of chemicals, glassware, publications, stationery and other stores is accounted as revenue expenditure.

17.4 INVESTMENTS:

- (a) Investments both long term and short term have been shown at face value / cost.
- (b) No shortfall is expected in the value of investments as the same are to be redeemed by Govt. Institutions at face value.

17.5 FIXED ASSETS AND DEPRECIATION

A. FIXED ASSETS:

- (a) Fixed assets have been stated at cost of acquisition inclusive of inward freight, duties, taxes and incidental/direct expenses related to acquisition to the extent possible.
- (b) Fixed assets received by way of non-monetary grants (other than towards the Corpus Fund) have been capitalised at values stated by corresponding credit to capital fund.
- (c) Expenditure for renovation of buildings has been treated as Capital Expenditure.
- (d) Assets acquired under PDA have been capitalised.
- (e) Capitalisation of assets related to previous year and depreciation thereof directly accounted through capital fund.

B. DEPRECIATION:

Fixed assets are valued at cost less accumulated depreciation. Assets procured at any point of time during the year has been depreciated for the full year. Depreciation on fixed assets is provided on Straight Line Method basis. The depreciation for Project Assets has been debited to the Capitalised fund for Assets Account through which assets were created in the books of accounts.

No depreciation was provided till 2006-07. With the change of accounting system from cash accounting to Accrual accounting, the depreciation was provided for the first time during 2007-08, for all the previous years upto 31st March 2007 by debiting Capital Fund Account. For the purpose of determining the quantum of depreciation for all the previous years, depreciation has been calculated separately on diminishing balance method (written down value) for each item from 1997-98 onwards at the below mentioned rates and at the ad-hoc rates to cover all the years up to and including 1996-97. In order to reflect the assets at face value, the provision for accumulated depreciation has been shown under Previous Liabilities & Provisions.

Methods of charging Depreciation was further revised w.e.f. 1.4.16 as per the Guidelines and prescribed rates of MHRD.

The Depreciation rates and ad hoc rates adopted are as follows:

Sl No	Asset's Name	Ad-hoc rate of Depreciation on Opening Balance as on 01.04.1997	Depreciation rate on yearly basis upto 31.03.2016	Rate of Dep w.e.f 01.04.2016 on Straight Line Method
	Tangible Assets			
1	Land	0%	0%	0%
2	Road & Buildings	25%	10%	2%
3	Tube Well & Water supply equipment	50%	10%	2%
4	Electrical Installation & Equipment	50%	15%	5%
5	Plant & Machinery	50%	15%	5%
6	Scientific & Laboratory Equipment	50%	15%	8%
7	Office Equipment	50%	10%	7.5%



8	Audio Visual Equipment	50%	15%	7.5%
9	Computers & Peripherals	80%	60%	20%
10	Furniture, Fixtures & Fittings	50%	10%	7.5%
11	Vehicles	50%	15%	10%
12	Library Books & Scientific Journals	80%	60%	10%
	Intangible Assets			
13	E Journals	-	40%	40%
14	Computer Software	80%	60%	40%

17.6 GOVERNMENT GRANTS:

- (a) Government grants utilised for acquisition/construction of assets have been capitalised.
- (b) The MHRD grant utilized towards capital expenditure is transferred to the Capital Fund.
- (c) MHRD grants for meeting Revenue Expenditure are treated as income of the year in which they are realised.
- (d) Grants received under OH 35 has been utilised towards construction of buildings and creation of capital assets, grants received under OH 31 and OH 36 is revenue grants which has been utilised for general expenditures, scholarship, fellowship to students, salary, pension and retirement benefits.

17.7 FOREIGN CURRENCY TRANSACTIONS:

Transactions denominated in foreign currency are accounted for at the exchange rate prevailing on the date of the transaction as per Bank advice.

17.8 RETIREMENT BENEFITS:

Retirement benefits are accounted for on cash basis.

17.9 INCOME TAX:

The income of the Institute is exempted from Income Tax under Section 10 (23C) (iii ab) of the Income Tax Act .No provision for tax is therefore made in the accounts.

SCHEDULE - XVIII: CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS**18.1 CONTINGENT LIABILITIES:**

- (a) There were no disputed demands in respect of income tax, sales tax, goods and service tax, municipal taxes, etc. as at the end of the year.
- (b) Some suits were filed against IIT(ISM), by former/ present employees/ students of Institute and were pending for decision in various courts. These cases are related to employees promotions, increments, pay scales, termination, retirement benefits, student related, tenants, as well as arbitration cases with the suppliers. The quantum of the claims are not ascertainable.

18.2 CAPITAL COMMITMENTS

Estimated value of contracts remaining to be executed on Capital Account and not provided for (Net of Advances) amounted to around Rs. 392.00 Crores as on 31.3.2018. The gross value of construction works to be executed through Advance to CPWD is estimated more than Rs. 800 Crores.

18.3 PREVIOUS ASSETS, LOANS & ADVANCES

In the opinion of the Management, the Previous assets, loans and advances have a realisable value in the ordinary course of transactions equal at least to the aggregate amount shown in the Balance Sheet except a few very old balances. The expenditure on renovation/ modification of buildings has been charged to Road & Buildings.

18.4 PAY AND ALLOWANCES:

As a part of implementation of accrual system of accounting the provision for salary of March 2018 and few other expenditures has been made in the books of accounts as on 31.3.2018. No provisions have been made for arrears of pension.

18.5 CONSULTANCY SERVICES:

The accounting system for the consultancy services was changed during the year 2007-08. Up to 2006-07 the amount received and expenditure incurred on consultancy projects were taken into Income & Expenditure Account. From 2007-08 the amount of consultancy has been considered as liability and undisbursed amount has been shown in the Balance sheet. The amount received/ expenditure for new consultancy services and undisbursed amount of old consultancy projects have been taken into Balance Sheet. The receipts/ payments for the consultancy services of previous period has been taken into Capital Fund Account.



- 18.6 Expenditure exceeding availability of fund in a project, if any, was met out of interest from project investments.
- 18.7 Corresponding figures for the previous year have been regrouped / rearranged, wherever necessary and segregated to the extent possible. The variation in the previous year figures of balance sheet is due to reclassification/ segregation of ledger accounts. However, previous year figures of Income & Expenditure A/c and Receipt & Payment accounts have also been regrouped.
- 18.8 As the Provident Fund Accounts and the New Pension Scheme Account are owned by the Members of those funds and not by the Institute, these accounts are prepared separately. However, a Receipt & Payment Account, an Income & Expenditure Account and a Balance Sheet of the same is attached to the Institute's Account.
- 18.9 The surplus funds under Project Accounts were invested in a consolidated manner, and interest income was credited to Non Plan Endowment Fund of the Institute.
- 18.10 Schedule I to XVI are annexed to and form an integral part of the Balance Sheet and the Income & Expenditure Account for the year ended on that date.
- 18.11 Receipt & Payment has been made with the help of computerised schedules.

(M N PANDEY)
ASST REGISTRAR (L&B)

(M S CHAMPIA)
ASST REGISTRAR (PA)

(PRABODH PANDEY)
DY REGISTRAR (F&A)

(COL M K SINGH)
REGISTRAR

(PROF RAJIV SHEKHAR)
DIRECTOR





STATEMENT OF OUTSTANDING LETTERS OF CREDIT (LC) FOR THE F.Y. 2017-18

S. No.	Purchase order No.	Total Purchase Value	Name & Place of foreign supplier	Date	F.Y.	Outstanding as on 31/03/2018	Outstanding as on 31/03/2017	Bank
Plan :								
1	CRF/532014/14-15	USD 48285.00	M/s Micromeritics Corporation, Instrument Sales Department, 4356 Communications Drive Norcross, GA 30093, USA.	26.02.2016	2015-16	-	USD 4828.50	SBI, ISM Br., Dhn
2	AGP/501006/14-15	GBP 18661.50	M/s, Robertson Geologging Ltd Deganwy, Conwy LL31 9PX, United Kingdom.	26.07.2016	2016-17	-	GBP 1866.15	SBI, ISM Br., Dhn
3	M/501027/15-16	CHF 133840.80	M/s Kuhn AG, Dinkelbergstr 1, CH-4127 Birsfelden, Switzerland.	17.03.2017	2016-17	CHF 13384.08	CHF 13384.08	SBI, ISM Br., Dhn
4	MME/500027/16-17	EURO 15521.40	M/s BRUEL & KJAER, Sound & Vibration Measurement, AVS DK - 2850, Neerum DENMARK.	29.03.2017	2016-17	EURO 1552.14	EURO 1552.14	SBI, ISM Br., Dhn
5	CRF/532005/13-14	USD 361782	Rigaku Americas Corporation, 9009 New Trails Drive The Woodlands, TX 77381, USA.	05.04.2016	2016-17	-	EURO 36178.20	SBI, ISM Br., Dhn
6	AGL/500432/16-17	JPY 209813.00	M/s, Olympus Corporation, Shinjuku, Monolith, 3-1, Nishi- Shinjuku 2-Chome, Shinjuku-ku, Tokyo, 163-0914, Japan.	11.08.2017	2017-18	JPY 20981.30	-	SBI, ISM Br., Dhn
7	Chemical/500227/16-17	JPY 4397100.00	M/s, Microtrac BEL Corp. 1-9-1, Haradanaka, Toyonaka-Shi, Osaka, Japan -561 0807.		2017-18	JPY 439710.00	-	SBI, ISM Br., Dhn
Project:								
8	528/AGP/504011/15-16	USD 21000.00	M/s Porous Materials, Inc. 20 Dutch Mill Road Ithaca, NY 14850 USA	13.04.2016	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
9	510/14-15/PE/502015/15-16	USD 36000.00	M/s Porous Materials, Inc. 20 Dutch Mill Road Ithaca, NY 14850 USA	18.05.2016	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
10	118/AGL/500010/16-17	JPY 795270.00	M/s Nikon Corporation Shinagawa Intercity Tower C, 2-15-3, Konan, Minato-Ku Tokyo 108-6290 Japan	02.08.2016	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
11	234/IMP/APP PHY/505040/15-16	USD 17255.00	M/s Cyro Industries of America, Inc. 11124 S. Willow Street Manchester, NH 03103, USA	20.01.2017	2016-17	Not Adjusted	Not Adjusted	Canara Bank, Sdl, Dhn



12	213/IPE/502011/15-16	USD 42334.00	M/s Porous Materials, Inc. 20 Dutch Mill Road Ithaca, NY 14850 USA	03.10.2016	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
13	223/MECH/537023/15-16	EURO 66910.00	M/s Bruel & Kjaer Sound & Vibration Measurement A/S Skodsborgvej 307 DK-2850 Maerum Denmark	17.10.2016	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
14	284/16-17/M/501021/15-16	EURO 75450.00	M/s Hot Disk AB Sven Hultinsgata 9A Chalmers Science Park SE-412 88 Gothenburg, Sweden	15.12.2016	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
15	348/IMP/ESE/500239/16-17	USD 24280.00	M/s Life Technologies Holdings Pte Ltd 33 Marsiling Industrial Estate Road 3, #07-06, Singapore 739256	16.03.2017	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
16	336/IMP/MECH ENGG/ 500130/ 16-17	USD 22346.00	M/s Spectra Quest, Inc. 8227 Hermitage Road, Richmond, VA 23228 USA	23.03.2017	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
17	370/IPE/500250/16-17	USD 36400.00	M/s Porous Materials, Inc. 20 Dutch Mill Road Ithaca, NY 14850 USA	31.03.2017	2016-17	-	Not Adjusted	Canara Bank, Sdl, Dhn
18	M-501014-15-16	USD 6899.00	M/s Instantel 309 Legget Drive, Ottawa, Ontario, Canada K2K 3A3	05.09.2016	2016-17	Not Adjusted	Not Adjusted	Canara Bank, Sdl, Dhn
19	198/AGP/500002/17-18	CAD 21695.00	M/s GEM systems, Inc. 135 Spy Court Markham, ON Canada L3R 5H6	12.10.2017	2017-18	Not Adjusted	-	Canara Bank, Sdl, Dhn
20	279/App Chem/ 500233/ 17-18	YEN 1335000.00	M/s Techcomp (Maco Commercial Offshore) Limited, EM Macau, RUA DE PEQUIM NOS 202A-246	19.12.2017	2017-18	Not Adjusted	-	Canara Bank, Sdl, Dhn
21	Mech/500220/16-17	EURO 4900.00	M/s Smart Material GMBH Lobtau Str. 69 01159 Dresden Germany	17.03.2018	2017-18	Not Adjusted	-	Canara Bank, Sdl, Dhn

