

Annual Report

2013-2014



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Indian School of Mines

Dhanbad - 826004 (india)

ANNUAL REPORT

2013-2014



INDIAN SCHOOL OF MINES
DHANBAD - 826004

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Foreward

Indian School of Mines (ISM) was established in 1926 to address the need for trained manpower related to mining activities in the country with disciplines of Mining and Applied Geology. In 1967 it was granted the status of a Deemed to be University under Section 3 of UGC Act, 1956. ISM has evolved over the last eight decades and is poised to emerge as a full-fledged higher technical education institute of national and international repute.

The present report contains the academic and related activities of the Institute for the period 1st April 2013 to 31st March 2014. This year was marked by very good progress by way of increase in student strength, number of research scholars, infrastructure development and external cash flow from industry and other funding agencies. The student strength increased from 4916 in 2012-13 to 5805 in 2013-14. The number of academic programmes also has gone up from 45 to 52 in the last year. In the last five years the student strength in the campus increased from 2965 to 5805. In the same period the research scholar strength increased from 162 to 966 and number of faculty members increased from 105 to 250. The campus placement continued to remain high with increase in the highest and the average pay packages.

This year marked a new beginning in the area of International relations with signing of MOUs with different universities across the globe. During this academic year 46 students from Afghanistan joined ISM. 20 students and 3 faculty members from ISM moved to different universities in Europe under international collaboration programmes spanning from one month to one year duration. This has added an international flavor in the Institute. The Institute was involved in several executive training programmes and industry sponsored project work for overseas organizations in addition to its role to cater to the need of Industries and organizations in the country.

The Institute is making foray into the newer areas of academic endeavors in tune with the changing times. Efforts were made to procure state-of-the-art experimental facilities worth Rs.33.54 crores, paving way for advanced research. The year registered a 86.02% increase in cash flow from R&D and industry sponsored projects, and 48.8% increase in the number of Ph.D. degrees awarded compared to the previous year. These developments were the outcome of a number of innovative steps taken during the year and in the recent past.

I would like to express my deep appreciation and special thanks to the students, faculty members and all the employees of ISM for their commitment in bringing about these achievements during the last year. Their dedication and hard work would always pave way for institute's journey towards emergence as a nationally and globally acclaimed premier institution of higher education.



(D. C. Panigrahi)
Director

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, and
- To develop the region in which the Institute is located through community development programmes including training and education.

Summary of Activities

Innovation 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:

- Mobility of students to foreign universities and transfer of credits earned.
- Significant increase in number of research scholars.
- Introduction of summer semester for academically weak students to improve the learning process.
- Introduction of relative grading system.
- Introduction of foreign language, leadership development and entrepreneur development programmes.
- An integrated approach to address the space and laboratory requirements of different departments.
- More focused approach towards engineering education excellence by carving two different departments namely Department of Mechanical Engineering and Department of Mining Machinery Engineering from the erstwhile Department of Mechanical Engineering and Mining Machinery Engineering.

Apart from the above mentioned innovations, the following are the ongoing initiatives which were introduced in the recent past:

- Project mode learning from 2nd year onwards
- Creation and Enhancement of Central Research Facility (CRF)
- Center of excellence in safety, occupational health and disaster management
- Commissioning of Student Activity Center, Professional Clubs, etc.
- Self contained students amenities in the hostel complexes
- Improvement groups for formulating policy frame work for all round growth
- Online students feed back
- Goal setting for faculty members and departments

- Conferment of externally funded awards to faculty members for excellence in research
- Establishing new professorial chairs with industry support and enhancement of funding for the existing chair positions

A Summary of the significant events and achievements of Indian School of Mines in Academic Activities, R&D Activities, Continuing Education, Institute-Industry Interaction and others for the period 1st April 2013 to 31st March 2014 is presented below:

1. Academic Activities

(a) New Programmes/Courses launched

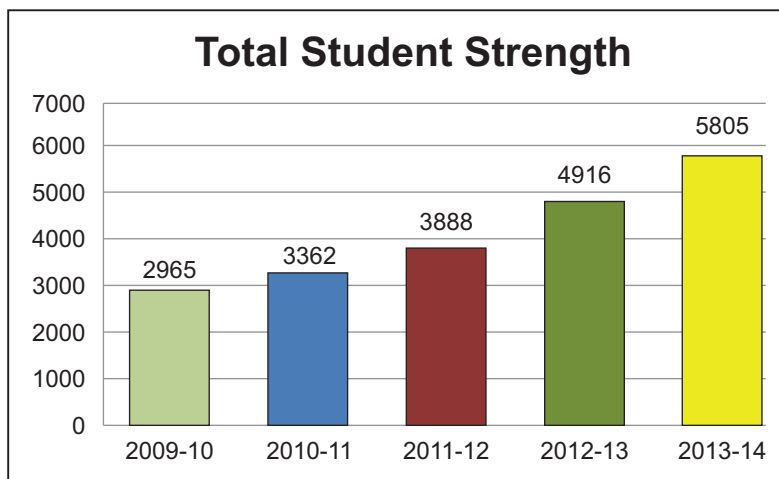
- i) B.Tech in Engineering Physics by the Department of Applied Physics
- ii) Dual Degree (B.Tech & M.Tech) course in Computer Science and Engineering by the Department of Computer Science and Engineering
- iii) B. Tech in Electronics & Instrumentation Engineering by the Department of Electronics Engineering

The selection process for the above three programmes is through **IIT-JEE (Advanced)**

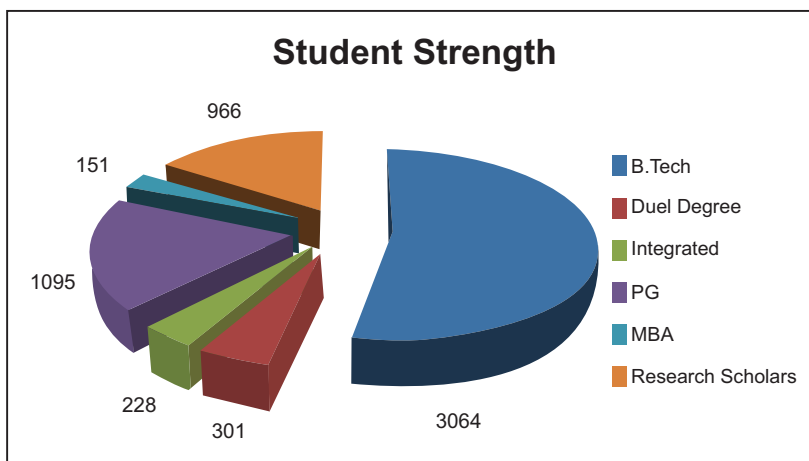
- iv) M.Tech Programme in “Earthquake Disaster, Hazard and Risk Mitigation” by the Department of Applied Geophysics

(b) Student Strength

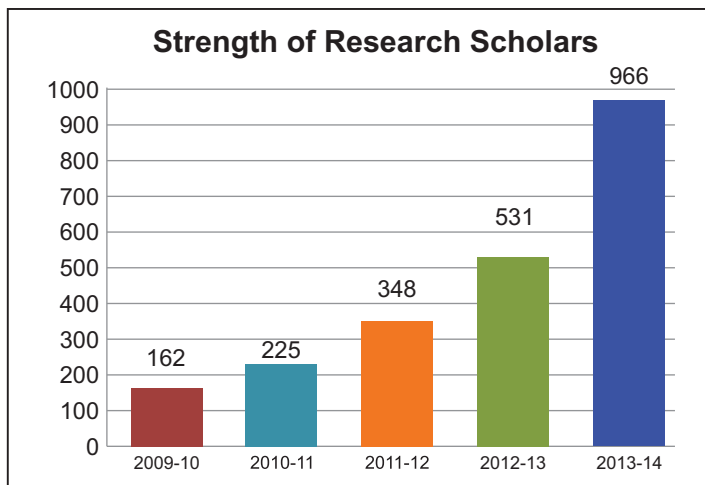
- The total student strength in the campus increased to 5805. The comparison of student strength in the last five years is shown below:



The break-up of student strength in different programmes is shown below:



- The total Research Scholars were 966 in 2013-2014, showing about 82% increase compared to the previous year (2012-13).



(c) Faculty Strength

- 45 faculty members (04 Chair Professors, 07 Associate Professors, 34 Assistant Professors) were recruited during the year.
- The total faculty strength in the campus during the year was 250.

2. R&D Activities

(a) R&D Projects & Outlay

The Institute continued its growth in R&D activities with 130 major on-going R&D projects worth Rs. 3641.63 lakhs (approx.) during the year. There was a 99.14 % increase in the outlay for R&D projects. The comparison of the last

five years in terms of number of projects and their outlay is presented below:

Year	Number of On-going R&D Project	R&D Project's Outlay (Rs. in Lakhs)
2013-14	130	3641.63
2012-13	71	1828.62
2011-12	62	1478.25
2010-11	81	1211.42
2009-10	62	991.12

(b) Research Publications & Books Contribution

- The outcome of research resulted in publication of the research work in International & National Journals, and International & National Conferences. The details of publications of the last five years are as follows:

Year	Publications during last five years				Total Publications
	International Journal	National Journal	International Conference	National Conference	
2013-14	426	67	387	193	1073
2012-13	406	71	245	147	869
2011-12	312	42	256	177	787
2010-11	206	52	177	128	563
2009-10	179	72	93	159	503

- The faculty members were also involved in book writing/book reviews/contribution of chapters to books, etc. The contributions made in this field were 68 this year. The comparison of contributions in the last five years is presented below:

Year	2009-10	2010-11	2011-12	2012-13	2013-14
Book writing / book reviews / contribution of chapters to books, etc	52	67	70	56	68

(c) Ph.Ds Awarded

The faculty members were also involved in research guidance resulting in the award of 64 Ph.D degrees this year, the highest so far. The comparison of last five years is presented as follows:

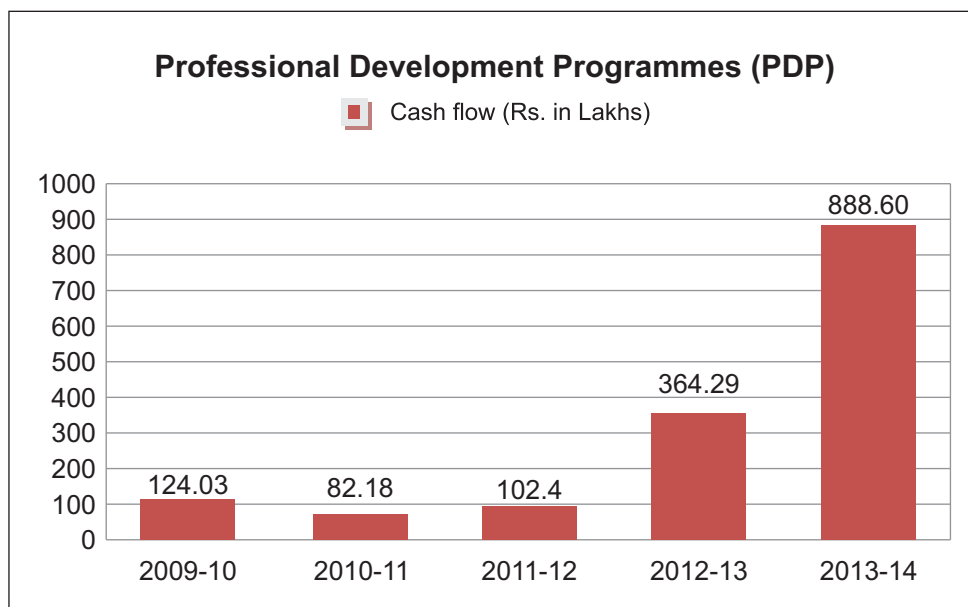
Year	2009-10	2010-11	2011-12	2012-13	2013-14
Number of PhD Awarded	20	22	27	43	64