STATEMENT OF BANK GUARANTEE UNDER PROJECT A/C OPENED WITH CANARA BANK SARAIHELIA BRANCH, DHANBAD

Sl. No.	Issued To	Total Contract Value	Bank Guarantee Value	Date of Issue	Expiry date	Issuing bank
1	CMPDI Limited	50,370,000.00	5,037,000.00	3-Apr-17	28-Feb-18	Canara Bank



SCHEDULES: INVESTMENTS FOR THE F Y 2017-18

A. PLAN :

Sl No.	FDR No, Name of Bank & Branch	Date of Investments	Date of Maturity	Face Value (Rs)	Rate of Interest	Interest Amount (Rs)	Maturity Value (Rs)	Accrued Interest on 31.03.2018
1	SBI, Main Branch, Dhanbad 3563578254	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
2	SBI, Main Branch, Dhanbad 35635738389	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
3	SBI, Main Branch, Dhanbad 35635738061	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
4	SBI, Main Branch, Dhanbad 356357 37668	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
5	SBI, Main Branch, Dhanbad 356357 37352	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
6	SBI, Main Branch, Dhanbad 35635736993	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
7	SBI, Main Branch, Dhanbad 35635736675	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
8	SBI, Main Branch, Dhanbad 35635736529	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
9	SBI, Main Branch, Dhanbad 35635736438	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
10	SBI, Main Branch, Dhanbad 35635735678	3/15/2016	3/9/2019	5,000,000.00	7.50%	1,243,226.00	6,243,226.00	8,00,000.00
11	SBI, ISM Campus Br Acct No 37049947407	7/29/2017	10/28/2017	9,000,000.00	6.50%	143,979.00	9,143,979.00	4,14,000.00
12	SBI, ISM Campus Br Acct No 37049947702	7/29/2017	10/28/2017	9,000,000.00	6.50%	143,979.00	9,143,979.00	4,14,000.00
13	SBI, ISM Campus Br Acct No 37263433941	10/27/2017	12/12/2017	9,000,000.00	6.50%	73,726.00	9,073,726.00	2,47,500.00
14	SBI, ISM Campus Br Acct No 37263491314	10/27/2017	12/12/2017	9,000,000.00	6.50%	73,726.00	9,073,726.00	2,47,500.00
15	SBI, ISM Campus Br Acct No 37263492329	10/27/2017	12/12/2017	9,000,000.00	6.50%	73,726.00	9,073,726.00	2,47,500.00
16	SBI, ISM Campus Br Acct No 37263495499	10/27/2017	12/12/2017	9,000,000.00	6.50%	73,726.00	9,073,726.00	2,47,500.00
17	SBI, ISM Campus Br Acct No 37263501764	10/27/2017	12/12/2017	9,000,000.00	6.50%	73,726.00	9,073,726.00	2,47,500.00
18	SBI, ISM Campus Br Acct No 37263502791	10/27/2017	12/12/2017	9,000,000.00	6.50%	73,726.00	9,073,726.00	2,47,500.00
19	SBI, ISM Campus Br Acct No 37263512608	10/27/2017	12/12/2017	9,000,000.00	6.50%	73,726.00	9,073,726.00	2,47,500.00
20	SBI, ISM Campus Br Acct No 37263513770	10/27/2017	12/12/2017	9,000,000.00	6.50%	97,767.00	9,097,767.00	2,47,500.00
21	SBI, ISM Campus Br Acct No 37263514377	10/27/2017	12/12/2017	9,000,000.00	6.50%	97,767.00	9,097,767.00	2,47,500.00
22	SBI, ISM Campus Br Acct No 37263542112	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00
23	SBI, ISM Campus Br Acct No 37263542848	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00
24	SBI, ISM Campus Br Acct No 37263544164	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00
25	SBI, ISM Campus Br Acct No 37263545055	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00



26	SBI, ISM Campus Br Acct No 37263546070	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00
27	SBI, ISM Campus Br Acct No 37263546933	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00
28	SBI, ISM Campus Br Acct No 37263547868	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00
29	SBI, ISM Campus Br Acct No 37263548545	10/27/2017	1/26/2018	9,000,000.00	6.50%	145,582.00	9,145,582.00	2,47,500.00
	Total PLAN Investments as on 31.03.2018			221,000,000.00				

B. NON PLAN

Sl No.	FDR No, Name of Bank & Branch	Date of Investments	Date of Maturity	Face Value (Rs)	Rate of Interest	Interest Amount (Rs)	Maturity Value (Rs)	Interest Accrued as on 31.03.18
1	Canara Bank SDL Branch0986413000162/1	10/23/2015	4/30/2017	2,800,055.00	7.85%	351,381.00	3,151,436.00	5,88,011.55
2	SBI,ISM CAMPUS Br.Acct.no.37039963168	7/25/2017	10/24/2017	7,500,000.00	6.50%	119,983.00	7,619,983.00	3,37,500.00
3	SBI,ISM CAMPUS Br.Acct.no.37039963420	7/25/2017	10/24/2017	7,500,000.00	6.50%	119,983.00	7,619,983.00	3,37,500.00
4	SBI,ISM CAMPUS Br.Acct.no.37039963770	7/25/2017	10/24/2017	7,500,000.00	6.50%	119,983.00	7,619,983.00	3,37,500.00
5	SBI,ISM CAMPUS Br.Acct.no.37039964040	7/25/2017	10/24/2017	7,500,000.00	6.50%	119,983.00	7,619,983.00	3,37,500.00
6	SBI,ISM CAMPUS Br.Acct.no.37039964402	7/25/2017	10/24/2017	7,500,000.00	6.50%	119,983.00	7,619,983.00	3,37,500.00
7	SBI, ISM Campus Br Acct No 37050032315	7/29/2017	10/28/2017	7,500,000.00	6.50%	119,983.00	7,619,983.00	3,37,500.00
8	SBI, ISM Campus Br Acct No 37346669248	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
9	SBI, ISM Campus Br Acct No 37346669599	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
10	SBI, ISM Campus Br Acct No 37346669974	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
11	SBI, ISM Campus Br Acct No 37346670344	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
12	SBI, ISM Campus Br Acct No 37346670649	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
13	SBI, ISM Campus Br Acct No 37346676448	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
14	SBI, ISM Campus Br Acct No 37346676709	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
15	SBI, ISM Campus Br Acct No 37346677044	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
16	SBI, ISM Campus Br Acct No 37346677328	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
17	SBI, ISM Campus Br Acct No 37346677511	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
18	SBI, ISM Campus Br Acct No 37346677929	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
19	SBI, ISM Campus Br Acct No 37346678173	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
20	SBI, ISM Campus Br Acct No 37346678548	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
21	SBI, ISM Campus Br Acct No 37346678785	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00



22	SBI, ISM Campus Br Acct No 37346679121	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
23	SBI, ISM Campus Br Acct No 37346679450	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
24	SBI, ISM Campus Br Acct No 37346679788	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
25	SBI, ISM Campus Br Acct No 37346679982	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
26	SBI, ISM Campus Br Acct No 37346680104	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
27	SBI, ISM Campus Br Acct No 37346680433	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
28	SBI, ISM Campus Br Acct No 37346680659	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
29	SBI, ISM Campus Br Acct No 37346681028	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
30	SBI, ISM Campus Br Acct No 37346681357	12/6/2017	3/7/2018	7,500,000.00	6.25%	118,472.00	7,618,472.00	1,50,000.00
31	SBI, ISM Campus Br Acct No 37570360287	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
32	SBI, ISM Campus Br Acct No 37570370841	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
33	SBI, ISM Campus Br Acct No 37570390879	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
34	SBI, ISM Campus Br Acct No 37570391294	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
35	SBI, ISM Campus Br Acct No 37570391691	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
36	SBI, ISM Campus Br Acct No 37570377790	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
37	SBI, ISM Campus Br Acct No 37570378692	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
38	SBI, ISM Campus Br Acct No 37570380952	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
39	SBI, ISM Campus Br Acct No 37570386422	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
40	SBI, ISM Campus Br Acct No 37570386749	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
41	SBI, ISM Campus Br Acct No 37570387108	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
42	SBI, ISM Campus Br Acct No 37570387370	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
43	SBI, ISM Campus Br Acct No 37570387743	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
44	SBI, ISM Campus Br Acct No 37570388135	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
45	SBI, ISM Campus Br Acct No 37570388634	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
46	SBI, ISM Campus Br Acct No 37570389014	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
47	SBI, ISM Campus Br Acct No 37570389343	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
48	SBI, ISM Campus Br Acct No 37570389751	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
49	SBI, ISM Campus Br Acct No 37570390165	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
50	SBI, ISM Campus Br Acct No 37570392129	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
51	SBI, ISM Campus Br Acct No 37570392447	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
52	SBI, ISM Campus Br Acct No 37570392946	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00



53	SBI, ISM Campus Br Acct No 37570393279	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
54	SBI, ISM Campus Br Acct No 37570394080	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
55	SBI, ISM Campus Br Acct No 37570395346	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
56	SBI, ISM Campus Br Acct No 37570395674	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
57	SBI, ISM Campus Br Acct No 37570396190	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
58	SBI, ISM Campus Br Acct No 37570397274	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
59	SBI, ISM Campus Br Acct No 37570397864	3/3/2018	4/18/2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
60	SBI, ISM Campus Br Acct No 37597460805	17.03.2018	02.05.2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
61	SBI, ISM Campus Br Acct No 37597484645	17.03.2018	02.05.2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
62	SBI, ISM Campus Br Acct No 37597484930	17.03.2018	02.05.2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
63	SBI, ISM Campus Br Acct No 37597485208	17.03.2018	02.05.2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
64	SBI, ISM Campus Br Acct No 37601486584	19.03.2018	04.05.2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
65	SBI, ISM Campus Br Acct No 37601472355	19.03.2018	04.05.2018	10,000,000.00	6.70%	84,438.00	10,084,438.00	50,000.00
Total Non Plan (GIA) Investments as on 31.03.2018				570,300,055.00				

C. SCHOLARSHIPS

Sl No	Name of Bank/Branch Account No.	Effect. Date & FDR/TDR No.	Maturity Dt. & Period of Deposit	Principal (Rs.)	Intt. Rate %	Interest (Rs.)	Maturity Value (Rs.)	Accrued Interest as on 31.03.2018
1.00	ISS Scholarship Fund Investment:							
1.01	Canara Bank, SDL 0986401005635/1	27.04.2017	27.04.2019	2,70,866.00	6.90	Maturity	3,10,581.00	17,552.12
1.02	Canara Bank, SDL 0986413000167/1	30.10.2015	07.05.2017	67,126.00	7.85	Maturity	75,550.00	13,874.94
	Total			3,37,992.00				
2.00	ISM Basant Scholarship fund Investment:							
2.01	Canara Bank, SDL 0986413000061/2	27.04.2017	27.04.2019	1,24,167.00	6.90	Maturity	1,42,373.00	8,046.02
3.00	V.M.Saigaocar Memorial Scholarship Fund Investment:							
3.01	SBI, ISM Campus Br, 33985549818	19.6.17	19.6.2020	1,25,000.00	8.75	Yearly Intt.	1,25,000.00	8,387.50
4.00	Budhwanti Mrig Memorial Scholarship fund Investment							



4.01	Canara Bank, SDL 0986401005639/1	27.04.2017	27.04.2019	79,63,512.00	6.90	Maturity	91,31,167.00	5,16,035.58
4.02	Canara Bank, SDL 0986413000167/1	30.10.2015	07.05.2017	2,282.00	7.85	Maturity	2,569.00	471.69
	Total			79,65,794.00				
5.00	J M Dhawan Memorial Sch. Ship fund investment							
5.01	Canara Bank, SDL 0986401005640/1	27.06.17	27.04.2019	1,24,167.00	6.90	Maturity	1,42,373.00	6,531.18
6.00	ISM ALUMNI ASSOCIATION:							
6.01	Bank of India, ISM Branch, 587243710000026	06-04-16	6.4.19	20,00,000.00	7.30	46,250.00 Qtrly (Non-Plan)	20,00,000.00	3,11,400.00
7.00	Ishan Ranbanshi Merit Scholarship							
7.01	Canara Bank, SDL, ISHAN RAJBANSHI MERIT SCHOLARSHIP 0986413000031/3	26.02.2017	04.09.2018	7,42,614.00	6.95	MATURITY	8,24,652.00	57,552.59
	Total Non Plan Scholarship Fund Investments as on 31.03.2018			114,19,734.00				

D. ENDOWMENT FUND

Sl No.	FDR No, Name of Bank & Branch	Date of Investments	Date of Maturity	Face Value (Rs)	Rate of Interest	Interest Amount (Rs)	Maturity Value (Rs)	Accrued Interest as on 31.03.2018
1	Investments maturing during the F. Y. 2017-18 :-							
1.01	SBI, ISM Campus Branch 36506175629	27.01.2017	26.01.2018	8,050,736.00	7.00%	578,111.00	8,628,847.00	6,79,482.12
1.02	SBI, ISM Campus Branch 36506181962	27.01.2017	26.01.2018	8,050,736.00	7.00%	578,111.00	8,628,847.00	6,79,482.12
1.03	SBI, ISM Campus Branch 36506185151	27.01.2017	26.01.2018	8,050,736.00	7.00%	578,111.00	8,628,847.00	6,79,482.12
1.04	SBI, ISM Campus Branch 36506152945	27.01.2017	26.01.2018	8,050,736.00	7.00%	578,111.00	8,628,847.00	6,79,482.12
1.05	SBI, ISM Campus Branch 36506191426	27.01.2017	26.01.2018	8,050,736.00	7.00%	578,111.00	8,628,847.00	6,79,482.12
1.06	SBI, ISM Campus Branch 36506191890	27.01.2017	26.01.2018	8,050,736.00	7.00%	578,111.00	8,628,847.00	6,79,482.12
				48,304,416.00				



Investments maturing during the F. Y.2018-19 :-

2		31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.01	Central Bank, Bank More 3562414649231536	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.02	Central Bank, Bank More 3562419511231537	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.03	Central Bank, Bank More 3562415970231538	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.04	Central Bank, Bank More 3562416065231539	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.05	Central Bank, Bank More 3562416350231540	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.06	Central Bank, Bank More 3562416441231541	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.07	Central Bank, Bank More 3562416939231532	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.08	Central Bank, Bank More 3562417081231543	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.09	Central Bank, Bank More 3562417547231544	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.1	Central Bank, Bank More 3562417659231545	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.11	Central Bank, Bank More 3562418165231546	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.12	Central Bank, Bank More 3562418245231547	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.13	Central Bank, Bank More 3562418744231548	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.14	Central Bank, Bank More 3562418766231549	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
2.15	Central Bank, Bank More 3562418846231550	31.10.2016	17.10.2018	7,600,000.00	7.55%	1,312,153.00	8,912,153.00	8,49,680.00
				114,000,000.00				

3	Investments maturing during the F. Y.2019-20 :-								
3.01	SBI, SPL Br, Bank More 36228331370	03.11.2016	03.10.2019	5,000,000.00	7.00%	1,122,091.00	6,122,091.00		5,16,500.00
3.02	SBI, SPL Br, Bank More 36228354434	03.11.2016	03.10.2019	5,000,000.00	7.00%	1,122,091.00	6,122,091.00		5,16,500.00
3.03	SBI, SPL Br, Bank More 36228352120	03.11.2016	03.10.2019	5,000,000.00	7.00%	1,122,091.00	6,122,091.00		5,16,500.00
3.04	SBI, SPL Br, Bank More 36228351692	03.11.2016	03.10.2019	5,000,000.00	7.00%	1,122,091.00	6,122,091.00		5,16,500.00
3.05	SBI, SPL Br, Bank More 36228351397	03.11.2016	03.10.2019	5,000,000.00	7.00%	1,122,091.00	6,122,091.00		5,16,500.00
3.06	SBI, SPL Br, Bank More 36228346149	03.11.2016	03.10.2019	5,000,000.00	7.00%	1,122,091.00	6,122,091.00		5,16,500.00
3.07	SBI, SPL Br, Bank More 36228345725	03.11.2016	03.10.2019	5,000,000.00	7.00%	1,122,091.00	6,122,091.00		5,16,500.00
3.08	Central Bank, Bartand 3648881707	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
3.09	Central Bank, Bartand 3648888792	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
3.1	Central Bank, Bartand 3648889514	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
3.11	Central Bank, Bartand 3648889820	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
3.12	Central Bank, Bartand 3648889853	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
3.13	Central Bank, Bartand 3648889977	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
3.14	Central Bank, Bartand 3648890427	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
3.15	Central Bank, Bartand 3648901032	07.12.2017	07.11.2019	6,400,000.00	6.60%	855,975.00	7,255,975.00		1,41,440.00
				86,200,000.00					
	Total Endowment Fund Investments as on 31.03.2018			248,504,416.00					



E. PROJECTS

Sl No	Name of Bank/Branch Account No.	FDR/TDR No. & Effect. Dt.	Maturity Dt. & Period of Deposit	Principal (Rs.)	Intt. Rate %	Interest (Rs.)	Maturity Value (Rs.)	Accrued Interest as on 31.03.2018
1	Investments maturing during the F. Y. 2017-18 :-							
1.01	CanBank SDL Br. Dhanbad	0986401002923/1 25.03.2013	25.03.2018 (05 yrs)	10,411,681.00	9.05	Maturity - Pledged	16,327,160.00	59,98,169.42
	<i>Sub-total</i>			10,411,681.00				
2	Investments maturing during the F. Y. 2018-19 :-							
2.01	Canbank, SDL Branch Dhanbad	TATA STEEL CHAIR 0986303000127/1 dated 25.10.2016	24.10.2018 729 days	3,000,000.00	7.50	449,846.00	3,449,846.00	37,500.00
2.02	Canbank, SDL Branch Dhanbad	ONGC AMN GHOSH 0986303000127/2 dated 25.10.2016	24.10.2018 729 days	1,200,000.00	7.50	179,938.00	1,379,938.00	15,000.00
2.03	Canbank, SDL Branch Dhanbad	0986303000129/1 dated 28.11.2016	28.11.2018 730 days	5,000,000.00	7.35	735,000.00	5,735,000.00	30,625.00
2.04	Canbank, SDL Branch Dhanbad	0986303000129/2 dated 28.11.2016	28.11.2018 730 days	5,000,000.00	7.35	735,000.00	5,735,000.00	30,625.00
2.05	Canbank, SDL Branch Dhanbad	0986401005622/1 dated 07.04.2017	07.04.2018 365 days	5,037,000.00	6.90	356,650.00	5,393,650.00	3,56,619.60
2.06	Bank of India, ISM Branch Dhanbad	5872437100000023 DT 14.4.17	14.4.18 365 DAYS	500,000.00	6.90	11,375.00 Qtrly Late Bhaskar Bhattacharya	500,000.00	7,583.33
2.07	Bank of India, ISM Branch Dhanbad	5872437100000025 DT 14.4.17	14.4.18 365 DAYS	300,000.00	6.90	6,825.00 Qtrly Smt. Renuka Rajhans	300,000.00	4,550.00
2.08	Allahabad Bank, Dhanbad	50396968422 DT 12.7.17	12.7.18 1 yr NAAM INV	500,000.00	6.75	Quarterly Interest 1 yr NAAM INV	500,000.00	22,500.00
2.09	Canbank, SDL Branch Dhanbad	0986359000001/5 DT 30.5.17	06.12.2018555 DAYS	5,672,433.00	6.85	Quarterly Interest CIL CHAIR IN UNDERGROUND MINING	5,672,433.00	32,380.00



2.10	Canbank, SDL Branch Dhanbad	0986359000001/5 DT 30.5.17	06.12.2018 555 DAYS	5,636,346.00	6.85	Quarterly Interest CIL CHAIR IN UNDERGROUND MINING	5,636,346.00	32,174.00
2.11	Canbank, SDL Branch Dhanbad	0986359000002/6 DT 30.5.17	06.12.2018 555 DAYS	1,255,183.00	6.85	Quarterly Interest SAIL NMDC CHAIR	1,255,183.00	7,165.00
2.12	Canbank, SDL Branch Dhanbad	09863590000012/3 DT 03.6.17	10.12.2018 555 DAYS	4,040,034.00	6.85	Quarterly Interest RAJIV GANDHI CHAIR IN MINE ENVIRONMENT	4,040,034.00	23,061.86
2.13	Canbank, SDL Branch Dhanbad	09863590000012/4 DT 03.6.17	10.12.2018 555 DAYS	8,021,699.00	6.85	Quarterly InterestRAJIV GANDHI CHAIR IN MINE ENVIRONMENT	8,021,699.00	45,790.53
2.14	Canbank, SDL Branch Dhanbad	09863590000002/5 DT 30.5.17	06.12.2018 555 DAYS	7,907,640.00	6.85	Quarterly Interest SAIL NMDC CHAIR	7,907,640.00	90,278.89
2.15	Canbank, SDL Branch Dhanbad	09863590000015/2 DT 05.07.17	11.01.2019 555 DAYS	5,161,513.00	6.70	Quarterly Interest ONGC AMN GHOSH CHAIR	5,161,513.00	28,818.45
2.16	Canbank, SDL Branch Dhanbad	09863590000016/2 DT 06.07.17	12.01.2019 555 DAYS	6,059,765.00	6.70	Quarterly Interest SAIL NMDC CHAIR	6,059,765.00	33,833.69
2.17	Canbank, SDL Branch Dhanbad	09864130000064/19 DT 24.6.17	31.12.2018 555 DAYS	9,889,851.00	6.85	1,076,091.00	10,965,942.00	5,17,239.21
2.18	Canbank, SDL Branch Dhanbad	09864130000064/18 DT 24.6.17	31.12.2018 555 DAYS	6,920,960.00	6.85	753,053.00	7,674,013.00	3,61,986.21
2.19	Canbank, SDL Branch Dhanbad	09864130000064/20 DT 24.6.17	31.12.2018 555 DAYS	6,920,960.00	6.85	753,053.00	7,674,013.00	3,61,986.21
2.20	Canbank, SDL Branch Dhanbad	09864130000171/2 DT 3.6.17	10.12.2018 555 DAYS	4,345,926.00	6.85	472,870.00	4,818,796.00	2,53,367.49
2.21	Canbank, SDL Branch Dhanbad	09864130000170/16 DT 18.5.17	24.11.2018 555 DAYS	4,054,687.00	6.85	441,167.00	4,495,854.00	2,60,716.37
2.22	Canbank, SDL Branch Dhanbad	09863070000079/3 DT 9.7.17	06.01.2018 181 DAYS	8,257,863.00	6.35	260,032.00	8,517,895.00	3,99,680.57
2.23	Canbank, SDL Branch Dhanbad	0986401005353/8 DT 19.5.17	19.05.2018 12 MONTHS	9,694,222.00	6.90	686,408.00	10,380,630.00	6,28,185.59
2.24	Canbank, SDL Branch Dhanbad	0986401005353/7 DT 19.5.17	19.05.2018 12 MONTHS	9,694,222.00	6.90	686,408.00	10,380,630.00	6,28,185.59
2.25	Canbank, SDL Branch Dhanbad	0986401005353/6 DT 19.5.17	19.05.2018 12 MONTHS	9,694,222.00	6.90	686,408.00	10,380,630.00	6,28,185.59