3. Institute-Industry Interaction

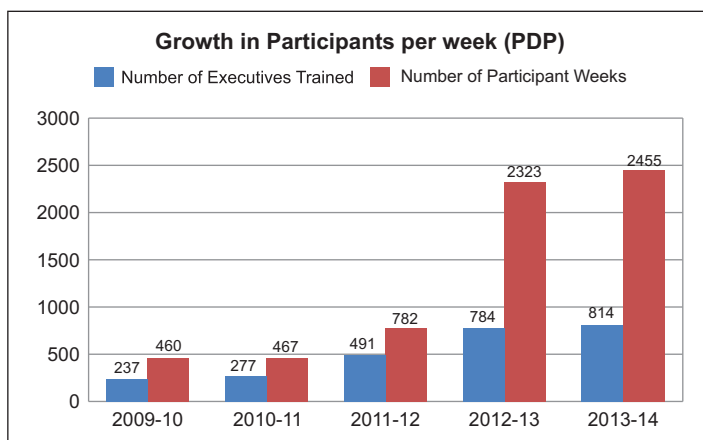
The total external cash flow from Professional Development Programmes and Consultancy projects was Rs.1483.24 lakhs for 2013-2014 as compared to Rs. 926.39 lakhs in the year 2012-2013, with 60.11 % increase. The cash flow details are given below:

Year	Number of Professional Development Programme	Number of Consultancy Projects	Total Funding (Rs. in Lakhs)
2013-14	42	329	1483.24
2012-13	39	336	926.39
2011-12	29	373	784.09
2010-11	22	324	606.84
2009-10	15	255	426.83

The expertise of the faculty was sought by many Indian Public & Private Sector organizations, and Institutions/Organizations of other countries by way of short-term and long-term Professional Development and Training Programmes. The comparative data of the last five years are as follows:



The number of executives trained during the year 2013-14 was 814 and the participant weeks were 2455. A pictorial view of the executives trained in the last five years is presented as follows:

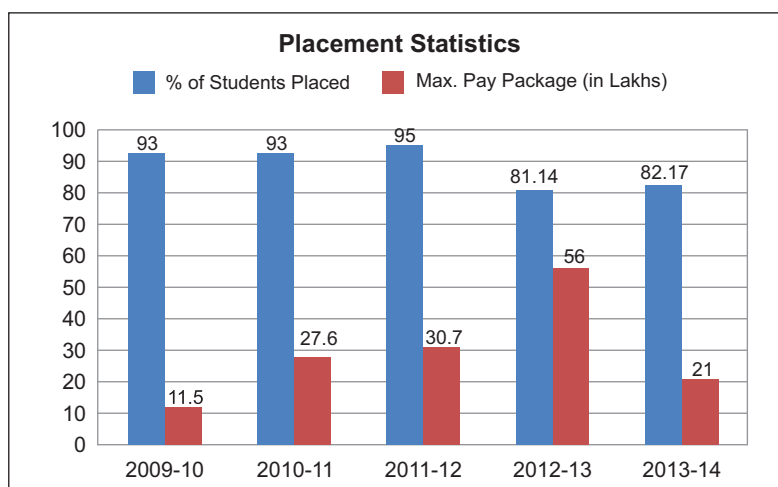


4. Students' Activities

- 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.

5. Campus Placement

The Training and Placement Section maintains active association and excellent rapport with the industry and corporate sectors. The students are properly trained and assisted in securing employment through in-campus and off-campus interviews. The percentage placement of students admitted through IIT-JEE over the last five years is presented below:



6. International Collaboration

(a) Erasmus Mundus India 4EUII Project

- Out of 23 foreign mobilities granted to ISM, 5 mobilities have been successfully completed and the faculty and students have returned.
- 15 mobilities are still in progress and all of them are expected back in ISM by July 2014.

(b) Erasmus Mundus AREAS+ Project (Academic Relations between Europe and Asia II)

- ISM has participated, as a partner university, with Politecnico di Torino as coordinator in a new student-cum-faculty exchange project (AREAS+) fully funded by European Commission.
- 10 mobilities were granted to ISM for India to Europe movement, 4 in Ph.D, 5 in Post-doc and 1 in academic staff category.
- Two students from Europe (one each from Italy and Spain) were also selected and are expected to reach ISM in July 2014 session.

(c) MOUs signed

- Escola Politecnica, da Universidade de Sao Polo, Brazil
- University of Tunis & National High Engineering School of Tunis (ENSIT), Tunisia

(d) Foreign Students Rules for Studies at ISM revised

- In recent times, it has been observed that there is an increase in number of applications for pursuing PG and Research (PhD) studies at ISM in its areas of core competency as well as other upfront engineering branches.
- Accordingly, some needful modifications mainly in application procedure, documents in support, number of seats, eligibility grades/percentage and fees are proposed

(e) International EDC Annexe

- A residential facility for housing the international students is ready and the furnishing is complete.

7. Educational and Welfare Facilities

- a) 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 of books, journals, theses/dissertations, reference books, conference proceedings, Indian standards, etc. The inventory of the learning resources of the library is as follows:

Books	109796
Bound Volumes of Journals	36589
Current Journals	366
Theses & Dissertations	10203

All documentation jobs including data entry of old journal bound volumes through 'Accessioning' and processes of journal subscription at the Journal Section are done through Libsys Library Management Software. The section rendered reference services out of current and old print journals and online journals.

- b) **The Computer Centre** provides intranet and internet services 24 hours a day, 365 days a year. It supports campus wide fiber optic LAN comprising of 5000 nodes that all connects
- The academic departments/centers, central library, Senior Academic Hostel (SAH).
 - Executive Development Centre (EDC), administrative sections, hostels, residence of faculty members and officers.
 - The centre is equipped with UTM, Managed Gigabit Switches and number of state-of-the art blade servers and rack mount servers.
 - Internet access is provided to all the users through links provided by BSNL under the project NMEICT of Government of India and a dedicated 500 Mbps (1:1) internet bandwidth provided by Bharti Airtel Ltd.
- c) The **Central Workshop** has a wide range of manufacturing facilities catering to the needs of undergraduate and postgraduate students as well as research scholars.

- d) **The ISM Health Centre** provides medical care to students, teachers, officers, staffs including their dependant family members and also to the retired persons and their spouses.
- Several specialists also visit the ISM Health Centre from time to time.
 - Employees are also referred to different hospitals within Dhanbad and to the other well-known hospitals of the country.
- e) **The Sports and Physical Education Centre** facilitates the students with several sports activities. The ISM Annual Sports Meet is one of the major events organized by the centre.
- f) The Institute has established a **Women Empowerment Cell** in the campus to empower girl students and women employees, to enhance understanding of issues related to women and to make the campus a safe and equal opportunity place for women.
- g) **The SC/ST Cell** of the institute functions to effectively implement the reservation policy of the Government of India. A liaison officer of the rank of Assistant Registrar is looking after the activities of the Cell.
- h) **The Hindi Cell** has been playing a vital role in ensuring the progressive use of Hindi in day-to-day official work. It organizes meetings of Official Language Implementation Committee, Hindi Workshops, etc.

8. Financial Outlay

(a) Non-Plan Fund

Carrying a deficit of Rs.24.62 lakhs from previous year the total income was Rs.7533.61 lakhs, which includes irrevocable Non-Plan grant-in-aid of Rs.5227.35 lakhs from Government of India, MHRD, New Delhi. The total Non-Plan expenditure was Rs.7633.08 lakhs. A deficit of Rs.99.47 lakhs was carried forward to the next financial year.

(b) Plan Fund

The total Plan income was Rs. 11563.84 lakhs, including opening balance of Rs.0.24 lakhs and irrevocable Plan grant-in-aid of Rs.11000.00 lakhs from GOI MHRD, New Delhi. The total plan expenditure was Rs.11734.43 lakhs including adjustment / advances under Plan leaving a deficit of Rs.170.59 lakhs.

1.0 ABOUT ISM

The Indian School of Mines was formally opened by His Excellency the Viceroy Lord Irwin on the 9th December 1926 and the general work of the University commenced on the 10th December 1926 in its premises at Dhanbad with Dr. D. Penman as its first principal. On the completion of the first 25 years of its existence the Silver Jubilee celebrations were inaugurated by Dr. Rajendra Prasad, the then President of India, which gave a fresh fillip to this Institution. The University celebrated Golden Jubilee in 1976, Diamond Jubilee in 1986 and Platinum Jubilee in 2001.

The Institute is located at Dhanbad to facilitate the mining education in proximity with the mining industry. For training in Earth Sciences, the province of Jharkhand and its surroundings are unrivalled in their variety of geological formations, in the multiplicity of structural and field characteristics and also in the diversity and richness of the metallic and non-metallic mineral resources. The locational advantage of ISM is that it is situated at the core of the industrial base of the region which hosts a number of coal mines, steel plants, fertilizer plants, refractory industries, and heavy machine building plant. It has 88-hectare residential campus of its own consisting of graceful blend of old and new style buildings. The serene campus comprises academic buildings, students' hostels, faculty and staff quarters, health centre, workshop, canteen and other infrastructural facilities for a cosmopolitan community. The Institute is about three kilometers to the north of Dhanbad railway station; the altitude of the place is 212 m above MSL; the average rainfall is around 148 cm; and the maximum and minimum temperatures are around 40° and 7°C respectively.

Present scenario

ISM caters to the human resource needs of the nation in the areas of mining, petroleum, mining machinery, mineral engineering and earth sciences besides developing manpower in the related disciplines of management, electronics engineering, electrical engineering, environmental sciences and engineering, computer science and engineering, mechanical engineering, applied sciences, and humanities and social sciences. In due recognition of its vital role in the service of the nation, ISM was granted autonomy by the Government of India. It has a general council, members to which are drawn from various industrial and governmental institutes, the parliament and the academia.

The Institute has eighteen departments and 250 faculty members as on 31-03-2014. 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 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

2.0 ACADEMIC ACTIVITIES

2.1 Academic Programmes

ISM offers twelve 4-years B.Tech. programmes in Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electrical Engineering, Electronics & Communication Engineering, Electronics & Instrumentation Engineering, Environmental Engineering, Mechanical Engineering, Mineral Engineering, Mining Machinery Engineering, Mining Engineering, and Petroleum Engineering; five 5-years Dual Degree programmes in B.Tech (Mining Engineering) with MBA, B.Tech (Mineral Engineering) with M.Tech (Materials Technology), B.Tech (Mineral Engineering) with M.Tech (Mineral Resource Management), B.Tech (Mining Engineering) with M.Tech (Mining Engineering) and B.Tech (Petroleum Engineering) with M.Tech (Petroleum Management); one 5-years Integrated M.Tech programme in Mathematics & Computing; two 5-years Integrated M.Sc. in Applied Physics, and Applied Chemistry; and two 5-years Integrated M.Sc.(Tech) in Applied Geology and Applied Geophysics. Admission to these B.Tech., Dual Degree, and Integrated courses is through IIT-JEE (Advanced).