2.26	Canbank, SDL Branch Dhanbad	0986401005353/5 DT 19.5.17	19.05.2018 12 MONTHS	9,694,222.00	6.90	686,408.00	10,380,630.00	6,28,185.59
2.27	Canbank, SDL Branch Dhanbad	0986413000170/9 DT 18.5.17	24.11.18 555 DAYS	8,976,989.00	6.85	976,735.00	9,953,724.00	5,77,220.39
2.28	Canbank, SDL Branch Dhanbad	0986413000170/10 DT 18.5.17	24.11.18 555 DAYS	8,976,989.00	6.85	976,735.00	9,953,724.00	5,77,220.39
2.29	Canbank, SDL Branch Dhanbad	0986413000170/11 DT 18.5.17	24.11.18 555 DAYS	8,976,989.00	6.85	976,735.00	9,953,724.00	5,77,220.39
2.30	Canbank, SDL Branch Dhanbad	0986413000170/12 DT 18.5.17	24.11.18 555 DAYS	8,976,989.00	6.85	976,735.00	9,953,724.00	5,77,220.39
2.31	Canbank, SDL Branch Dhanbad	0986413000170/13 DT 18.5.17	24.11.18 555 DAYS	8,976,989.00	6.85	976,735.00	9,953,724.00	5,77,220.39
2.32	Canbank, SDL Branch Dhanbad	0986413000170/14 DT 18.5.17	24.11.18 555 DAYS	8,976,989.00	6.85	976,735.00	9,953,724.00	5,77,220.39
2.33	Canbank, SDL Branch Dhanbad	0986413000170/15 DT 18.5.17	24.11.18 555 DAYS	8,976,989.00	6.85	976,735.00	9,953,724.00	5,77,220.39
2.34	Canbank, SDL Branch Dhanbad	0986401004762/4 DT 13.6.17	13.06.18 12 MONTHS	306,665.00	6.90	21,713.00	328,378.00	18,001.24
2.35	Canbank, SDL Branch Dhanbad	0986401005774/1 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.36	Canbank, SDL Branch Dhanbad	0986401005774/2 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.37	Canbank, SDL Branch Dhanbad	0986401005774/3 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.38	Canbank, SDL Branch Dhanbad	0986401005774/4 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.39	Canbank, SDL Branch Dhanbad	0986401005774/5 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.40	Canbank, SDL Branch Dhanbad	0986401005774/6 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.41	Canbank, SDL Branch Dhanbad	0986401005774/7 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.42	Canbank, SDL Branch Dhanbad	0986401005774/8 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.43	Canbank, SDL Branch Dhanbad	0986401005774/9 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.44	Canbank, SDL Branch Dhanbad	0986401005774/10 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.45	Canbank, SDL Branch Dhanbad	0986401005774/11 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00



2.46	Canbank, SDL Branch Dhanbad	0986401005774/12 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.47	Canbank, SDL Branch Dhanbad	0986401005774/13 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.48	Canbank, SDL Branch Dhanbad	0986401005774/14 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.49	Canbank, SDL Branch Dhanbad	0986401005774/15 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.50	Canbank, SDL Branch Dhanbad	0986401005774/16 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.51	Canbank, SDL Branch Dhanbad	0986401005774/17 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.52	Canbank, SDL Branch Dhanbad	0986401005774/18 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.53	Canbank, SDL Branch Dhanbad	0986401005774/19 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.54	Canbank, SDL Branch Dhanbad	0986401005774/20 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.55	Canbank, SDL Branch Dhanbad	0986401005774/21 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.56	Canbank, SDL Branch Dhanbad	0986401005774/22 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.57	Canbank, SDL Branch Dhanbad	0986401005774/23 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.58	Canbank, SDL Branch Dhanbad	0986401005774/24 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.59	Canbank, SDL Branch Dhanbad	0986401005774/25 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.60	Canbank, SDL Branch Dhanbad	0986401005774/26 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.61	Canbank, SDL Branch Dhanbad	0986401005774/27 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.62	Canbank, SDL Branch Dhanbad	0986401005774/28 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.63	Canbank, SDL Branch Dhanbad	0986401005774/29 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.64	Canbank, SDL Branch Dhanbad	0986401005774/30 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.65	Canbank, SDL Branch Dhanbad	0986401005774/31 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00



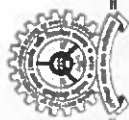
2.66	Canbank, SDL Branch Dhanbad	0986401005774/32 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.67	Canbank, SDL Branch Dhanbad	0986401005774/33 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.68	Canbank, SDL Branch Dhanbad	0986401005774/34 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.69	Canbank, SDL Branch Dhanbad	0986401005774/35 DT 18.10.17	18.10.1812 MONTHS	8,000,000.00	6.50	532,813.00	8,532,813.00	2,18,400.00
2.70	Bank of India, ISM Campus Branch	587243710000074 dated 26.10.2017	26.01.2019	5,500,000.00	6.60	Qtrly interest Rajeev G Chair	5,500,000.00	60,500.00
2.71	Bank of India, ISM Campus Branch	587243710000075 dated 26.10.2017	26.01.2019	5,000,000.00	6.60	Qtrly interest Rajeev G Chair	5,000,000.00	55,000.00
2.72	Bank of India, ISM Campus Branch	587243710000076 dated 26.10.2017	26.10.2018	6,000,000.00	6.60	Qtrly interest CIL Chair	6,000,000.00	66,000.00
2.73	Canara Bank SDL Branch Dhanbad	09863070000537 dt 18.10.2017 SAIL NMDC CHAIR	17.04.2018 181 DAYS	1,466,493.00	6.35	47,178.00	1,513,671.00	23,280.58
2.74	Canara Bank SDL Branch Dhanbad	0986307000084/12 dt 05.10.2017	04.04.2018 181 DAYS	8,257,863.00	6.35	260,032.00	8,517,895.00	2,64,251.62
2.75	Canara Bank SDL Branch Dhanbad	0986307000084/13 dt 05.10.2017	04.04.2018 181 DAYS	8,257,863.00	6.35	260,032.00	8,517,895.00	2,64,251.62
2.76	Canara Bank SDL Branch Dhanbad	0986307000084/14 dt 05.10.2017	04.04.2018 181 DAYS	8,257,863.00	6.35	260,032.00	8,517,895.00	2,64,251.62
2.77	Canara Bank SDL Branch Dhanbad	986359000020/2 dt 5.8.17 Sandvik Chair	11.2.2019 555 DAYS	4,584,641.00	6.45	449,640.00	5,034,281.00	49,284.89
2.78	Canara Bank SDL Branch Dhanbad	0986413000198/2 DT 21.09.2017 Chitra Bhattacharya Memo Fund	30.03.2019 555 DAYS	333,908.00	6.35	33,573.00	367,481.00	10,685.06
2.79	Canara Bank SDL Branch Dhanbad	0986303000145/1 dt 08.12.2017 Snehlata Srivastava Memo Fund	08.12.2019 12 Months	299,383.00	6.50	19,460.00	318,843.00	6,526.55
2.80	Canara Bank SDL Branch Dhanbad	0986307000087/16 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.81	Canara Bank SDL Branch Dhanbad	0986307000087/17dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.82	Canara Bank SDL Branch Dhanbad	0986307000087/18 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.83	Canara Bank SDL Branch Dhanbad	0986307000087/19 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48



2.84	Canara Bank SDL Branch Dhanbad	0986307000087/20 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.85	Canara Bank SDL Branch Dhanbad	0986307000087/21 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.86	Canara Bank SDL Branch Dhanbad	0986307000087/22 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.87	Canara Bank SDL Branch Dhanbad	0986307000087/23 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.88	Canara Bank SDL Branch Dhanbad	0986307000087/24 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.89	Canara Bank SDL Branch Dhanbad	0986307000087/25 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.90	Canara Bank SDL Branch Dhanbad	0986307000087/26 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.91	Canara Bank SDL Branch Dhanbad	0986307000087/27 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.92	Canara Bank SDL Branch Dhanbad	0986307000087/28 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.93	Canara Bank SDL Branch Dhanbad	0986307000087/29 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.94	Canara Bank SDL Branch Dhanbad	0986307000087/30 dt. 26.11.2017	26.05.2018 181 days	8,257,863.00	6.35	260,032.00	8,517,895.00	1,75,892.48
2.95	Canara Bank SDL Branch Dhanbad	0986307000089/16 dt 31.12.2017	30.06.2018 181 days	8,251,912.00	6.35	259,845.00	8,511,757.00	1,31,205.40
2.96	Canara Bank SDL Branch Dhanbad	0986307000089/17 dt 31.12.2017	30.06.2018 181 days	8,251,912.00	6.35	259,845.00	8,511,757.00	1,31,205.40
2.97	Canara Bank SDL Branch Dhanbad	0986307000089/18 dt 31.12.2017	30.06.2018 181 days	8,251,912.00	6.35	259,845.00	8,511,757.00	1,31,205.40
2.98	SBI, ISM Campus Br	37597485605 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00
2.99	SBI, ISM Campus Br	37597485901 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00
2.100	SBI, ISM Campus Br	37597486937 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00
2.101	SBI, ISM Campus Br	37597487125 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00
2.102	SBI, ISM Campus Br	37597487512 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00
2.103	SBI, ISM Campus Br	37597488640 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00



2.104	SBI, ISM Campus Br	37597489075 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00
2.105	SBI, ISM Campus Br	37597489609 DT 17.03.2018	14.10.2018 211 days	10,000,000.00	6.75	391,979.00	10,391,979.00	25,890.00
2.106	SBI, ISM Campus Br	37597527545 DT 17.03.2018	14.10.2018 211 days	10,625,385.00	6.75	1,041,787.00	11,667,172.00	27,443.00
	Sub-total			773,811,416.00				
3	Investments maturing during the F. Y.2019-20 :-							
3.01	Bank of India, ISM Branch Dhanbad	06.10.2014 no. 587243710000057	06.10.2019 5 years	1,500,000.00	9.05	33,937.5 Qirly POONAM (KHANNA) SINGH END. FUND	1500000.00	33,937.50
3.02	Bank of India, ISM Branch	587245110000785 03.10.2014	03.10.2019 05 years	9,000,000.00	9.05	5,078,961.54	14,078,961.54	34,02,900.00
3.03	Bank of India, ISM Branch	587245110000790 03.10.2014	03.10.2019 05 years	9,000,000.00	9.05	5,078,961.54	14,078,961.54	34,02,900.00
3.04	Bank of India, ISM Branch	587245110000786 03.10.2014	03.10.2019 05 years	9,692,798.23	9.05	5,469,927.74	15,162,725.97	36,64,847.01
3.05	CanBank SDL Br. Dhanbad MOLE	0986303000103/1 did 07.11.2014	07.11.2019 05 years	500,000.00	9.00	Q. intt. Rs. 11250.00	500,000.00	7,500.00
3.06	CanBank SDL Br. Dhanbad MOLE	0986303000103/2 did 07.11.2014	07.11.2019 05 years	1,000,000.00	9.00	Q. intt. Rs. 22500	1,000,000.00	15,000.00
3.07	CanBank SDL Br. Dhanbad MOLE	0986303000103/3 did 07.11.2014	07.11.2019 05 years	1,000,000.00	9.00	Q. intt. Rs. 22500	1,000,000.00	15,000.00
3.08	CanBank SDL Br. Dhanbad MOLE	0986303000103/4 did 07.11.2014	07.11.2019 05 years	2,500,000.00	9.00	Q. intt. Rs. 56250	2,500,000.00	37,500.00
3.09	CanBank SDL Br. Dhanbad MOLE	0986303000103/5 did 07.11.2014	07.11.2019 05 years	5,000,000.00	9.00	Q. intt. Rs. 112500.00	5,000,000.00	75,000.00
3.1	Canara Bank SDL Branch Dhanbad	986401005634/31 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.11	Canara Bank SDL Branch Dhanbad	986401005634/30 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.12	Canara Bank SDL Branch Dhanbad	986401005634/29 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00



3.13	Canara Bank SDL Branch Dhanbad	986401005634/28 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.14	Canara Bank SDL Branch Dhanbad	986401005634/27 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.15	Canara Bank SDL Branch Dhanbad	986401005634/26 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.16	Canara Bank SDL Branch Dhanbad	986401005634/25 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.17	Canara Bank SDL Branch Dhanbad	986401005634/24 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.18	Canara Bank SDL Branch Dhanbad	986401005634/23 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.19	Canara Bank SDL Branch Dhanbad	986401005634/22 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.2	Canara Bank SDL Branch Dhanbad	986401005634/21 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.21	Canara Bank SDL Branch Dhanbad	986401005634/20 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.22	Canara Bank SDL Branch Dhanbad	986401005634/19 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.23	Canara Bank SDL Branch Dhanbad	986401005634/18 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.24	Canara Bank SDL Branch Dhanbad	986401005634/17 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.25	Canara Bank SDL Branch Dhanbad	986401005634/16 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.26	Canara Bank SDL Branch Dhanbad	986401005634/15 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.27	Canara Bank SDL Branch Dhanbad	986401005634/14 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.28	Canara Bank SDL Branch Dhanbad	986401005634/13 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.29	Canara Bank SDL Branch Dhanbad	986401005634/12 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.3	Canara Bank SDL Branch Dhanbad	986401005634/11 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.31	Canara Bank SDL Branch Dhanbad	986401005634/10 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00



3.32	Canara Bank SDL Branch Dhanbad	986401005634/9 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.33	Canara Bank SDL Branch Dhanbad	986401005634/8 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.34	Canara Bank SDL Branch Dhanbad	986401005634/7 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.35	Canara Bank SDL Branch Dhanbad	986401005634/6 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.36	Canara Bank SDL Branch Dhanbad	986401005634/5 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.37	Canara Bank SDL Branch Dhanbad	986401005634/4 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.38	Canara Bank SDL Branch Dhanbad	986401005634/3 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.39	Canara Bank SDL Branch Dhanbad	986401005634/2 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.4	Canara Bank SDL Branch Dhanbad	986401005634/1 dt.27.04.2017	27.04.2019	8,000,000.00	6.90	1,173,003.00	9,173,003.00	5,18,400.00
3.41	Canara Bank SDL Branch Dhanbad	SAIL NMDC 986303000140/1 dt.06.05.2017	06.05.2019	56,490.00	6.80	7,680.00	64,170.00	640.00
3.42	Canara Bank SDL Branch Dhanbad	SAIL NMDC 986303000139/1 dt.27.04.2017	27.04.2019	2,288,811.00	6.90	315,856.00	2,604,667.00	26,321.00
3.43	Canara Bank SDL Branch Dhanbad	SAIL NMDC 986303000138/1 dt.27.04.2017	27.04.2019	2,288,811.00	6.90	315,856.00	2,604,667.00	26,321.00
3.44	Canara Bank SDL Branch Dhanbad	SAIL NMDC 986303000137/1 dt.27.04.2017	27.04.2019	2,288,811.00	6.90	315,856.00	2,604,667.00	26,321.00
3.45	Canara Bank SDL Branch Dhanbad	SAIL NMDC 986303000136/1 dt.27.04.2017	27.04.2019	2,288,811.00	6.90	315,856.00	2,604,667.00	26,321.00
3.46	Canara Bank SDL Branch Dhanbad	SAIL NMDC 986303000135/1 dt.27.04.2017	27.04.2019	2,288,811.00	6.90	315,856.00	2,604,667.00	26,321.00
3.47	Canara Bank SDL Branch Dhanbad	AMN GHOSH CHAIR 986303000134/1 dt.27.04.2017	27.04.2019	4,507,397.00	6.90	622,024.00	5,129,421.00	51,835.00
3.48	Canara Bank SDL Branch Dhanbad	L J JOHNSON 986401005638/1 dt.27.04.2017	27.04.2019	225,370.00	6.90	33,046.00	258,416.00	14,603.98
3.49	Canara Bank SDL Branch Dhanbad	ATLAS CAPCO 986401005637/1	27.04.2019	563,423.00	6.90	82,612.00	646,035.00	36,509.81



3.5	Canara Bank SDL Branch Dhanbad	0986307000076/6 26.02.2017	181 DAYS 25.8.17	8,277,699.00	6.50	184,263.85	8,461,962.85	5,99,305.41
3.51	Canara Bank SDL Branch Dhanbad	0986307000076/7 26.02.2017	181 DAYS 25.8.17	8,277,699.00	6.50	184,263.85	8,461,962.85	5,99,305.41
3.52	Bank of India, ISM Campus Branch	587243710000078 dated 26.10.2017	25.10.2019	6,362,000.00	6.60	Qtrly interest CIL Chair	6,362,000.00	69,982.00
3.53	Bank of India, ISM Campus Branch	587243710000079 dated 26.10.2017	25.10.2019	338,000.00	6.60	Qtrly interest CIL Chair	338,000.00	3,718.00
3.54	Bank of India, ISM Campus Branch	587243710000047 dated 26.10.2017	25.10.2019	1,000,000.00	6.60	Qtrly interest Rajeev G Chair	1,000,000.00	11,000.00
3.55	Bank of India, ISM Campus Branch	587243710000048 dated 26.10.2017	25.10.2019	400,000.00	6.60	Qtrly interest CIL Chair	400,000.00	13,200.00
3.56	Bank of India, ISM Campus Branch	587256110000723 dated 26.10.2017	25.10.2019729 days	9,324,997.00	6.60	1,303,906.00	10,628,903.00	2,58,302.42
3.57	Bank of India, ISM Campus Branch	587256110000724 dated 26.10.2017	25.10.2019729 days	9,324,997.00	6.60	1,303,906.00	10,628,903.00	2,58,302.42
3.58	Bank of India, ISM Campus Branch	587256110000725 dated 26.10.2017	25.10.2019729 days	9,324,997.00	6.60	1,303,906.00	10,628,903.00	2,58,302.42
3.59	Bank of India, ISM Campus Branch	587256110000726 dated 26.10.2017	25.10.2019729 days	9,324,997.00	6.60	1,303,906.00	10,628,903.00	2,58,302.42
3.6	Bank of India, ISM Campus Branch	587256110000727 dated 26.10.2017	25.10.2019729 days	9,324,997.00	6.60	1,303,906.00	10,628,903.00	2,58,302.42
3.61	Bank of India, ISM Campus Branch	587256110000728 dated 26.10.2017	25.10.2019729 days	9,324,997.00	6.60	1,303,906.00	10,628,903.00	2,58,302.42
3.62	Bank of India, ISM Campus Branch	587256110000729 dated 26.10.2017	25.10.2019729 days	1,513,312.30	6.60	211,605.00	1,724,917.30	41,918.75
3.63	Canara Bank SDL Branch Dhanbad	0986303000118/3 dated 07.10.2017	07.10.201924 months	5,000,000.00	6.20	620,000.00	5,620,000.00	1,56,000.00
3.64	Canara Bank SDL Branch Dhanbad	0986303000118/4 dated 07.10.2017	07.10.201924 months	5,000,000.00	6.20	620,000.00	5,620,000.00	1,56,000.00
3.65	Canara Bank SDL Branch Dhanbad	0986413000203/6 dated 19.04.2017	27/04/2019 555 days	8,441,181.00	6.35	848,732.00	9,289,913.00	5,48,676.77
3.66	Canara Bank SDL Branch Dhanbad	0986413000203/5 dated 19.04.2017	27/04/2019 555 days	8,441,181.00	6.35	848,732.00	9,289,913.00	5,48,676.77
3.67	Canara Bank SDL Branch Dhanbad	0986413000203/4 dated 19.04.2017	27/04/2019 555 days	8,441,181.00	6.35	848,732.00	9,289,913.00	5,48,676.77
3.68	Central Bank of India, Bartand, Dhanbad. Rungta Chair Fund	TDR No: 286866 A/c No: 3662810262 Dtd: 09.02.2018	09.01.2020 1 Year & 11 months	5,000,000.00	6.60	Quarterly Int of Rs 82,500/-payable at Project 9746 Bank A/c	5,000,000.00	55,000.00



3.69	Central Bank of India, Bartland, Dhanbad. Rungta Chair Fund	TDR No: 286867 A/c No: 3662810397 Did: 09.02.2018	09.01.2020 1 Year & 11 months	5,000,000.00	6.60	Quarterly Int of Rs 82,500/-payable at Project 9746 Bank A/c	5,000,000.00	55,000.00
3.7	Central Bank of India, Bartland, Dhanbad. Rungta Chair Fund	TDR No: 286868 A/c No: 3662810909 Did: 09.02.2018	09.01.2020 1 Year & 11 months	5,000,000.00	6.60	Quarterly Int of Rs 82,500/-payable at Project 9746 Bank A/c	5,000,000.00	55,000.00
3.71	Central Bank of India, Bartland, Dhanbad. Rungta Chair Fund	TDR No: 286869 A/c No: 3662811119 Did: 09.02.2018	09.01.2020 1 Year & 11 months	5,000,000.00	6.60	Quarterly Int of Rs 82,500/-payable at Project 9746 Bank A/c	5,000,000.00	55,000.00
3.72	Central Bank of India, Bartland, Dhanbad. TATA Steel Chair Fund	TDR No: 286864 A/c No: 3662801767 Did: 09.02.2018	09.01.2020 1 Year & 11 months	6,400,000.00	6.60	Quarterly Int of Rs 1,05,600/-payable at Project 22874 Bank A/c	6,400,000.00	70,400.00
3.73	Central Bank of India, Bartland, Dhanbad. TATA Steel Chair Fund	TDR No: 286869 A/c No: 3662801949 Did: 09.02.2018	09.01.2020 1 Year & 11 months	6,400,000.00	6.60	Quarterly Int of Rs 1,05,600/-payable at Project 22874 Bank A/c	6,400,000.00	70,400.00
3.74	Central Bank of India, Bartland, Dhanbad. NMDC Chair Fund	TDR No: 286861 A/c No: 3662809030 Did: 09.02.2018	09.01.2020 1 Year & 11 months	5,000,000.00	6.60	Quarterly Int of Rs 82,500/-payable at Project 22872 Bank A/c	5,000,000.00	55,000.00
3.75	Central Bank of India, Bartland, Dhanbad. NMDC Chair Fund	TDR No: 286862A/c No: 3662809187 Did: 09.02.2018	09.01.2020 Year & 11 months	5,000,000.00	6.60	Quarterly Int of Rs 82,500/-payable at Project 22872 Bank A/c	5,000,000.00	55,000.00
3.76	Central Bank of India, Bartland, Dhanbad. NMDC Chair Fund	TDR No: 286863 A/c No: 3662809631 Did: 09.02.2018	09.01.2020 1 Year & 11 months	5,000,000.00	6.60	Quarterly Int of Rs 82,500/-payable at Project 22872 Bank A/c	5,000,000.00	55,000.00
3.77	Canara Bank SDL Branch Dhanbad	0986401005895/1 dated 03.04.2018	03.04.2019 12 months	8,000,000.00	6.50	532,813.00	8,532,813.00	
	Sub-total			477,231,768.53				



Investments maturing during the F. Y. 2021-22 :-									
4									
4.01	SBI ISM Br. Dhanbad	3208884875 dtd 16.12.2011	16.12.2021	8,005,000.00	9.25	maturity	1,99,76,031.00	63,90,391.50	
4.02	SBI ISM Br. Dhanbad	3208884343 dtd 16.12.2011	16.12.2021	8,000,000.00	9.25	maturity	1,99,63,554.00	63,86,400.00	
4.03	SBI ISM Br. Dhanbad	3208885325 dtd 16.12.2011	16.12.2021	8,010,000.00	9.25	maturity	19,988,508.00	63,94,383.00	
4.04	Union Bank of India, Bank more	TDR no.000349303/225642 24.10.2013	24.05.2021	5,000,000.00	9.25	mat. - Uranium Chair Inv.	10,002,769.00	25,45,500.00	
4.05	Union Bank of India, Bank more	TDR no.0003494303/225642 24.10.2013	24.05.2021	5,000,000.00	9.25	mat. - Uranium Chair Inv.	10,002,769.00	25,50,000.00	
	Sub-total			34,015,000.00					
5	Investments maturing during the FY 2020 - 21:								
5.01	Canara Bank SDL Branch Dhanbad	0986304000019/2 dt 30.3.16	30.03.2021 60 Months	130,000.00	7.50	Half Yearly Interest Nirja Sahay Memorial Fund	130,000.00	66,183.00	
	Sub-total			130,000.00					
6	Investments maturing during the FY 2026 - 27:								
6.01	Canara Bank SDL Branch Dhanbad	0986306000001/2 DT 14.2.17	14.02.2027 120 MONTHS	200,000.00	6.90	Yearly Compound Interest Late Bhaskar Bhattacharya Memorial Fund	200,000.00	2,300.00	
	Sub-total			200,000.00					
	Total Projects Investments as on 31.03.2018			1,295,799,865.53					