Apart from these, the institute also offers 3-years Masters programmes leading to M.Sc. (Tech.) degree in Applied Geology and Applied Geophysics and 2-years M.Sc. degree programmes in Applied Chemistry, Applied Physics, and Mathematics & Computing. Admission to all these programmes is through all-India competitive examination. Seats in these courses are reserved for Scheduled Caste, Scheduled Tribe, OBC, and physically handicapped candidates, and wards of Jammu and Kashmir migrants and Defence Personnel as per GOI norms.

Admissions to a number of post-graduation courses leading to award of M. Tech., MBA, Executive MBA, M. Phil., and Ph.D. degrees are conducted through all-India level examinations and personal interviews.

Total Student Strength in B Tech Programme during 2013-14

S No.	Discipline	Sanctioned Strength	I Sem.	III Sem.	V Sem.	VII Sem.	Prep.	Total
1	Chemical Engineering	40	42	23	16	-	-	81
2	Civil Engineering	40	41	-	-	-	-	41
3	Computer Science & Engineering	92	92	90	108	76	-	366
4	Electrical Engineering	92	91	86	97	107	-	381
5	Electronics & Communication Engineering	92	89	90	89	86	-	354
6	Electronics & Instrumentation Engineering	35	35	-	-	-	-	35
7	Environmental Engineering	40	37	55	49	29	-	170
8	Mechanical Engineering	103	101	104	108	101	-	414
9	Mineral Engineering	60	64	63	39	33	-	199
10	Mining Machinery Engineering	40	41	38	31	19	-	129
11	Mining Engineering	120	119	125	118	99	-	461
12	Petroleum Engineering	103	91	108	102	114	-	415
13	Common (Prep)	NA					18	18
	TOTAL	822	808	782	757	664	18	3064
	GN	345	327	288	424	625	-	1664
	SC	126	126	174	55	34	-	389
	ST	63	67	65	27	25	-	184
	OBC	238	238	117	95	21	-	471
	Girl	50	50	38	42	41	-	171

Total Student Strength in Dual Degree Programme during 2013-14

Sl No.	Discipline	Sanctioned Strength	Ist	IIIrd	Vth	VIIth	IXth	Total	SC	ST	OBC	Girl
1.	B.Tech (Mineral Engineering) with. M.Tech (Materials Technology)	18	15	27	18	12	12	84	11	4	25	4
2.	B.Tech (Mining Engineering) with MBA	18	18	18	14	18	14	82	12	4	6	-
3.	B.Tech (Mineral Engineering) with M.Tech (Mineral Resource Management)	18	10	10	3	4	2	29	4	4	4	3
4.	B.Tech (Mining Engineering) with M.Tech. (Mining Engineering)	18	18	18	10	4	6	56	5	2	6	4
5.	B.Tech (Petroleum Engineering) with M.Tech (Petroleum Management)	18	18	18	4	5	5	50	6	4	7	4
	Total	90	79	91	49	43	39	301	38	18	48	15

Total Student Strength in Integrated Programme during 2013-2014

Sl No.	Discipline	Sanctioned Strength	Ist	Illrd	Vth	VIIth	IXth	Total	SC	ST	OBC	Girl
1.	M.Sc. - Applied Physics	33	7	7	5	5	7	31	3	0	0	1
2.	M.Sc. - Chemistry	33	5	1	12	7	8	33	2	0	1	2
3.	M.Tech Mathematics & Computing	34	10	10	4	4	12	40	2	0	0	1
4.	M.Sc. (Tech.) - Applied Geology	34	17	21	2	5	19	64	3	3	1	2
5.	M.Sc. (Tech.) - Applied Geophysics	34	16	14	5	9	16	60	4	0	0	1
	Total	168	55	53	28	30	62	228	14	3	2	7

Total Student Strength in 2yr M.Sc./3yr M.Sc. (Tech.) Programme during 2013-2014

Sl No.	Discipline	Sanctioned Strength	Ist	Illrd	Vth	Total	SC	ST	OBC	Girl
1.	M.Sc. - Applied Physics	27	27	20	0	47	7	3	9	14
2.	M.Sc. - Chemistry	42	42	36	0	78	7	2	5	29
3.	M.Sc. - Mathematics & Computing	41	41	42	0	83	14	1	24	41
4.	M.Sc. (Tech.) - Applied Geology	44	44	43	41	128	21	9	36	53
5.	M.Sc. (Tech.) - Applied Geophysics	62	62	56	47	165	21	13	47	42
	Total	216	216	197	88	501	70	28	121	179

Total Student Strength in M.B.A. Programme during 2013-2014

Semester	Sanctioned Strength	Total	SC	ST	OBC	Girl
I	62	60	10	04	10	24
III	62	50	07	04	16	21
Total		110	17	08	26	45

Total Student Strength in Executive M.B.A. Programme during 2013-2014

Semester	Total	SC	ST	OBC	Girl
I	27	1	0	3	2
III	14	2	0	1	1
Total	41	1	0	3	2

M.Tech Student data during the Academic Session 2013-14

Discipline	Sanctioned Strength	I Semester						III Semester					
		Total	OBC	SC	ST	Girl	Spons.	Total	OBC	SC	ST	Girl	Spons.
Computer Sc. & Engineering	51	49	14	7	4	11	0	45	13	8	2	7	2
Electrical Engineering	33	32	8	5	3	8	0	18	5	1	1	7	0
Environmental Sc. & Engg	40	34	11	6	1	14	0	20	6	3	0	6	0
Electronics & Comm. Engg	33	31	9	4	3	2	0	19	6	4	0	4	1
Fuel Engineering	11	9	3	2	0	0	0	9	3	2	0	1	0
Geomatics	11	7	2	1	0	1	0	6	1	1	0	0	0
Industrial Engg. & Management	32	28	11	3	2	7	0	18	5	3	2	0	0
Mechanical Engg. (Design)	22	20	7	3	1	1	0	0	0	0	0	0	0
Mechanical Engg. (Manufactu.)	22	22	7	4	2	6	0	21	6	4	2	1	1
Maintenance Engg. & Tribology	20	19	5	2	1	2	0	11	3	0	0	1	0
Mining Machinery Engineering	20	17	6	2	0	0	0	15	5	4	0	0	0
Mineral Engineering	28	9	3	1	0	7	0	13	4	1	0	1	0
Petroleum Engineering	28	27	9	4	1	1	0	16	5	2	0	0	0
Underground Space Technology	11	5	0	0	0	0	0	7	0	0	0	1	
Petroleum Exploration	26	8	5	1	0	2	0	0	0	0	0	0	0
Mineral Exploration	14	7	1	0	0	3	0	4	0	0	1	1	0
Mining Engineering	11	4	0	0	0	0	0	0	0	0	0	0	0
Engineering Geology	14	0	0	0	0	0	0	3	0	0	0	0	0
Total	427	328	101	45	18	65	0	225	62	33	8	31	4

Total Student Strength M.Phil During 2013-14

Sl No.	Discipline	Semester	Sanctioned Strength	Total	SC	ST	OBC	Girl
1.	Applied Physics	I Semester	11	0	0	0	0	0
2.	Applied Mathematics		20	19	5	4	3	6
3.	English		20	16	1	7	2	9
4.	Chemistry		11	6	2	0	1	6
Total			62	41	8	11	6	21

Total Student Strength in Ph.D. Programme during 2013-14

Stream	Total	SC	ST	OBC	Girl
PhD (Full Time)	528	80	36	235	177
PhD (Part Time)	438	NA	NA	NA	57
Total	966	80	36	235	234

2.2 Research Programmes

ISM continues to support increasing level of research activities in regular academic curricula leading to the award of research degree, the feature being external registration of Ph. D. scholars through approved research centres. Under the research programme 64 Ph.D. degrees were awarded during 2013-14. The following list provides a detailed account of the research degrees awarded during 2013-14:

Sl. No.	Name	Guide	Title of the Thesis
1.	Shambhu Sharan	Dr S P Tiwari	Study of Rough Automata and Fuzzy Automata
2.	Atanu Bandyopadhy	Prof. P K Sadhu & Dr Nitai Pal	Some Studies on High Frequency Resonant Inverter Based Induction Heater and the Corresponding choice of Secondary Metallic Objects
3.	Janardan Prasad	Prof. Vishnu Priye	Multilayered Waveguide Based Optical Communication Devices
4.	Vishal Kumar Singh	Dr Akhilesh Prasad	Pseudo-Differential Operators on Some Function and Distribution Spaces
5.	Damodar Reddy Edla	Prof. P K Jana	Developing Algorithms for Clustering Biological Data
6.	Goutam Kumar Mahato	Prof. G S Seth	Magnetohydrodynamic Flow and Heat Transfer In Rotating and Non-Rotating Media
7.	Abhay Kumar Mahanta	Prof. D D Pathak & Dr T G Kasturirangan (Ext)	Synthesis, Characterization, and Catalytic Activities of Hydroxyl Terminated Poly-Butadiene-Grafted -Bis (\square_5 -Cyclopentadienyl) Iron Polymers
8.	Dulu Patnaik	Dr P K Chakrabarti (Retd)	Implications of WTO on Indian Economy - An Economic Analysis of Banking Sector
9.	Sk Hafizul Islam	Prof. G P Biswas	Elliptic Curve Cryptography Based Techniques For Information and Network Security
10.	Deepak Kumar Mohanty	Dr Vineet Kumar Rai	Optical Properties of the Rare Earth Ions Doped Glasses
11.	Vikrant Kumar Srivastava	Prof. Vishnu Priye	Ultrafast Optical Gate Based Logic Design And Its Application

12.	Ajay Kumar	Prof. AS Venkatesh & Dr P V Rameshbabu (Ext)	Geological, Petrological and Geochemical Characterization of Radioactive Quartz Pebble Conglomerates (QPC) Along Western Margin of Bonai Granite, Sundergarh District, Orissa
13.	Subrata Samanta	Dr S K Ghoshal	Model based Robust Fault Diagnosis and Fault Accommodation on Degraded System Using Analytical Redundancy
14.	Ashish Ranjan	Prof. S K Paul	Study And Design of Some Analog Filters Using Current Mode Analog Building Blocks
15.	Sanjoy Kumar Sarkar	Prof. S Mohanty Prof. A S Venkatesh Mr A K Singh (Ext) MOIL, Nagpur	Manganese Ore Deposit of Balaghat Mine, Central India: Evolution Model And Its Implication For Exploration
16.	Gyanesh Kumar Sinha	Prof. Chandan Bhar Dr Vineet Sengar Prof. J K Pattanayak	A Study of Carbon Credit Generation Practices In Select Power Generation Companies In India
17.	Aniruddha Ghosh	Prof P K Sarkar Co-guide: Dr S Chattopadhyay	Investigation of Yield Parameters of Submerged Arc Welding Process
18.	Chavan Prakash Dhondiram	Prof. T Sharma Dr B K Sharma (Ext)	Studies on Effect of Coal Properties and Process Parameters on Gasification Kinetics.
19.	Upendra Singh Yadav	Dr Vikas Mahto	Experimental Studies, Modeling and Simulation of Polymer Gel System for Profile Modification In Petroleum Reservoir Rock
20.	Taniya Sinha	Dr (Late) Mitali Sen	A Study of Factors Affecting Entrepreneurial Success in India with Special Reference to Jharkhand State
21.	C Raghu Kumar	Prof. Nikkam Suresh Dr D Bhattacharjee (Ext)	Analysis of Separation Characteristics of Fine Particles in Floatex Density Separator
22.	Santu Das	Prof. J K Pattanayak Prof. Pramod Pathak Co-guide	A Study on The Effect of Quarterly Earnings Announcements on Stock Price Movement of Companies Constituting Sensex