F. PROVIDENT FUND

Sl No.	FDR No, Name of Bank & Branch	Date of Investments	Date of Maturity	Face Value (Rs)	Rate of Interest	Interest Amount (Rs)	Maturity Value (Rs)	Accrued interest as on 31.03.2018
1	Investments under SBI - Special Deposit Scheme :-							
1.01	SBI, ISM Campus Br, Dhanbad (Pass book)	10.02.1976	A/c No. SP 4/01	41,689,045.00	8.00%	Yearly Intl. on 1st January	41,689,045.00	8,33,780.90
1.02	SBI, Jagjeevan Nagar Br., Dhanbad (Pass book)	01.04.1988	A/c No. SDS - 01	212,500.00	8.00%	- do -	212,500.00	2,826.25
	Sub-total			41,901,545.00				
2	Investments maturing during the F. Y.2017-18 :-							
2.01	SBI, ISM Campus Br Acct No 36540673860	13.08.2017	181 days 10.02.2018	6,721,226.00	6.50%	216,644.00	6,937,870.00	2,75,570.27
2.02	SBI, ISM Campus Br Acct No 36540674604	13.08.2017	181 days 10.02.2018	6,721,226.00	6.50%	216,644.00	6,937,870.00	2,75,570.27
2.03	SBI, ISM Campus Br Acct No 37537674874	02.12.2017	91 days 03.03.2018	6,000,000.00	6.25%	94,777.00	6,094,777.00	1,35,000.00
2.04	SBI, ISM Campus Br Acct No 37537718235	02.12.2017	91 days 03.03.2018	6,127,811.00	6.25%	96,796.00	6,224,607.00	1,37,875.75
2.05	SBI, ISM Campus Br Acct No 37537718825	02.12.2017	91 days 03.03.2018	5,000,000.00	6.25%	78,981.00	5,078,981.00	1,12,500.00
2.06	SBI, ISM Campus Br Acct No 37537719556	02.12.2017	91 days 03.03.2018	3,662,722.00	6.25%	57,857.00	3,720,579.00	82,411.25
	Sub-total			34,232,985.00				
3	Investments maturing during the F. Y.2018-19:-							
3.01	Bank of India, ISM Br, 587245110000407	16.12.2013	16.12.2018	9,420,000.00	9.05%	5,315,979.73	14,735,979.73	43,80,300.00
3.02	Bank of India, ISM Br, 587245110000408	16.12.2013	16.12.2018	9,420,000.00	9.05%	5,315,980.73	14,735,980.73	43,80,300.00
3.03	Bank of India, ISM Br, 587245110000409	16.12.2013	16.12.2018	9,420,000.00	9.05%	5,315,980.73	14,735,980.73	43,80,300.00
3.04	Bank of India, ISM Br, 587245110000410	16.12.2013	16.12.2018	9,420,000.00	9.05%	5,315,980.73	14,735,980.73	43,80,300.00
3.05	Bank of India, ISM Br, 587245110000411	16.12.2013	16.12.2018	9,420,000.00	9.05%	5,315,980.73	14,735,980.73	43,80,300.00



3.06	Bank of India, ISM Br, 587245110000412	16.12.2013	16.12.2018	9,320,000.00	9.05%	5,259,546.86	14,579,546.86	43,33,800.00
3.07	Bank of India, ISM Br, 587245110000425	30.12.2013	30.12.2018	6,000,000.00	9.05%	3,385,974.37	9,385,974.37	27,90,000.00
3.08	Bank of India, ISM Br, 587245110000426	30.12.2013	30.12.2018	6,000,000.00	9.05%	3,385,974.37	9,385,974.37	27,90,000.00
3.09	Central Bank, Bartand, 3542831618	09.06.2016	26.07.2018	7,000,000.00	7.65%	1,225,738.00	8,225,738.00	10,85,000.00
3.10	Central Bank, Bartand, 3542832420	09.06.2016	26.07.2018	7,500,000.00	7.65%	1,313,290.00	8,813,290.00	11,62,500.00
3.11	Central Bank, Bartand, 3535807323	05.05.2016	21.06.2018	7,000,000.00	7.65%	1,225,738.00	8,225,738.00	11,20,000.00
3.12	Central Bank, Bartand, 3535807436	05.05.2016	21.06.2018	7,000,000.00	7.65%	1,225,738.00	8,225,738.00	11,20,000.00
3.13	Central Bank, Bartand, 3535816644	05.05.2016	21.06.2018	7,000,000.00	7.65%	1,225,738.00	8,225,738.00	11,20,000.00
3.14	Central Bank, Bartand, 3535806862	05.05.2016	21.06.2018	7,000,000.00	7.65%	1,225,738.00	8,225,738.00	11,20,000.00
3.15	Central Bank, Bartand, 3542831685	09.06.2016	26.07.2018	7,500,000.00	7.65%	1,313,290.00	8,813,290.00	11,62,500.00
3.16	Central Bank, Bartand, 3478159181	06.08.2017	729 days 06.08.2018	8,140,926.00	8.35%	550,746.00	8,691,672.00	11,39,729.64
3.17	Canara Bank SDL 0986413000191/4	07.09.2017	555 days 16.03.2019	1,821,637.00	6.45%	186,167.00	2,007,804.00	67,400.57
3.18	Canara Bank SDL 0986413000186/2	17.08.2017	555 days 23.02.2019	9,359,793.00	6.45%	956,472.00	10,316,265.00	3,46,312.34
3.19	SBI, ISM Campus Br, Acct No 37545910336	17.02.2018	181 days 17.08.2018	6,000,000.00	6.25%	188,965.00	6,188,965.00	60,000.00
	Sub-total			143,742,356.00				
4	Investments maturing during the F. Y.2019-20 :-							
4.01	Bank of India, ISM Br, 587245110000800	14.10.2014	14.10.2019 05 years	7,500,000.00	9.05%	4,232,467.94	11,732,467.94	27,00,000.00
4.02	Bank of India, ISM Br, 587245110000788	03.10.2014	03.10.2019 05 years	9,000,000.00	9.05%	5,078,961.54	14,078,961.54	35,10,000.00
4.03	Bank of India, ISM Br, 587245110000789	03.10.2014	03.10.2019 05 years	4,985,266.93	9.05%	2,813,330.75	7,798,597.68	19,44,254.10
4.04	Canara Bank SDL 0986401005696/1	9.6.17	09.06.2019 24 months	6,000,000.00	6.80%	866,238.00	6,866,238.00	3,42,000.00
4.05	Canara Bank SDL 0986401005696/2	9.6.17	09.06.2019 24 months	6,000,000.00	6.80%	866,238.00	6,866,238.00	3,42,000.00



4.06	Canara Bank SDL 0986401005696/3	9.6.17	09.06.2019 24 months	6,000,000.00	6.80%	866,238.00	6,866,238.00	3,42,000.00
4.07	Canara Bank SDL 0986401005696/4	9.6.17	09.06.2019 24 months	6,000,000.00	6.80%	866,238.00	6,866,238.00	3,42,000.00
4.08	Canara Bank SDL 0986401005696/5	9.6.17	09.06.2019 4 months	6,000,000.00	6.80%	866,238.00	6,866,238.00	3,42,000.00
4.09	Canara Bank SDL 0986401005696/6	9.6.17	09.06.2019 24 months	6,000,000.00	6.80%	866,238.00	6,866,238.00	3,42,000.00
	Sub-total			57,485,266.93				
5	Investments maturing during the F. Y. 2020-21:-							
5.01	Union Bank of India, DGMS Branch A/c No. 5290030300447212	19.08.2013	19.03.2021	9,500,000.00	9.25%	Maturity	18,995,701.00	49,40,000.00
5.02	Union Bank of India, DGMS Branch A/c No. 5290030300447213	19.08.2013	19.03.2021	9,600,000.00	9.25%	Maturity	19,195,656.00	49,92,000.00
5.03	Union Bank of India, DGMS Branch A/c No. 5290030300447210	19.08.2013	19.03.2021	9,500,000.00	9.25%	Maturity	18,995,701.00	49,40,000.00
5.04	Union Bank of India, DGMS Branch A/c No. 5290030300447211	19.08.2013	19.03.2021	9,500,000.00	9.25%	Maturity	18,995,701.00	49,40,000.00
5.02	Union Bank of India, Bank More, A/c No. 303/225633	21.10.2013	21.05.2021	8,000,000.00	9.25%	Maturity	16,004,431.00	40,40,000.00
6.02	Union Bank of India, Bank More, A/c No. 303/225634	21.10.2013	21.05.2021	8,144,641.00	9.25%	Maturity	16,293,793.00	41,13,043.71
5.05	Union Bank of India, Bank More, A/c No. 303/225641	21.10.2013	21.05.2021	8,000,000.00	9.25%	Maturity	16,004,431.00	40,40,000.00
	Sub-total			62,244,641.00				
6	Investments maturing during the F. Y. 2023-24:-							
6.01	SBI, Main Branch, Bank More, Dhanbad TBSB1106400501	13.05.2017	6 yrs 13.05.2023	125,000,000.00	8.00%	75,125,000.00	200,125,000.00	93,75,000.00
	Sub-total			125,000,000.00				
	Total Provident Fund Investments as on 31.03.2018			464,606,793.93				



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

No. ISM/Accts/Plan/UC:2016-17

November 07, 2017

GFR 12 - A
[(See Rule 238 (1))]
FORM OF UTILIZATION CERTIFICATE

AUDITED UTILIZATION CERTIFICATE FOR THE YEAR 2016-17
In respect of Grants-in-Aid/Creation of Capital Assets under Plan

5. Name of the Scheme : IIT (ISM), Dhanbad
6. Whether recurring or non-recurring grants : Non-Recurring
7. Grants position at the beginning of the Financial year
 - (i) Cash in Hand/Bank : Nil
 - (ii) Unadjusted advances : -0.06 lakhs
 - (iii) Total : -0.06 lakhs
8. Details of grants received, expenditure incurred and closing balances: (Actuals)

(Rs. in Lakhs)

Unspent Balances of Grants of Previous years [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Government /Internal Income	Grant received during the year			Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances (5-6)
1	2	3	4			5	6	7
			Sanction No.(i)	Date (ii)	Amount (iii)			
Deficit of Rs. (-0.06) lakhs adjusted against capital account	Nil	141.16	F. No. 3-17/2016 TS II	10.05.16	175.00	10141.16	10141.21	-0.05
				10.05.16	1100.00			
				10.05.16	50.00			
				10.05.16	200.00			
				10.05.16	25.00			
				10.05.16	100.00			
				28.06.16	300.00			
				28.06.16	1600.00			
				28.06.16	100.00			
				28.06.16	250.00			
				28.06.16	50.00			
				28.06.16	150.00			
				06.09.16	675.00			
				06.09.16	25.00			
				06.09.16	2000.00			
				06.09.16	50.00			
				06.09.16	450.00			
				06.09.16	200.00			
				14.02.17	225.00			
				14.02.17	1000.00			
				14.02.17	50.00			

1926 से राष्ट्र की सेवा में In service of the Nation since 1926
Phone: 0326 2235611; Fax: 0326 2296563; Email: ofa@ismdhanbad.ac.in; Website: www.ismdhanbad.ac.in



भारतीय प्रौद्योगिकी संस्थान(भारतीय खनि विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

				14.02.17	100.00			
				14.02.17	25.00			
				14.02.17	100.00			
				07.03.17	175.00			
				07.03.17	500.00			
				07.03.17	50.00			
				07.03.17	200.00			
				07.03.17	25.00			
				07.03.17	50.00			
			Total		10000.00			

Component wise utilization of grants:

(Rs. in Lakhs)

Grant-in-aid- Creation of Capital Assets	Total
7885.86*	10000.05

* This amount includes payment made to CPWD.

Details of grants position at the end of the year

- (iv) Cash in Hand/Bank : Nil
 (v) Unadjusted Advances : -0.05 lakhs
 (vi) Total : -0.05 lakhs

Certified that I have satisfied myself that the conditions on which the grants-in-aid were sanctioned have been duly fulfilled and that we have exercised the following checks to see that the money was actually utilised for the purpose for which it was sanctioned.