23.	Prem Nath	Dr Chiranjeev Kumar	Study And Development of Efficient Mobility Management Schemes For Communication Networks
24.	Subrata Chattopadhyay	Dr (Mrs) Saumya Singh Prof. S C Bhattacharyya (Ext)	Analysis of Critical Factors Guiding Consumer Perceptions In B-School Positioning In West Bengal Analysis of Critical Factors Guiding Consumer Perceptions In B-School Positioning In West Bengal
25.	Sujan Saha	Prof. T Sharma Dr B K Sharma (Ext)	Studies on Physical Properties of Indian Coals and Its Effect on Coal Gasification Kinetics
26.	Sharbani Roy	Prof. Vishnu Priye	Erbium Doped Fiber Amplifiers in Dynamic Photonic Networks
27.	Anamika	Prof. Vishnu Priye	Study on Interchannel Crosstalk in WDM Optical Fiber Communication Link
28.	Olusola Oladele James	Dr Biswajit Chowdhury Dr Sudip Maity (Ext)	Mixed Metals Promotion on Iron and Cobalt Based Fischer-Tropsch Catalysts: Synergistic Effect of Calcium and Transition Metals
29.	Himangshu Sekhar Mandal	Dr P K Khan Dr A K Shukla (Ext)	Seismic Behavior of the Subsurface Geomorphic Features over the Central Part of India Seismic Behavior of the Subsurface Geomorphic Features over the Central Part of India
30.	Kajaljyoti Borah	Prof. Shalivahan Dr S S Rai, NGRI, Hyderabad (Ext)	Seismic Tomography of Dharwar Craton
31.	Vikash Kumar Saw	Prof. S Laik Prof. G Udayabhanu	Studies of Methane Hydrate Formation and Dissociation In Presence of Extraneous Materials
32.	Manoj Kumar	Prof. P S Mukherjee Prof. N M Mishra	An Investigation to Establish Correlation between Condition of Lube Oil with Wear Debris
33.	Abhijit Prasad	Prof. A Basu	Structural and Dielectric Studies of Some Silicate Based Ceramics and Glass -Ceramics
34.	Tanmoy Roy Choudhury	Prof. A Basu	An Investigation into the Physical Properties of Some Rocks and Minerals with Special Reference to Coal

35.	Shafique Ahamad	Dr M K Singh	Study of Some Problems on Analytical Approach of Unsteady Groundwater Flow in Aquifer
36.	Ajay Kumar Sinha	Dr Sandeep Mondal Co-guide: Prof. K Mukherjee	Feasibility of Remanu-Facturing in India – A Study of Automobile Sector
37.	Priyanka Kumari	DR M K Singh	Study of Analytical and Numerical Approach of Solute Transport Modeling
38.	Santosh Kumar Ray	Prof. D C Panigrahi	Development and Standardization of a Method for Studying the Susceptibility of Coal to Spontaneous Heating
39.	Deepak Majhi	Prof. G N Singh	Some Estimation Procedures Using the Auxiliary Information in Sample Surveys
40.	Bibhas Karmakar	DR (Mrs) Keka Ojha Co-guide: Prof. A K Pathak	Prospective Evaluation and Prediction of Coalbed Methane Production from a Part of Raniganj and Jharia Coalfields in India
41.	Amar Prakash	Prof. VMSR Murthy Dr K B Singh (CIMFR)	A Study into the Influence of Intact Rock and Rock Mass Properties on the Performance of Surface Miners in Indian Geo-Mining Conditions
42.	Samiran Sur	Dr (Mrs) Mrinalini Pandey	Effect of Advertising on Consumers' Acceptance Level of IPTV in India: A Study
43.	Anupam Kumar Singh	Dr S P Tiwari	Study of Topological and Categorical Aspects of Fuzzy Automata
44.	Rabindra Kumar Sinha	Prof. M Jawed Dr S Sengupta (Ext) NIRM, Bangalore	Influence of In Situ Stress on Design of Layout and Support in Bord And Pillar Workings
45.	Mantosh Biswas	Dr Hari Om	Study and Development of Image Denoising Techniques
46.	Debmallya Chatterjee	Prof. (Mrs) Bani Mukherjee	Mathematical Modelling of Multicriteria Decision Making Problems Based on AHP and Fuzzy-AHP Approach
47.	Syed Modassir Hussain	Prof. G S Seth	Investigation of Some Problems of Fluid Flow and Heat Transfer in Magnetohydrodynamics

48.	Sudipta Som	Dr S K Sharma	Swift Heavy Ion Induced Structural and Luminescence Properties of Rare Earth Doped Yttrium Oxide Nanophosphors
49.	Vinay B Ugale	Dr K K Singh Prof. N M Mishra	Experimental And Numerical Study of Impact And Flexural Behaviour of Thin Sandwich Panels Made of Composite Materials
50.	Murari Prasad Roy	Dr A K Mishra Prof. M Jawed Dr P K Singh CIMFR, Dhanbad	Investigations into the Effect of Delay Time, Total Charge and Effective Explosives Weight per Delay on Blast Induced Ground Vibration
51.	Santosh Kumar . Choudhary	Dr Mukul Kumar Das	Some Studies on the Design of Si/SiGe Based Thin Film Solar Cell
52.	Binod Shaw	Dr V Mukherjee	Study of Economic Load Dispatch, Optimal Power Flow and Their Related Topics Along With Facts Devices Using Evolutionary Optimization Techniques
53.	Achinta Bera	Dr Ajay Mandal and Prof. T Kumar (Ext)	Studies on Enhanced Oil Recovery By Means of Microemulsions, Interfacial Tension Reduction and Wettability Alteration
54.	Abhaya Ranjan Srivastava	Dr Saumya Singh Dr A M Agrawal (Ext)	Determinants of Effectiveness of Organised Retailing – A Study of Jharkhand Region
55.	Sandip Mandal	Dr Biswajit Chowdhury	Design of Gold Nanoparticle Supported on Mesoporous Material Useful For Mild Oxidation Reaction
56.	Santosh Sonar	Dr Tanmoy Maity	Z-Source Converter Used for Wind Power Conversion
57.	Sabita Brata Dey	Dr Sanjoy Mandal Prof. Narendra Nath J ana (Ext)	Modeling & Analysis of Wide FSR Integrated Multiple Ring Resonator Based Optical Filter
58.	Ram Kishor	Dr Badam Singh Kushvah	A Study of Effective Stability In The Generalised Photogravitational Chermnykh-Like Problem
59.	Mahua Banerjee	Dr Chiranjeev Kumar	Efficient Model Driven Development Techniques Using Aspect Oriented and Feature Oriented Programming

60.	Dinbandhu Mandal	Prof. P C Pal	Theoretical Study of Elastic Wave Propagation In Layered Anisotropic And Inhomogeneous Media
61.	Md Afroz Ansari	Dr P K Khan	Geodynamics Status of The Central Orogenic Segment Between Darjeeling and Himachal Himalayas
62.	Tripti	Dr Vipin Kumar Dr Anshumali	Study on Pesticide Tolerant Bacteria And Their Phosphate Solubilization Activity: An Approach Towards Bio-Fertilizer Preparation
63.	Bibhuti Bhusan Mandal	Prof. A K Pal Dr S Bhattacharya Dr P K Sishodia (Ext)	Development of a Protocol for Evaluation of Human Vibration Hazard Potential of Mining and Processing Equipment Used In Indian Mines
64.	Sumit Kumar Vishwakarma	Prof. S Gupta	Study of Some Problems of Seismic Waves in Inhomogeneous Elastic Medium

2.3 Annual Convocation

The XXXVI Annual Convocation of Indian School of Mines was held on 10th May 2014. The convocation was presided over by Shri Prateep Kumar Lahiri, IAS (Retd.), Chairman, General Council & Executive Board of the School. Shri Pranab Mukherjee, The President of India was the Chief Guest of the function and Dr Syed Ahmed, Governor of Jharkhand was Guest of Honour of the function. Other special dignitaries were Shri Hemant Soren, Chief Minister of Jharkhand and Smt. Geeta Oraon, Minister of HRD, Jharkhand.

The Chief Guest Shri Pranab Mukherjee addressed the gathering and congratulated the degree recipients. Dr Syed Ahmed, the Guest of Honour also addressed the gathering.

Shri P K Lahiri, Chairman in his address congratulated graduating students and described the expansion plan of the institute and role in promoting Indo-Afghan Cooperation.

Prof. D C Panigrahi, Director, Indian School of Mines presented brief report on academic & other activities of the School during the year 2013-14 highlighting various on-going expansion work.

During the Convocation 64 Ph.Ds, 29 MPhil, 162 MTech, 55 MBA, 101 M.Sc.Tech, 102 M.Sc., 24 Integrated M.Sc.Tech, 16 Integrated M. Sc., 10 Integrated M.Tech, 43 Dual Degree and 498 B.Tech, making a total of 1106, degrees were conferred on the students.

ISM Gold Medals and Silver Medals were given to 43 & 10 students respectively. Besides, 22 students were given sponsored and other medals. Shri Sanchit Agarwal, a student of 5 year Integrated M.Tech Mathematics and Computing was awarded Best Student Shield of the Institute.

3.0 DEPARTMENTAL ACTIVITIES

3.1 Department of Applied Chemistry

The Department of Applied Chemistry was established as a separate Department in the year 1989. The Chemistry Section existed prior to that as a part of the Department of Chemistry, Fuel and Metallurgy / Chemistry, Fuel and Mineral Engineering / Applied Sciences since 1926.

The Department offers four academic programmes: 5-years Integrated M.Sc. Chemistry, 2-years M.Sc. Chemistry, M.Phil. Applied Chemistry and Ph.D.