Kinds of checks exercised:

1. Comptroller and Auditor General of India

धनबाद
 ५/११

Registrar

1926 से राष्ट्र की सेवा में In service of the Nation since 1926

Phone 0326 2235611, Fax 0326 2296563; Email: dfa@ismdhanbad.ac.in, Website: www.ismdhanbad.ac.in



भारतीय प्रौद्योगिकी संस्थान(भारतीय खनि विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

No. ISM/Accts/Non Plan/UC:2016-17

November 07, 2017

GFR 12 - A
[[See Rule 238 (1)]]
FORM OF UTILIZATION CERTIFICATE

AUDITED UTILIZATION CERTIFICATE FOR THE YEAR 2016-17
In respect of Grants-in-Aid/Salaries under Non-Plan (Recurring)

1. Name of the Scheme : IIT (ISM), Dhanbad
2. Whether recurring or non-recurring grants : Recurring
3. Grants position at the beginning of the Financial year
 - (i) Cash in Hand/Bank : Nil
 - (ii) Unadjusted advances : -0.23 lakhs
 - (iii) Total : -0.23 lakhs
4. Details of grants received, expenditure incurred and closing balances: (Actuals)

(Rs. in Lakhs)						
Unspent Balances of Grants of Previous year [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Government /Internal Income	Grant received during the year			Total Available funds (1+2-3+4)
1	2	3	4			5
			Sanction No.(i)	Date (ii)	Amount (iii)	
Deficit of Rs. (-0.23) lakhs adjusted against capital account	Nil	5180.25	F. No. 3-18/2016 TS II	08.06.16	1220.00	13700.25
				08.06.16	200.00	
				28.06.16	530.00	
				28.06.16	1500.00	
				06.09.16	450.00	
				06.09.16	2400.00	
				14.02.17	100.00	
				14.02.17	1400.00	
				07.03.17	521.00	
				07.03.17	199.00	
			Total		8520.00	
						13700.27
						-0.02

Component wise utilization of grants:

(Rs. in Lakhs)		
Grant-in-aid- General	Grant-in-aid- Salary (Establishment Expense)	Total
5685.51	8014.76	13700.27

Page 1

1926 से राष्ट्र की सेवा में In service of the Nation since 1926

Phone: 0326 2235611; Fax: 0326 2296563; Email: dfa@ismdhanbad.ac.in; Website: www.ismdhanbad.ac.in



भारतीय प्रौद्योगिकी संस्थान(भारतीय खाने विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

Details of grants position at the end of the year

(i) Cash in Hand/Bank	: Nil
(ii) Unadjusted Advances	: -0.02 lakhs
(iii) Total	: -0.02 lakhs

Certified that I have satisfied myself that the conditions on which the grants-in-aid were sanctioned have been duly fulfilled and that we have exercised the following checks to see that the money was actually utilised for the purpose for which it was sanctioned.

Kinds of checks exercised:

1. Comptroller and Auditor General of India

01


 Registrar
 7/11



भारतीय प्रौद्योगिकी संस्थान(भारतीय खनि विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

No. ISM/Accts/Plan/UC:2017-18

April 30, 2018

GFR 12 – A
[(See Rule 238 (1))]
FORM OF UTILIZATION CERTIFICATE

UNAUDITED UTILIZATION CERTIFICATE FOR THE YEAR 2017-18
In respect of Grants-in-Aid/Creation of Capital Assets under Plan

1. Name of the Scheme : IIT (ISM), Dhanbad
2. Whether recurring or non-recurring grants : Non-Recurring
3. Grants position at the beginning of the Financial year
 - (i) Cash in Hand/Bank : Nil
 - (ii) Unadjusted advances : -0.05 lakhs
 - (iii) Total : -0.05 lakhs
4. Details of grants received, expenditure incurred and closing balances: (Actuals)

(Rs. in Lakhs)

Unspent Balances of Grants of Previous years [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Government /Internal Income	Grant received during the year			Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances (5-6)
1	2	3	4			5	6	7
			Sanction No.(i)	Date (ii)	Amount (iii)			
Deficit of Rs. (-0.05) lakhs adjusted against capital account	Nil	3.57	F. No. 23-1/2017 – TS - I	28.4.17	465.00	9503.57	9505.29	-1.72
				28.4.17	232.50			
				28.4.17	2402.50			
				21.7.17	3702.50			
				21.7.17	213.00			
				21.7.17	84.50			
				16.10.17	2400.00			
			Total		9500.00			

Page - I

1926 से राष्ट्र सेवा में समर्पित In service of the Nation since 1926

Phone: 0326 2235611; Fax: 0326 2296563; Email: dr_fa@iitism.ac.in; Website: www.iitism.ac.in



भारतीय प्रौद्योगिकी संस्थान(भारतीय खनि विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

Component wise utilization of grants:

(Rs. in Lakhs)

Grant-in-aid- Creation of Capital Assets	Total
9505.28*	9505.29

* This amount includes payment made to CPWD and provisions for payments to be made.

Details of grants position at the end of the year

- (i) Cash in Hand/Bank : Nil
(ii) Unadjusted Advances : -1.72 lakhs
(iii) Total : -1.72 lakhs

Certified that I have satisfied myself that the conditions on which the grants-in-aid were sanctioned have been duly fulfilled and that we have exercised the following checks to see that the money was actually utilised for the purpose for which it was sanctioned.

Kinds of checks exercised:

1. Internal Audit & Applied Rules

(M N PANDEY)
ASST REGISTRAR (L&B)

(M S CHAMPIA)
ASST REGISTRAR (PA)

(PRABODH PANDEY)
DY REGISTRAR (F&A)

(COL M K SINGH)
REGISTRAR

(PROF RAJIV SHEKHAR)
DIRECTOR

1926 से राष्ट्र सेवा में समर्पित In service of the Nation since 1926

Phone: 0326 2235611; Fax: 0326 2296563; Email: dr_fa@iitism.ac.in; Website: www.iitism.ac.in



भारतीय प्रौद्योगिकी संस्थान(भारतीय खनि विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

No. ISM/Accts/Non Plan/UC: 2017-18

April 30, 2018

GFR 12 – A

[(See Rule 238 (1)]

FORM OF UTILIZATION CERTIFICATE**UNAUDITED UTILIZATION CERTIFICATE FOR THE YEAR 2017-18****In respect of Grants-in-Aid/Salaries under Non-Plan (Recurring)**

1. Name of the Scheme : Indian Institute of Technology (Indian School of Mines), Dhanbad
2. Whether recurring or non-recurring grants : Recurring (Revenue)
3. Grants position at the beginning of the Financial year
 - (i) Cash in Hand/Bank : Nil
 - (ii) Unadjusted advances : -0.02 lakhs
 - (iii) Total : -0.02 lakhs
4. Details of grants received, expenditure incurred and closing balances: (Actuals)

(Rs. in Lakhs)

(Rs. in Lakhs)									
Unspent Balances of Grants of Previous year [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Government /Internal Income		Grant received during the year			Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances (5-6)
1	2	3		4			5	6	7
			Sanction No.(i)	Date (ii)	Head (Numerical Code)	Amount (iii)			
Deficit of Rs. -0.02 lakhs adjusted against capital account	Nil	5905.17	F. No. 23-1/2017 – TS I	28.4.17	36	65.25	20405.17	20408.33	-3.16
				28.4.17	36	130.50			
				28.4.17	36	674.25			
				28.4.17	31	48.75			
				28.4.17	31	97.50			
				28.4.17	31	503.75			
				9.5.17	31	580.00			
				9.5.17	31	110.0			
				9.5.17	31	60.00			
				9.5.17	36	620.00			
				9.5.17	36	120.00			
				9.5.17	36	60.00			
				5.6.17	36	33.00			
				5.6.17	36	730.00			
				5.6.17	31	8.25			
				5.6.17	36	67.00			
				5.6.17	31	42.50			
				5.6.17	31	849.25			
				21.7.17	31	500.00			
				21.7.17	36	30.00			
21.7.17	36	70.00							

Page - III

1926 से राष्ट्र सेवा में समर्पित In service of the Nation since 1926Phone: 0326 2235611; Fax: 0326 2296563; Email: dfa@ismdhanbad.ac.in; Website: www.ismdhanbad.ac.in



भारतीय प्रौद्योगिकी संस्थान(भारतीय खनि विद्यापीठ)
धनबाद - 826004, झारखण्ड, भारत
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826004, Jharkhand, INDIA

				21.7.17	36	750.00			
				9.8.17	36	30.00			
				9.8.17	36	70.00			
				9.8.17	36	750.00			
				9.8.17	31	400.00			
				5.9.17	31	300.00			
				5.9.17	36	700.00			
				5.9.17	36	70.00			
				5.9.17	36	30.00			
				20.2.18	36	2937.75			
				20.2.18	36	44.50			
				20.2.18	36	17.75			
				12.3.18	36	2600.00			
				12.3.18	36	250.00			
				12.3.18	36	150.00			
			Total			14500.00			

Component wise utilization of grants:

(Rs. in Lakhs)

Grant-in-aid- General	Grant-in-aid- Salary (Establishment Expense)	Total
9034.23	11374.10	20408.33

Details of grants position as on 31.03.18

- (i) Cash in Hand/Bank : nil - (figure indicating against GIA and Institute income)
(ii) Unadjusted Advances : -3.16 Lakhs
(iii) Total : -3.16 Lakhs

Certified that I have satisfied myself that the conditions on which the grants-in-aid were sanctioned have been duly fulfilled and that we have exercised the following checks to see that the money was actually utilised for the purpose for which it was sanctioned.

Kinds of checks exercised:


1. Internal Audit & Applied Rules



(M N PANDEY)
ASST REGISTRAR (L&B)



(M S CHAMPIA)
ASST REGISTRAR (PA)



(PRABODH PANDEY)
DY REGISTRAR (F&A)


(COL M K SINGH)
REGISTRAR


(PROF RAJIV SHEKHAR)
DIRECTOR

Page - IV

1926 से राष्ट्र सेवा में समर्पित In service of the Nation since 1926

Phone: 0326 2235611; Fax: 0326 2296563; Email: dfa@ismdhanbad.ac.in; Website: www.ismdhanbad.ac.in

भारतीय लेखा और लेखा परीक्षा विभाग
कार्यालय प्रधान निदेशक लेखापरीक्षा (केंद्रीय) लखनऊ



INDIAN AUDIT & ACCOUNTS DEPARTMENT
Office of the Principal Director of Audit (Central) Lucknow

No. PDAC/LKO/SAR-IIT(ISM)/2017-18/ 225

Dated: October 30, 2018

To

The Director,
Indian Institute of Technology (ISM),
Dhanbad - 826 004.

Subject: Separate Audit Report on the accounts of Indian Institute of Technology (ISM), Dhanbad for the year 2017-18

Sir,

I enclose a copy of the Audit Report and Audit Certificate along with audited Annual Accounts Indian Institute of Technology (ISM), Dhanbad for the year 2017-18 for information and necessary action.

2. A copy of each of the documents has been sent to the Secretary to the Government of India, Ministry of Human Resource Development, New Delhi for information and necessary action.

3. The audited Annual Accounts, Audit Report should be duly considered and adopted by the Governing Body (BOG) of the IIT(ISM), Dhanbad in the Annual General meeting before these are laid in the House of parliament.

4. A copy of (i) Resolution of Governing Body adopting the Audit Report and Audit Certificate with audited Annual Accounts, (ii) Date of its presentation before the House of Parliament and (iii) Annual Report of the Institute may be furnished to this office in due course for our records and onward transmission to the Comptroller and Auditor General of India, New Delhi.

5. The Hindi version of this SAR may kindly be furnished to this office within one week.

6. The receipt of this letter with enclosures may please be acknowledged.

Encl: - As above.

Yours faithfully,

Principal Director of Audit (Central)

Separate Audit Report of the Comptroller & Auditor General of India on the accounts of Indian Institute of the Technology (ISM), Dhanbad for the year ended 31 March 2018.

We have audited the attached Balance Sheet of Indian Institute of the Technology (ISM), Dhanbad as on 31 March 2018, the Income and Expenditure Account and Receipts and Payments Account for the year ended on that date under Section 19(2) of the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971. These financial statements are the responsibility of the IIT (ISM's) management. Our responsibility is to express an opinion on these financial statements based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller and Auditor General of India (C&AG) on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules and Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Reports/ C&AG's Audit Reports separately.

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the managements, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

4. Based on our audit, we report that:

(i) We have obtained all the information and explanations, which, to the best of our knowledge and belief, were necessary for the purpose of our audit.

(ii) The Balance Sheet, Income and Expenditure Account and Receipts and Payments Account dealt with by this report have been drawn up in the format approved by the Government of India, Ministry of Finance.

(iii) In our opinion, proper books of accounts and other relevant records have been maintained by the Indian School of Mines (ISM), Dhanbad as required under Section 23(1 to 4) of the IIT Act, 1961 and Rules and regulations in so far as it appears from our examination of such books.