3.1.1 BRIEF LIST OF ON-GOING R&D PROJECTS (PROJECT VALUE RS.5,00,000/-AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
Development of Organic -- -----rearrangement reaction.	UGC, New Delhi	Dr. B. Chowdhury	₹ 5.92	01.02.2011	31.01.2014	To develop organic-inorganic hybrid nanocomposite	Ongoing	Published 03 international papers
Mesoporous mixed oxide supported gold nanoparticle catalyst	DST, Govt of India	Dr. B Chowdhury	₹ 48.96 Lakhs	13.08.13	Ongoing	To develop the gold nanoparticle catalyst	Ongoing	The catalyst is prepared, 01 paper has communicated
Design of novel bi-functional catalyst for hydrocarbon oxidation	DST, Govt of India and NWO Netherland	Dr. B Chowdhury	₹ 35.9 Lakhs	Dec 2013	Ongoing	To develop zeolite catalyst	Ongoing	The catalyst is prepared, 01 paper has communicated
Synthesis, characterization ---- molecular recognition and catalysis	DST, New Delhi	Dr. R. P. John	₹ 22.97 Lakhs	18.02.2011	18.02.2014	To develop dipodal and tripodal ligands	Ongoing/ completed	Important discrete-Pd-based catalysts developed
Polyacrylamide grafted -- floculant and viscosifier	DST, New Delhi	Dr. Sagar Pal	₹ 17.75 Lakhs	21.09.2010	20.09.2013	To develop novel polymeric floculant and viscosifier	completed	Published 06 International papers
Amphoteric xanthan--- industrial wastewater	DST, New Delhi	Dr. Sagar Pal	₹ 15.45 Lakhs	10.10.2010	09.10.2013	To develop amphoteric xanthan gum	Completed	Published 04 International papers
High performance modified guar gum ----- industrial effluent treatment	DST, New Delhi	Dr. Sagar Pal	₹ 24.94 Lakhs	20.06.2013	19.06.2016	To develop multifunctional guar gum derivatives	Ongoing	Non-ionic guar gum based nanocomposite has been synthesized. 01 paper has been communicated.
Molecular Recognition and Applications of Fluorescence Sensors in Host-Guest Chemistry	DST, New Delhi	Dr. Swapam Dey	₹ 19.90 Lakhs	01.04.2010	31.03.2013	To develop Fluorescence sensors	Completed	Published 02 International papers
Photochemical Synthesis Organic Synthesis	DST, New Delhi	Dr. Somnath Yadav	₹ 27 Lakhs	August, 2012	July, 2013	Nanocatalysis	Ongoing	Work under progress
Synthesis of Triplesalen- based metal-organic frameworks (MOFs) and investigation on their functional applicability.	DST, New Delhi	Dr. H. P. Nayek	₹ 25.4 Lakhs	25.07.2012	24.07.2015	To develop Metal-organic- frameworks	Ongoing	Synthesis is going on.

Synthesis and Functionalization ---- in Polymer Blends	DST, New Delhi	Dr. G. Nayak	₹ 23 Lakhs	28.11.2013	Controlled dispersion of Graphene in Polymer Blends	Ongoing	Work under progress
Upconversion nanoparticle ----- for bioimaging	DST, New Delhi	Dr. S. Sahu	₹ 23 Lakhs		Development of nanoparticles for bioimaging	Project approved	
Biodegradable imprinted nanomaterials----- biocompatibility	DST, New Delhi	Dr. R. Madhuri	₹ 23.18 Lakhs		Development of imprinted nanomaterials	Project approved	
Kinetics and Mechanistic ----- Polypyridyl Ligands	DST, New Delhi	Dr. S. K. Padhi	₹ 23.0 Lakhs		To establish the mechanism of water oxidation	Project approved	
Catalytic partial oxidation of immobilised metal complexes under mild condition	DST, New Delhi	Dr. C. Haldar	₹ 23.0 Lakhs		Developed novel heterogenised vanadium catalyst	Project approved	

3.1.2 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
KEK Photon Factory, Tsukuba, JAPAN	Collaborative work for X-ray Absorption Fine Structure Characterization of nanoparticle catalyst
Department of Physical Chemistry, University of Siegen, Germany	Collaborative research work.
Eindhoven University of Technology, Netherland	Collaborative research work.
Institut de Recherches sur la Catalyse et l'Environnement de CNRS/ Universite Lyon1 CNRS, France	Collaborative research work.
Pohang Accelerator Laboratory, South Korea	Collaborative research work.
Institute for Integrated Cell-Material Sciences, Kyoto University, Japan	Collaborative research work.
Institute for Molecular Science, Okazaki, Japan	Collaborative research work.
Institute of Chemical Research of Catalonia, Spain	Collaborative research work.
IIT Guwahati	Collaborative research work.
IIT Hyderabad	Collaborative research work.
IIT Kharagpur	Collaborative research work.

3.1.3 IMPORTANT NEW EQUIPMENT ACQUISITIONED (ABOVE RS.5,00,000/-):

Name of Equipment	Purpose	Date of Purchase	Value (₹)
Electrospinning Unit Model- Nanomate 3000 Make: Thukral Services Pvt Ltd (TSPL), Secunderabad	Nanofiber	April 2014	Rs. 7.78 Lakhs
Rota vapor	For research	January 2014	Rs. 6.00 Lakhs

3.1.4 RESEARCH PUBLICATION

3.1.4.1 Books reviews/contribution of chapters in a book

1. **Biswajit Chowdhury***, Chiranjit Santra, Rawesh Kumar, Sandip Mandal “Recent development on gold nanomaterial as a catalyst for oxidation reaction through green & sustainable route” Chapter Advanced Materials for Agriculture, Food, and Environmental Safety - WILEY-Scrivener Publishing, USA, Year of Publication 2014; Chapter 8.
2. **Sagar Pal***, R. Das. In Polysaccharide based Graft copolymers, Susheel Kalia and M. W. Sabba (Eds.), Chapter 9, pp. 325-345. Springer-Verlag Berlin Heidelberg, 2013 - “Polysaccharide based graft copolymers for biomedical applications”.

3.1.4.2 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	B. Dey, A. Sarkar, K. K. Mishra, A. K. Banerjee	2014	A simple cost effective method for obtaining intact shell cenospheres from as received one	J. Indian Chem. Soc.99331	99	331
2.	R. N. Senapati P. Dutta, A. Sarkar	2014	Ammoxidation of 3-Picoline over V-Mo-P oxide catalyst prepared from 11-Molybdo-1-Vanado phosphoric acid	J. Chem. Chem. Eng.	7	924
3.	S. Singh, L.C. Ram, A. K. Sarkar	2013	The mineralogical characteristics of the ashes derived from the combustion of lignite, coal washery rejects, and mustard stalk	Energy Sources, Part A	35	2071
4.	Abhijit Samanta, Keka Ojha, Ajay Mandal, A. Sarkar	2013	Extraction and characterization of an ecofriendly surfactant for its used in enhanced oil recovery	Journal of Petroleum Engineering & Technology	3	20
5.	Soumitra Ghorai, Asish Sarkar, A. B. Panda, Sagar Pal*	2013	Evaluation of the flocculation characteristics of polyacrylamide grafted xanthan gum/silica hybrid nanocomposite	Industrial & Engineering Chemistry Research	55	9731

6.	Surabhi, G . Udayabhanu and Nikkam Suresh	2014	Characterization and Beneficiation of carbonaceous material in Indian fly ash	J of Indian Chem. Soc.	91	73
7.	Krishna Murari Prasad Singh, G. Udayabhanu and T Gouricharan	2014	Comparative Studies on the Settling Behaviour of Indian Non-Coking Coal Fines by Standard Jar Test and Instrument	Int. Journal of Coal Preparation and Utilization	34	65
8.	Neetha V Thampi, Keka Ojha, Udayabhanu G Nair	2014	Effect of Branched Alcohols on Phase Behaviour and Physicochemical Properties of Winsor IV Microemulsions	J Surfactants Detergents	17	371
9.	Vikash Kr Saw, G Udayabhanu, Ajay Mandal, Sukumar Laik	2013	Methane Hydrate Formation and Dissociation in the Presence of Bentonite Clay Suspension	Chem. Eng. Technol.	36	1
10.	S K Roy, D.C Panigrahi G. Udayabhanu	2013	Effect of moisture on smouldering combustion characteristics of Indian coals	J. Sustainable Energy Eng.	1	169
11.	J. G. J Raj, D. D. Pathak, P. N. Kapoor	2013	Multi-nuclear NMR investigation of Nickel (II), Palladium (II), Platinum (II) and Ruthenium (II) complexes of an asymmetrical ditertiary phosphine	J. Korean Chemical Society	57	726
12.	M. Yadav, S. Kumar, I. Bahadur, D. Ramjugernath	2014	Electrochemical and Quantum Chemical Studies on Synthesized Phenylazopyrimidone Dyes as Corrosion Inhibitors for Mild Steel in a 15% HCl Solution	Int. J. Electrochem. Sci.	9	3928

13.	M. Yadav, D. Behera, R.R. Sinha and P. Yadav	2014	Experimental and quantum chemical studies on corrosion inhibition effect of thiophene derivatives on mild steel in hydrochloric acid	Acta Metallurgica Sinica (English Letters)	27	37
14.	M. Yadav, D. Behera, Sumit Kumar	2014	Experimental and theoretical studies on corrosion inhibition of mild steel in hydrochloric acid by thiosemicarbazone of Schiff bases	Canadian Metallurgical Quarterly	53	220
15.	Mahendra Yadav, Sushil Kumar, Laldeep Gope	2014	Experimental and theoretical study on amino acid derivatives as eco-friendly corrosion inhibitor on mild steel in hydrochloric acid solution	Journal of Adhesion Science and Technology	28	1072
16.	Mahendra Yadav, Sumit Kumar	2014	Experimental, thermodynamic and quantum chemical studies on adsorption and corrosion inhibition performance of synthesized pyridine derivatives on N80 steel in HCl solution	Surface and Interface Analysis	46	254
17.	Mahendra Yadav, Debasis Behera, Sumit Kumar, Rajesh Ranjan Sinha	2013	Experimental and Quantum Chemical Studies on the Corrosion Inhibition Performance of Benzimidazole Derivatives for Mild Steel in HCl	Ind. Eng. Chem. Res.	52	6318
18.	Mahendra Yadav, Sumit Kumar, Dipti Sharma	2013	Experimental and Quantum Chemical Studies on Corrosion Inhibition Effect of Synthesized Organic Compounds on N80 Steel in Hydrochloric Acid	Ind. Eng. Chem. Res.	52	14019

19.	M. Yadav, Sumit Kumar, Dipti Sharma	2013	Experimental and quantum studies on adsorption and corrosion inhibition effect of imidazole derivatives on N80 steel in hydrochloric acid	Surface Review and Letters	20	1350 057
20.	M. Yadav, P. N. Yadav, U. Sharma	2013	Substituted imidazoles as corrosion inhibitors for N80 steel in hydrochloric acid	Indian J. Chem. Technol.	20	363
21.	M. Yadav, Usha Sharma, P.N. Yadav	2013	Isatin compounds as . corrosion inhibitors for N80 steel in 15% HCl	Egyptian Journal of Petroleum	22	335
22.	M. Yadav, Sumit Kumar, Usha Sharma, P.N. Yadav	2013	Substituted amines as corrosion inhibitors for N80 steel in 15% HCl	J. Mater. Environ. Sci.	4	694
23.	Sandip Mandal, Chiranjit Santra, Rawesh Kumar, Malay Pramanik, Sumbul Rahman, Asim Bhaumik, Debasis Sen, Sudip Maity and Biswajit Chowdhury*	2014	Niobium doped hexagonal Mesoporous silica (HMS-X) catalyst for Vapor phase Beckmann Rearrangement reaction	RSC Advances	4	845
24.	Sandip Mandal, Kyoko K Bando, Rawesh Kumar and Biswajit Chowdhury*	2014	XAFS, XPS Characterization of Cerium Promoted Ti-TUD-1 Catalyst and it's activity for Styrene Oxidation Reaction	Catalysis Communication	46	123

25.	Olusola O. James, Biswajit Chowdhury, Aline Auroux, Sudip Maity	2013	Low CO ₂ Selective Iron based Fischer-Tropsch Catalysts for Coal based Polygeneration	Applied Energy	107	377
26.	Olusola O. James, Biswajit Chowdhury and Sudip Maity	2013	TPR and TPD studies of effects of Cu and Ca promotion on Fe-Zn based Fischer-Tropsch catalysts	Journal of Chemical Sciences	125	679
27.	S. Mandal , Chiranjit Santra, K. K. Bando, Olusola O. James, Sudip Maity, D. Mehta, Biswajit Chowdhury*	2013	Aerobic Oxidation of Benzyl Alcohol over Mesoporous Mn-doped Ceria supported Au Nanoparticle Catalyst	Journal of Molecular Catalysis A: Chemical	378	47
28.	R. P. Singh, Sagar Pal*, Sk. A. Ali	2014	Novel biodegradable polymeric flocculants based on cationic polysaccharides	Adv. Mater. Lett.	5	24
29.	Soumitra Ghorai, Asish Sarkar, Mohammad Raoufi, Asit Baran Panda, Holger Schönherr, Sagar Pal*	2014	Enhanced removal of methylene blue and methyl violet dyes from aqueous solution using a nanocomposite of hydrolyzed polyacrylamide grafted xanthan gum and nanosilica	ACS Applied Materials & Interfaces	3	4766
30.	Dipankar Das, Raghunath Das, Paulomi Ghosh, S. Dhara, Asit Baran Panda, Sagar Pal*	2014	Dextrin cross linked with poly (HEMA): A novel . hydrogel for colon specific delivery of ornidazole	RSC Advances	3	25340

31.	Soumitra Ghorai, Amit Sarkar, A. B. Panda, Sagar Pal*	2013	Effective removal of Congo red dye from aqueous solution using modified xanthan gum/silica hybrid nano-composite as adsorbent	Bioresource Technology	144	485
32.	Provas Pal, Sandip Kumar Pahari, Arnab Kanti Giri, Sagar Pal, Hari Chand Bajaj and Asit Baran Panda	2013	Hierarchically order porous Lotus shaped nano-structured MnO ₂ through MnCO ₃ : Chelate Mediated growth and shape dependent improved catalytic activity	Journal of Materials Chemistry A	1	10251
33.	Raghunath Das, Soumitra Ghorai, Sagar Pal*	2013	Flocculation characteristics of polyacrylamide grafted hydroxypropyl methyl cellulose: An efficient biodegradable flocculant	Chemical Engineering Journal	229	144
34.	Raghunath Das, Sagar Pal*	2013	Hydroxypropyl methyl cellulose grafted with polyacrylamide: application in controlled release of 5-amino salicylic acid	Colloids and Surfaces B: Biointerfaces	110	236
35.	S. Ghosh, Sagar Pal*	2013	Modified tamarind kernel polysaccharide: A novel matrix for controlled release of aspirin	Int.Journal of Biological Macromolecules	58	296
36.	Amit Sarkar, N. R. Mandre, A. B. Panda, Sagar Pal*	2013	Amylopectin grafted with poly (acrylic acid): Development and application of a high performance flocculant	Carbohydrate Polymers	95	753

37.	Swapan Dey, Dibyendu Sain and Shyamaprosad Goswami	2013	Naphthyridine Based Fluorescent Receptors for the Recognition of Uric Acid	RSC Advances	4	428
38.	S. Saha, R. K. Kottalanka, P. Bhowmik, S. Jana, K. Harms, T. K. Panda, S.Chattopad- hyay, H. P. Nayek	2013	Synthesis and Characterization of a Nickel(II) Complex of 9-Methoxy-2,3-dihydro-1, 4-Benzoxypipazine Derived from a Schiff Base Ligand and Its Ligand Substitution Reaction	J. Mol. Struc	1061	26
39.	S. Saha, R. K. Kottalanka, T. K. Panda, K. Harms, S. Dehnen, H. P. Nayek	2013	Syntheses and Characterization and Reactivity of Lewis Acid-Base Adducts based on B-N Dative Bonds	J. Organomet. Chem.	745- 746	329-334
40.	R. K. Kottalanka, S. Anga, K. Naktode, P. Laskar, H. P. Nayek, T. K. Panda	2013	Amidophosphine-Borane Complexes of Alkali Metal and Heavier Alkaline Earth Metals- Syntheses and Structural Studies	Organo- metallics	32	4473
41.	Goutam Hatui, Ganesh Chandra Nayak, Chapal Kumar Das, Samar B. Yadaw, Das	2013	Modification of MWCNT and its effect on ABS/ LCP blend system	J. of Applied Polymer Science	129	57
42.	B. Sahoo, K. S. Devi, S. K. Sahu, S. Nayak, T. K. Maiti, D. Dhara, P. Pramanik	2013	Facile preparation of multifunctional hollow silica nanoparticles and their cancer specific targeting effect	Biomaterials Science	1	647

43.	B. Sahoo, S. K. Sahu, D. Dhara, P. Pramanik	2013	A novel approach for efficient immobilization and stabilization of papain on magnetic gold nanocomposites	Colloids and Surfaces B: Biointerfaces	101	280
44.	Ekta Roy, Santanu Patra, Rashmi Madhuri, Prashant K. Sharma	2014	Gold nanoparticle mediated designing of non-hydrolytic solgel cross-linked metformin imprinted polymer . network: A theoretical and experimental study	Talanta	120	198
45.	Bhim Bali Prasad, Amrita Prasad, Mahavir Prasad Tiwari, Rashmi Madhuri	2013	Multiwalled carbon nanotubes bearing 'terminal monomeric unit' for the fabrication of epinephrine imprinted polymer-based electrochemical sensor	Biosensors and Bioelectronics	45	114
46.	Mannar R. Maurya, Chanchal Haldar, Amit Kumar, Maxim L. Kuznetsov, Fernando Avecilla and João Costa Pessoa	2013	Vanadium complexes having $[\text{VO}]^{2+}$, $[\text{VO}]^{3+}$ and $[\text{VO}_2]^+$ cores with hydrazones of 2,6-diformyl-4-methylphenol: synthesis, characterization, reactivity, and catalytic potential	Dalton Transactions	42	11941

3.1.4.3 Paper presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	G. Udayabhanu*	INVITED LECTURE: Studies of Some Polyacrylamide Grafted Naturally Occurring Polysaccharides as Corrosion Inhibitors for Mild Steel in 15% HCl Medium	32 nd Annual Conference of Indian Council of Chemists (ICC)	November 28-30, 2013	Depart. of Chemistry, Dharwad University, Karnataka
2.	D. D. Pathak*	INVITED LECTURE: Synthesis and characterization of some chiral complexes of Ruthenium (II) with some optically pure Ditertiary Phosphine or neomethylcyclopentadienyl ligands	32 nd Annual Conference of Indian Council of Chemists (ICC)	November 28-30, 2013	Depart. of Chemistry, Dharwad University, Karnataka
3.	M. Yadav*, D. Behera	Synthesis, characterization and corrosion inhibition study of Molybdenum and Tungsten complexes of N-Isonicotinyl-N-2-thiophenethiocarbohydrazide	3 rd Asian conference on coordination chemistry (ACCC3)	17-20 October, 2012	New Delhi, India
4.	D. Behera, Abhishek Biswas, Sushil Kumar, M. Yadav*	Diehtyl 3, 4-diaminothiemo[2,3-b] thiophene-2, 5-dicarboxylate as Corrosion Inhibitor for Mild Steel: Electrochemical, UV-Visible and Quantum Chemical Investigation	CORCON 2013	30 th September 3 rd October 2013	New Delhi, India
5.	D. Behera, Sushil Kumar, R. R. Sinha and M. Yadav*	Adsorption Properties And Inhibition of Mild Steel Corrosion in 15% HCl by 3-((1H-indol-3-yl) (4-methoxyphenyl) methyl)-1H-indole: Electrochemical Study	58th DAE-Solid State Physics Symposium	December 17-21, 2013	Thapar Institute, Patiala, Punjab

6.	D. Behera, Sushil Kumar and M. Yadav*	Electrochemical and quantum chemical application for monitoring corrosion and corrosion inhibition of mild steel in hydrochloric acid medium by synthesized Indole derivative,	International Conference On Structural and Physical Properties of Solids (SPPS 2013)	November 18th-20th, 2013	Indian School of Mines, Dhanbad, Jharkhand
7.	M. Yadav*, S. Kumar, D. Behera, P.N. Yadav	Electrochemical and quantum chemical studies on corrosion inhibition of benzodiazepine on mild steel in 4 M HCl	CORCON 2013	30 th September - 3 rd October 2013	New Delhi.
8.	Chiranjit Santra, Rawesh Kumar, Debasis Sen, Jitendra Bahadur, S. Mazumder and Biswajit Chowdhury*	Probing Hexagonal Mesoporous Co containing Silica Material by SANS/ SAXS and its Activity towards Styrene Epoxidation Reaction	Conference on Neutron Scattering 2014	2014	IISER, Pune
9.	Sumbul Rahman, Rawesh Kumar and Biswajit Chowdhury*	Highly active Nanoporous Co-HMS-X catalyst for Styrene Epoxidation reaction using Molecular O ₂	Recent Development in Chemical Science and Technology: Young Scientists Meet 2014	2014	NIT Rourkela
10.	Sumbul Rahman, Rawesh Kumar and Biswajit Chowdhury*	Highly active Nanoporous Co-HMS-X for Styrene Epoxidation reaction using Molecular O ₂	Int. Conference on Structural and Physical Properties of Solids (SPPS 2013)	2013	ISM Dhanbad
11.	Sagar Pal*	INVITED LECTURE: Modified xanthan gum/SiO ₂ hybrid nanocomposite: Efficient adsorbent for removal of toxic dyes and metal ion	Int. Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT 2014)	22 nd - 24 th January 2014	University of Calcutta, West Bengal.

12.	Amit Kumar Sarkar, Sagar Pal*	Removal of malachite green dye from aqueous solution using AP-g-PAA adsorbent.	Int. Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT 2014)	22 nd -24 th January 2014	University of Calcutta, West Bengal.
13.	Aniruddha Pal, Sagar Pal*	Synthesis and characterization of glycogen and poly (acrylic acid) based hydrogel via ATRP.	Int. Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT 2014)	22 nd -24 th January 2014	University of Calcutta, West Bengal.
14.	Dipankar Das, Sagar Pal*	Development and application of a novel pH- and ionic strength sensitive cross linked hydrogel based on dextrin and poly (HEMA)	Int. Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT 2014)	22 nd -24 th January 2014	University of Calcutta, West Bengal.
15.	Raghunath Das, Sagar Pal*.	Evaluation of pH dependent HPMC-g-PAM hydrogel as carrier for in-vitro release of colon-specific drug ornidazole	Int. Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT 2014)	22 nd -24 th January 2014	University of Calcutta, West Bengal.
16.	Soumitra Ghorai, Sagar Pal*	“Evaluation of the flocculation characteristics of modified xanthan gum/silica hybrid nanocomposite	Int. Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT 2014)	22 nd -24 th January 2014	University of Calcutta, West Bengal.
17.	Amit Kumar Sarkar, Sagar Pal*	Amylopectin-graft-poly (acrylic acid): An efficient flocculant	Int. Conference 3 rd FAPS Polymer Congress and MACRO - 2013	15 th - 18 th May '2013	I.I.Sc., Bangalore.