(iv) We further report that;

A.-Balance Sheet

A-1 Liabilities

A.1.1. Capital fund (Schdule-1) - Rs 882.88 Crore

The Institute received grant of Rs 95.00 crore under the head plan during the year. The previous unspent grant under the head plan was Rs 182.14 crore. Thus, the institute had total grant of Rs 277.14 crore. The institute utilized Rs 92.30 crore during the year under the head plan. Thus, the institute was required to exhibit Rs 184.84 crore as grant refundable to Ministry. Non depiction resulted in understatement of Current liabilities and overstatement of Capital Fund by Rs 184. 84 crore.

A.1.2. Earmarked/ Endowment Funds (Schedule-III)- Rs 38.30 crore

(i) The school has ten Chair funds. Records revealed that there are discrepancies between assets and liabilities by Rs 38.30 lakh (Appendix-I) .The figures need to be reconciled.

(ii) As per Format of Accounts prescribed by the MHRD, investment and accrued interest of Chair fund is to be shown separately from other investment. The School, however, did not exhibit the investment of chair funds separately. This needs to be corrected.

A.2 Assets

A.2.1Fixed Assets (Schedule-V)-Rs 486.79 crore

A.2.1.1. The construction works entrusted to CPWD and Rs 590.86 crore was given advance to CPWD. Out of which the CPWD completed and handed over the works for Rs 125.29 crore (Appendix-II) to the Institute and the institute was also taken over of these works . But the Institute did not capitalized these works under the head building and shown in the head work in progress. Further the Institute did not charging the depreciation .This resulted overstatement of work in progress and understatement of Assets by Rs 125.19 crore. Further the depreciation was understated by Rs 2.51 crore @2% of Rs 125.19 crore) and Income overstated by the same extant. The age wise advances to CPWD neither shown in ledger nor shown in Accounts.

A.2.1.2. As per New Format of accounts prescribe by MHRD, Work-In-Progress (WIP) is to be shown under head 'Fixed Assets'.

Scrutiny of Annual Accounts for the year 2017-18 revealed that the Institute did not show Work-In-Progress (WIP) under head 'Fixed Assets'. However, the Institute had shown Work-In-Progress amounting Rs 590.86 crore under head Current Assets, Loans & Advances (Schedule-VI). A sum of Rs 65.20 crore was paid to CPWD during the year 2017-18 as advance which was included in Rs 590.86 crore. This resulted in

understatement of fixed asset by Rs 525.66 crore and overstatement of Current Assets, Loans & Advances by the same extent.

B. Accounting Policy and Notes to Accounts

B.1. No provision of retirement benefits on actuarial base was made by the Institute. Retirement benefits were accounted for on cash basis by the institute.

B.2. As per format of accounts prescribed by MHRD, letter of credit outstanding as on 31.3.2018 was to be disclosed in Notes on Accounts. The Institute, however, did not disclose outstanding letters of credit in its Notes on Accounts of USD 4828.50, GBP1866.15, CHF13384.08, Euro 1552.14 and EURO 36178.20

Besides, foreign currency transactions were also not disclosed in Accounts.

C. General

C.1. Schedule XVIII contingent liabilities and notes on accounts revealed that interest earned from investment of Project fund was transferred to Non-Plan Endowment. But the treatment is not in consonance with the guideline issued by Ministry of Human Resource Development (MHRD) for Endowment Fund (Non-Plan) Block grant scheme on 20.07.2005. The Institute, as per the Block grant scheme, was allowed to retain the internal revenue generated by them during the block grant period only. The scheme was closed in 2009-10. As such, any transfer after 2009-10 to Endowment Fund is irregular.

The Institute, during the year, transferred Rs7.68 crore from project fund to endowment fund instead of crediting interest proportionately in respective Project funds resulting in overstatement of Endowment Fund (Non-Plan) and understatement of income under the head Project fund by Rs 7.68 crore.

Further, as per Format of Accounts introduced by the MHRD, interest earned from investment is to be accounted for in Income & Expenditure Account as income. Besides, as per guidelines of Endowment Fund Block Grant Scheme, 2005 introduced by MHRD for IIT(ISM), Dhanbad, the Institute was allowed to retain internal revenue/income generated by them during the block grant period i.e. from 2005-06 to 2009-10. Retaining of internal revenue after closure of BG Scheme was irregular. The Institute, however, transferred interest earned from Non-plan investment (2.89 crore Schedule IX) and from Plan investment (Rs 2.29 crore Schedule IX) in Endowment fund (BG scheme) in contravention of provision mentioned above.

This resulted in understatement of income and overstatement of Endowment fund by Rs 5.18 crore.

C.2 As per common format of accounts for higher education institution prescribed by MHRD, the account of consultancy income and expenditure on the same is to be routed

through Income and Expenditure Accounts. But the Institute is routing all income and expenditure on consultancy project of Rs 14.66 crore through Balance Sheet in contravention of format prescribed by MHRD.

C.3. Advance to suppliers under Plan Accounts- Rs 1.33 crore

The advance to suppliers under the Plan Accounts as on 31.03.18 was amounting to Rs1.33 crore which was outstanding against different suppliers more than 6 months. As per format prescribed by MHRD, the age wise position of the advances was not shown separately in the Annual Accounts.

However, reason for above huge amount pending for settlement may be stated to audit. Further action taken by the Institute in this regard may kindly be state to audit.

C.4. Outstanding Advances

As per format of accounts prescribe by MHRD, advances which are outstanding for more than six months should be shown in annual accounts separately.

Although advances of Rs 4.02 crore (Project Rs 2.10 crore and Non-Plan Rs 1.92 crore) provided to various suppliers had been lying outstanding for more than six months and Rs 0.07 crore was outstanding more than 10 years which records were also not in the institute. As recovery of these advances is doubtful Suitable provision should be made in accounts for long/ old outstanding. Further Rs 2.00 crore was outstanding against the employees as on 31.3.2018.

C.5. Bank Reconciliation Statement

Test check of Bank Reconciliation Statement (BRS) for the year ended as on 31.03.18 revealed that the some amount debited by bank but not credited in cash book and the amount credited by bank but not debited in cash book as details below:

(Rs in lakh)				
Sl No.	Name of bank/A/c no. & head of A/cs	Amount debited in cash book but not credited by bank	Amount credited by bank but not debited in cash book	Amount debited by bank but not credited in cash book
1	Canara bank A/c- 09861009746	5.47	9.08	73.34
2	SBI,ISM Branch A/c-32586479123			0.64
3	Non Pan Account	6.39		0.33
4	Plan head A/c-37057541474			633.14
5	A/c no 10230776532			16.47
	Total	11.86	9.08	723.92

Although the para raised in previous year SAR, but no corrective action was taken by the Institute.

D. Grants- in-Aid

The Institute received total grant from the Ministry of Human Resources , Department of Higher Education Government of India amounting to Rs 240.00 crore (Rs 95.00 crore Plan Grant and Rs 145.00 crore in Non Plan). Internal income of the Institute was Rs 59.09 crore (Rs 49.79 crore generated by institute, Rs 9.26 other income under non plan and Rs 0.04 lakh under plan). The Institute had unspent balance of previous year was Rs 183.61 crore (Plan Rs 182.14 crore and Non plan Rs 1.47 crore). Thus, the institute had total fund of Rs 482.70 crore (Plan Rs 277.13 crore and Non plan Rs 205.52 crore). Out of which the Institute utilized a sum of Rs 296.57 crore (Plan Rs 92.30 crore including Rs 65.20 advance to CPWD and Non Plan Rs 204.27 crore) during the year and leaving of balance of Rs 186.13 crore (Plan Rs 184.88 crore and Non Plan Rs 1.25 crore) as unutilized amount as on 31.03.2018.

E. Management letter

Deficiencies which have not been included in the Audit Report have been brought to the notice of the Institute through a management letter issued separately for remedial/ corrective action.

(vi) Subject to our observations in the preceding paragraphs, we report that the Balance Sheet and Income & Expenditure Account and Receipt & Payment Account dealt with by this report are in agreement with the books of accounts.

(vii) In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in the annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India.

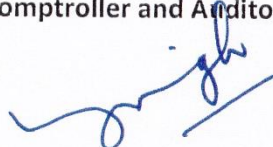
(a) In so far as it relates to the Balance Sheet, of the state of affairs of the IIT (ISM), Dhanbad Ranchi as at 31st March 2018, and

(b) In so far as it relates to Income and Expenditure Account of the surplus for the year ended on that date.

Place: Lucknow.

Date: 30.10.18

For and on behalf of the
Comptroller and Auditor General of India



Principal Director of Audit (Central), Lucknow

Annexure to the Report

1. Adequacy of Internal Audit system

The Internal Audit Control reflected deficiencies in following area:

- a. The Internal Audit (IA) is exist in the Institute comprising to one UDC and one Assistant Registrar.
- b. IA is inadequate keeping in view the size of the Autonomous body.
- c. The IA wing is limited to pre check of purchase vouchers and pay fixation only.
- d. The wing did not conduct audit of annual accounts and other basic records maintained in the Institute.
- e. Beside, no Internal Audit Manual has been prepared by the Institute.
- f. The IA was not prepared Report and not submits IR to management.

2. Adequacy of Internal Control System

- a. The Institute did not prepare Internal Audit and office procedure manual.
- b. There was no procedure for rotating duties of the employees dealing with cash, valuable, store and stock put in place.
- c. The Physical work in progress was not monitored by the Institute so that cause in delays in completion of the work could be ascertained.
- d. Advance was pending for more than five years for settlement are not disclosed in the accounts separately.
- e. The Institute is prepared fixed assets register for Plan from the Year 2016-17. The total fixed assets of plan grant before the year 2016-17 was Rs 305.89 crore and Non Plan and Project Assets , the institute was prepared for the year 2017-18 . The Institute did not prepare the Assets Register of Non Plan and Project before 2017-18. The Assets of Non Plan was Rs 62.55. crore and Project Rs 439.49 crore before 2017-18. In absence of these audit could not verified the actual position of fixed assets.
- f. There was non-compliance of outstanding audit observation, reflecting poor follow up procedure.

3. Physical verification of fixed assets and inventories.

- i. The Physical verification of fixed assets as well as consumable and non-consumable items have not been conducted by the Institute during the year.

ii. Physical verification of Library

Rule 215 of GFR provides completion of yearly physical verification of books in case of libraries having not more than 20,000 volumes. For libraries having more than 20,000 volumes and up to 50,000 volumes, such verification should be done at least once in three years. Sample physical verification at intervals of not more than three years should be done where libraries are having more than 50,000 volumes. In case such verification reveals unusual or unreasonable shortages, complete verification should be done.

It was noticed that periodical physical verification of library books was not done during 2017-18.

4. Regular in payment of statutory dues.

The Institute was regular in payment of statutory dues.

Appendix-I

(Rs in crore)

Sl. No.	Name of Fund	Liabilities	Investment	Cash Balance	Accrued Interest	Total Assets	Discrepancy
1.	CIL Chair	244.72	244.09	116.34	2.28	262.71	17.99
2	MoLe Chair	113.53	100.00	12.28	1.50	113.78	0.25
3	NMDC Chair	263.14	250.00	3.43	1.85	255.08	-8.06
4	ONGC Chair	119.35	108.68	9.26	0.44	118.39	-0.96
5.	RGM Chair	238.16	235.62	3.97	1.84	241.43	3.27
6	SAIL NMDC Chair	303.33	281.44	33.77	3.89	318.59	15.26
7	Sandvik Chair	56.31	45.85	10.72	0.49	57.06	0.75
8.	Tata Steel Chair	260.06	258.00	2.02	2.40	262.42	2.36
9.	URANIUM Chair	147.45	100.00	3.92	50.96	154.88	7.43
10.	Rungta Chair	202.19	200.00	-	2.20	202.20	0.01
		1948.24				1986.54	38.30

Appendix-II

(Rs in crore)

	Name of Work	Date of taken over by institute	Amount of advance
1.	Construction work of 1200 room boys' hostel	25.9.12	58.70
2.	Construction work of student activity center	16.6.15	26.63
3.	Construction work of 800 room Boys hostel	9.6.15	7.00
4.	Construction work of Security officer cum T-O-P	31.8.17	2.35
5.	Boundary wall at Petroleum Annex Building	3.1.17	0.16
6.	Boundary wall Cum retaining wall around 1200 room boys hostel	20.5.16	0.25
7.	Second Lecturer hall G+3	5.1.16	19.53
8.	Proposed New health Centre	15.3.16	8.00
9.	Sewage & Waste water treatment plant	22.8.17	2.87
		total	125.29