18.	Raghunath Das, Sagar Pal*	pH sensitive hydrogel composed of hydroxypropyl methyl cellulose and polyacrylamide: A novel matrix for colon specific delivery of ornidazole	Int. Conference 3 rd FAPS Polymer Congress and MACRO - 2013	15 th - 18 th May '2013	I.I.Sc., Bangalore.
19.	Dr. Somnath Yadav*, Rajkamal, Debnath Chatterjee, Abhijit Paul	An arabinose based low molecular weight organogelator (LMOG) selective for aromatic solvents	International Carbohydrate Symposium - 27	12-17 January, 2014	Inter. Carbohydrate Association at Indian Institute of Science, Bangalore.
20.	Sudeshna Saha, Hari Pada Nayek	Syntheses, Characterization and Reactivity of Lewis Acid-Base Adducts Based on B-N Dative Bonds	SPPS-2013	2013	ISM Dhanbad.
21.	Sudeshna Saha, Hari Pada Nayek	Syntheses, Characterization and Reactivity of Lewis Acid-Base Adducts Based on B-N Dative Bonds	Recent developments in chemical science and technology 2014	2014	young scientist's meet at IT, Rourkela.
22.	Angshuman Ray Chowdhuri, Triveni Kumar Mahto, Sumanta Kumar Sahu*	Single step functionalised ferrite nanoparticles for cationic dye removal	3 rd International Conference on Advance Nanomaterials and Nanotechnology (ICANN 2013)	01 st - 03 rd December 2013	Indian Institute of Technology Guwahati, Guwahati, Assam.
23.	Triveni Kumar Mahto, Sumanta Kumar Sahu*	Novel immobilization of lipase from candida rugosa into polyaniline incorporated mesoporous magnetic composite	International Conference Structural and Physical Properties of Solids (SPPS-2013)	November 18 th - 20 th , 2013	Indian School of Mines, Dhanbad, Jharkhand.

24.	Amrita De Adhikari, R.Oraon, S.K.Tiwari, G.C.Nayak*	Cellulose and Graphene Based Nanocomposite for Electrochemical Application	3rd Inter. Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013)	2013	IIT Guwahati.
25.	Santosh Kumar Tiwari, R.Oraon, A.De Adhikari, G.C. Nayak*	Effect of cellulose fibre and Graphene on Thermo-mechanical properties of Polymer Nanocomposite	3rd Inter. Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013)	2013	IIT Guwahati.
26.	Ramesh Oraon, S. K. Tiwari, A. De Adhikari and G. C. Nayak*	Effect of Nanoclay on Electrochemical performance of Graphene/PANI Nanocomposite for Supercapacitor Application	3rd Inter. Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013)	2013	IIT Guwahati.
27.	Ekta Roy, Kritika Gupta, Santanu Patra, Rashmi Madhuri*	Synthesis of electropolymerized molecularly imprinted polyarginine nanofilm for adenine detection	International Conference Structural and Physical Properties of Solids (SPPS-2013)	November 18 th - 20 th , 2013	Indian School of Mines, Dhanbad, Jharkhand.
28.	Santanu Patra, Ekta Roy, Kritika Gupta, Rashmi Madhuri*	Development of molecularly imprinted nanoparticle for trace level recognition of cancer marker by surface polymerization technique	International Conference Structural and Physical Properties of Solids (SPPS-2013)	November 18 th - 20 th , 2013	Indian School of Mines, Dhanbad, Jharkhand.
29.	Kritika Gupta, Santanu Patra, Ekta Roy, Rashmi Madhuri*	Fabrication of composite electrode on ceramic fabric for determination of omperazole	International Conference Structural and Physical Properties of Solids (SPPS-2013)	November 18 th - 20 th , 2013	Indian School of Mines, Dhanbad, Jharkhand.

30.	Ekta Roy, Santanu Patra, Rashmi Madhuri*	Metronidazole electrochemical sensor on glutamic acid modified molecularly imprinted polymer film	3rd Inter. Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013)	2013	IIT Guwahati.
31.	Santanu Patra, Ekta Roy, Rashmi Madhuri*	Synthesis of molecularly imprinted polymer by non- hydrolytic sol-gel method for trace level detection of antidiabetic drug	3rd Inter. Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013)	2013	IIT Guwahati.

3.1.4.4 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	S. Vishwakarma, A. Sarkar*	Scanning Electron Microscopic Evaluation of Polyaniline deposited high carbon ash	Proceedings of the 1st National Conference on Emerging Trends in Engg. and Science	Jan 30-31, 2014	Asansol Engineering College, Asansol
2.	D. D. Pathak*	INVITED LECTURE: Fe(II)- and Cu(I)- Facilitated Synthesis of Cyclic Phosphines and Phosphorus Macrocycles	N. Conference on Organic/ Inorganic Functional Materials: A Current Perspective (NCOIFM)	March 1-2, 2014	Dept of Chemistry, Deen Dayal Updhyay Gorakhpur University, Gorakhpur, U. Pradesh.
3.	Dibyendu Sain, Ashis Kumar and Swapan Dey*	Indole based Fluorogenic chemosensor for visual detection of HSO_4^- and CN^- ions OP-15	CTriC-2014	17 th -18 th January, 2014	CUSAT, Cochin.
4.	Sukanta Das, G C Nayak*, S K Sahu, P. C. Routray, A K Roy, H Baskey	Development of Magneto Dielectric based RADAR Absorbing Materials in X-Band regions for Defence applications	National Seminar -2014 on Nanoscience in Ballistics	7-8 March 2014	Depart. of App Physics & Ballistics, Fakir Mohon University, Balasore, Odisha

3.1.5 PARTICIPATION OF FACULTY/STAFF IN SEMINARS/CONFERENCES ETC

Prof. G. Udayabhanu	32 nd Annual Conference of Indian Council of Chemists (ICC) held at Department of Chemistry, Dharwad University, Karnataka	November 28-30, 2013
Prof. D. D. Pathak	32 nd Annual Conference of Indian Council of Chemists (ICC) held at Department of Chemistry, Dharwad University, Karnataka	November 28-30, 2013
Prof. D. D. Pathak	National Conference on Organic/Inorganic Functional Materials:A Current Perspective (NCOIFM) held at Department of Chemistry, Deen Dayal Updhyay Gorakhpur University, Gorakhpur, Uttar Pradesh	March 1-2, 2014
Dr. M. Yadav	CORCON 2013, New Delhi.	30 th Sept - 3 rd Oct 2013
Dr. Sagar Pal	International Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT 2014), held at University of Calcutta	January 22-24, '2014
Dr. Swapan Dey	CTriC-2014, CUSAT	17 th -18 th January 2014
Dr. Somnath Yadav	International Carbohydrate Symposium - 27	12-17 th January 2014

3.1.6 VISITS OF FACULTY MEMBERS ABROAD

Dr. Biswajit Chowdhury visited National Institute of Advanced Industrial Science & Technology, Japan in 2013.

3.2 Department of Applied Geology

The Department of Applied Geology is the pioneering centre of teaching, training and advanced research in Applied Geology in India. This is one of the oldest Departments of the Institute, established in 1926 that offers 5-Years Integrated M.Sc.Tech. programme, 3-Years M.Sc.Tech programme, M.Tech. and Ph.D. programmes.

3.2.1 FIELD VISITS/EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
Sedimentary Terrain Mapping Training	II M. Sc. Tech (AGL) & VI Integrated M. Sc. Tech (AGL)	Ramgarh-Kuju-Hazaribagh Area	9 to 19 th Dec. 2013
IV Sem. M.Sc Tech Applied Geology VIII Int. MSc Tech Applied Geology	22 students 09 students	Bagalkot, Karnataka	07-12.2013 to 20-12.2013
Local geological field excursion.	II Semester M.Sc Tech. (AGP), VI Semester M.Sc. Tech (AGP) Integrated.	Areas in the vicinity of Dhanbad (Bhuli-Bansjora Area)	Between 09.12.2013 and 22.12.2013
Local Geological Field excursion	IV M.Sc. Tech Integrated	Jharia Coal Field	11.12.2013-20.12.2013
Local geological field visit	IV Int. M.Sc. Tech (AGL)	In and around Dhanbad	2 weeks
Geological mapping training in deformed metamorphic terrain"	32 students (IV M.Sc. Tech. (AGL) and VIII Integrated M.Sc. Tech. (AGL) students)	Nim ka Thana, Sikar district, Rajasthan	11.12.2013 To 20.2.2013
'Sedimentary Mapping Training	II M.Sc. Tech (AGL) and VI Integrated M.Sc. Tech. (AGL) students	Asansol and surrounding areas in the Gondwana basin	09 th Dec.2013 to 18 th Dec. 2013
Sedimentary Terrain Mapping	II M.Sc. Tech. (AGL) and VI Int. M.Sc. Tech (AGL)	Raniganj basin, West Bengal	Two weeks in Dec., 2013

3.2.2 INTRODUCTION OF NEW COURSES AND PROGRAMMES, IF ANY (GIVE COURSE OUTLINE).

- New courses on Power Plant Engineering and Non-conventional Engineering Technology have been incorporated in M.Tech (Fuel

Engineering). The purpose of introducing these courses is to make students acquaint with the coal based power plant technologies and also the development in non-conventional energy technologies.

3.2.3 BEST PRACTICES OF THE DEPARTMENT

- Organised a Brain Storming Workshop on 'Geostatistics for Natural Resources Modelling (BSWG 2014)' on February 28, 2014 deliberating and addressing issues on modeling, characterization and management of natural resources and identifying future directions for research vis-à-vis the practical needs for the benefit of the industry.
- Capacity Building of the Scientists of AMD, Hyderabad on 'Geostatistics'.
- Capacity Building of the Officers of Oil India Limited, Duliajan on 'Geostatistics'.
- Capacity Building on 'Geostatistics' to the DST sponsored Training participants at WIHG, Dehradun.

3.2.4 BRIEF LIST OF ONGOING R & D PROJECTS (PROJECT VALUE Rs. 5,00,000/- AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value	Date of Commencement Date of Completion	Objective	Status	Findings
Artificial Recharge and Rainwater Harvesting Structures within the compounds of Indian School of Mines, Dhanbad	CGWB, MoWR	Prof. B. C. Sarkar (PI)	Rs. 1,89,46,745	21.12.2011/ Ongoing	To recharge ground water domain for sustainability of weathered zone and deeper fractured aquifer(s)	In Progress (near completion)	Roof top rainwater being harvested: 21,968 m ³ /year. Appreciable increase in the ground water level in all the 54 recharge wells.
Distribution and carbon isotopic variations of benthic foraminifera from gas hydrate rich Peru Offshore	DST	Dr. A. K. Bhaumik	Rs. 17.22 Lakhs	31.01.2012	To understand distribution of foraminifera in methane rich setting	Ongoing	Ongoing
Geodynamics and Structural Evolution of Kachchh Province	Department of Science and Technology, New Delhi	Prof. S. Mohanty	Rs. 32.00 Lakhs	1.9.2014 / 1.9.2017	1. Detailed structural mapping of some of the key sectors of the Kachchh province. 2. Determination of fault slip patterns from the kinematic indicators. 3. Determination of the relative displacement between different fault blocks. 4. Study of some of the igneous units associated with the Mesozoic rocks of Kachchh. 5. Analysis of inversion tectonics, if any, in the area. 6. Identification of areas vulnerable towards Neotectonic fault movements.	Ongoing	Field Mapping Phase-I and data collections are over
Geological and Technological Controls for Underground Coal Gasification	CSIR	Prof. D.C.Panigrahi; Co-Coordinator: Prof.Atul K. Varma	Rs. 91.60 Lakh	01.04.2012/ 31.03.2017	To provide geological and technical feasibility of coal seam for underground coal gasification	Ongoing	Work Plan finalized; Intricacies of the Project identified
"Facets of strain attributes on deformation. of rocks in Central India"	UGC, New Delhi	R.K. Dubey	Rs. 11.42 Lakhs	1.07.2012 - 30.06.2015	Deformation behaviour of rocks of Central India	Ongoing	-

Structural Geometry, Kinematics of Deformation and Metamorphism of the Proterozoic Kaladgi Group, in the eastern parts of Kaladgi Basin, Bagalkot district, Karnataka: implication to basin tectonics	Department of Science and Technology, Govt. of India	Dr. M. K. Mukherjee	Rs. 17.44 Lakhs	01.1.2011/ 30.06.2014	To work out the deformation geometry and kinematics of the basin	Ongoing	Fieldwork and data collection is over. Structural geometry worked out. Laboratory studies at the stage of completion.
Comprehensive Monitoring and Assessment of Drought in India: Implications for Process-Based Understanding of Drought Propagation.	Department of Science and Technology, Govt. of India	Dr. T. H. Syed	Rs. 17.16 Lakhs	Oct. 2011/ Sep. 2014	Understanding the processes that control the extent and recurrence of drought in India	Ongoing	Terrestrial Water Storage as a key indicator of drought.
Stable isotope, geochemical and geochronological studies of Ajjanahalli and parts of Gadag gold prospects, Chitradurga Schist Belt, South India	Department of Science and Technology, Govt. of India	Dr. S. Sarangi	Rs. 18.225 Lakhs	24.02.2012/ 24.02.2015	(i) to find out the source and origin of CO ₂ rich mineralizing fluid responsible for gold mineralization through a more detailed isotope, geochemical and geochronological studies	Ongoing	Work still in progress
Petrological and Tectonic Significance of Archaean Banded Iron Formation (BIF) from parts of the Palghat Cauvery Shear Zone (PCSZ) of South India	Department of Science and Technology, Govt. of India	Dr Upama Dutta	Rs. 9.00 Lakhs	August 2013-July 2016	Identifying petrological and tectonic significance of BIF in the study area	Ongoing	Ongoing
Petrology of felsic granulite from parts of the Southern Granulite Terrain	ISM, Dhanbad	Dr Upama Dutta	Rs. 5.60 Lakhs	Dec 2013- Nov 2016	Identifying petrological significance of Enderbite in the study area	Ongoing	Ongoing
Geochemical and petrographic study of the metamorphosed ultramafic-mafic rock suites of the Sargur Group and the surrounding granulitoid rocks exposed at several locations in the western Dharwar craton, south India	ISM, Dhanbad	R. Anand	Rs. 7.00 Lakhs	January 2014	Understanding the petrogenetic relationship between the rocks of the Sargur supracrustal belt	Ongoing	Ongoing

<p>Petrology, geochemistry and age of granite-greenstone assemblages along Rayachoti-Kadiri tract, Andhra Pradesh: window into late Archaean evolution of eastern Dharwar craton and geodynamics'</p>	<p>ISM, Dhanbad</p>	<p>Sukanta Dey</p>	<p>Rs. 13.76 Lakhs</p>	<p>29.08.2011/ 28.08.2014</p>	<p>To geochemically characterize volcanic rocks of greenstone belts of the Rayachoti-Kadiri area, Andhra Pradesh (Kadiri and Veigallu belts) and associated pre-, syn-, and post-tectonic granitoids and unravel their chronological interrelationship. ii. To understand petrogenesis of these rocks and their role in crust formation. iii. To suggest a tectonic model for development of these greenstone belts and associated granitoids with wider application to the evolution of the eastern Dharwar craton (EDC) and other cratons of the world.</p>	<p>Ongoing</p>	<p>Interpretation on the origin of Kadiri granite-greenstone belt over.</p>
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3.2.5 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
Airie Program, Colorado State University, USA	Collaborative research work sponsored by National Science Foundation (NSF), USA, for Re-Os geochronological work in the Central India.
Central Ground Water Board	Impact assessment and geophysical logging of artificial recharge structures
CSRE, IIT Bombay	Mineral Potential Mapping
GSI, Kolkata	Mineral Potential Mapping
MECL, Nagpur	Mineral Potential Mapping
CSRE, IIT Bombay	Mineral Potential Mapping
MECL, Nagpur	Mineral Potential Mapping
Central Ground Water Board, Patna	Dr Dipankar Saha, Regional Director- Co-Guide for a part-time PhD student, Mr Sunil Kumar, CGWB working on Fluoride contamination of Ground Water along with Prof G Udaybhanu
Pondicherry University	Isotopic work on Malanjkhanda and Dharwar sanukitoids
Geological Survey of India, Kolkata	Dr Fareeduddin, Deputy Director General., Kolkata- Co-Guide for a full time Ph D student, Mr Rahul Mukherje on Bhukia Gold Deposit, Rajasthan
IIT BHU, Varanasi	Experimental works.
Department of Earth Sciences, Johannes Gutenberg University, Mainz, Germany	Deformation microstructure and its implication in strain accommodation in deformed rocks.
Brown University	Research work
Wadia Institute of Himalayan Geology	Research Work & Project
Birbal Sahani Institute of Paleo Botany	Research Work
NGRI, Hyderabad	Research Work & Project
PRL, Ahmedabad	Research & Publication work
Geological Survey of India	Research Work

3.2.6 IMPORTANT NEW EQUIPMENT ACQUIRED (ABOVE RS.5,00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
FE-SEM	For CRF	Sept, 2013	Rs. 4.5 Crore
Research Polarizing Microscope and Heating Freezing Stage with Camera & Image Analyzer for Fluid Inclusion Studies	Fluid Inclusion Analysis	March, 2014	40,00,000(Forty Lakh): Approx.

3.2.7 RESEARCH PUBLICATIONS

3.2.7.1 Books published

1. Published a Book Volume titled 'Geostatistics for Natural Resources Modelling' bearing ISBN : 978-93-5156-635-9.

3.2.7.2 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Ajoy K. Bhaumik, Anil K. Gupta and Shilpi Ray	2014	Surface and deep-water variability at the Blake Ridge, NW Atlantic during the Plio-Pleistocene is linked to the closing of the Central American Seaway	Palaeogeography, Palaeoclimatology, Palaeoecology	399	345-351
2.	Mohanty, S	2013	Supercontinent Evolution: Preface.	Geoscience Frontiers	4	245
3.	Varma. A K, Banerjee S. K. and Sen, D.	2013	Petrographic characterization and rank evaluation of coal seams belonging to Korba basin, Chhattisgarh, India	(5), International Journal of Applied and Natural Sciences	6, Vol.2, Issue 4	117-124
4.	Javid Ahmad Dar and R.K. Dubey	2013	Deformation and Neotectonics of Sub-Himalaya of Kashmir Valley, India: A Remote Sensing and GIS Approach	International Journal of Earth Sciences and Engineering	06 (05)	940-947
5.	Saraswat, P., T. H. Syed, J. S. Famiglietti, E. J. Fielding, R. Crippen and N. Gupta	2013	Recent changes in the snout position and surface velocity of Gangotri glacier observed from space	International Journal of Remote Sensing	34 (24),	8653-8668
6.	Sophiya, M. S. and T. H. Syed	2013	Assessment of vulnerability to seawater intrusion and potential remedial measures for coastal aquifers: A case study from eastern India	Environmental Earth Sciences	70(3)	1197-1209
7.	Gupta, N., T. H. Syed and A. Athiphro	2013	Monitoring subsurface coal fires in Jharia coalfield using observations of land subsidence from differential interferometric synthetic aperture radar (DInSAR)	Journal of Earth System Science	122 (5)	1249-1258

8.	Durbar Ray, Dalayya Kota, Pranab Das, L. S. Prakash, V.D. Khedekar, A. L. Paropkari, Abhay V. Mudholkar	2014	Microtexture and Distribution of Minerals in Hydrothermal Barite-Silica Chimney from the Franklin Seamount, SW Pacific: Constraints on Mode of Formation	Acta Geologica Sinica	88(1)	801-813
9.	S. Sarangi R.Srinivasa, V. Balaram	2013	REE geochemistry of auriferous quartz carbonate veins of Neoproterozoic Ajjanahalli gold deposit, Chitradurga schist belt, Dharwar Craton, India	Geoscience Frontiers	4	231- 239
10.	R. Anand, S. Balakrishna, E. Kooijman, K. Mezger	2014	Neoproterozoic crustal growth by accretionary processes: Evidence from combined zircon-titanite U-Pb isotope studies on granitoid rocks around the Hutti greenstone belt, eastern Dharwar Craton, India	Journal of Asian Earth Sciences, Elsevier	79	72 - 85
11.	Sukanta Dey	2013	Evolution of Archaean crust in the Dharwar craton: The Nd isotope record,	Precambrian Research	227	227-246
12.	Saikia. K. and Sarkar, B. C.	2013	Coal Exploration Modelling using Geostatistics in Jharia Coalfield	International Journal of Coal Geology	Vol. 112 01 June 2013	36-52

3.2.7.3 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Ajoy K. Bhaumik, Akanksha Gupta , Anil K. Gupta, Shiv Kumar, Shilpi Ray and Sanjib Biswas	2013	Gas Hydrates Occurrence, Destabilization and Potential Energy Resources: A Review based on Faunal, Geochemical and Geophysical Investigations with Special Reference to the Blake Ridge, Nw Atlantic	Journal of the Palaeontological Society of India	58(1)	39-50

2.	Panda, M. K., Pingua, B.M.P., Saw, A. K., Akthar, S, Mohanty, S. P. and Mishra, A.	2013	Study on Control Blasting at Metro Rail Project - A Case Study.	The Indian Mining & Engineering Journal	52 (08)	11-15
3.	Karun Kumar Chandan, Vandana Jha, Sairaj, K, Sahendra Singh and Venkatesh, A. S	2013	Greenfield exploration prospects of orogenic gold mineralization in and around Lawa area, North Singhbhum Mobile Belt, Eastern Indian Craton.,	International Journal of Applied and Natural Sciences (IJANS), ISSN 2319-4014	Vol. 2, Issue 4, Sep. 2013,	81-90
4.	Israil Khan, D. K. Rai, P.R. Sahoo	2013	A note on new find of thick copper and associated precious metal mineralisation from Alwar Basin of North Delhi fold Belt, Rajasthan.	Journal of Geological Society of India	82	95-98
5.	Israil Khan, P.R. Sahoo, D. K. Rai	2014	Proterozoic felsic volcanics in Alwar Basin of North Delhi fold Belt, Rajasthan: Implication for copper mineralisation	Current Science	106, (no. 1)	27-28
6.	Jinia Nandy, Sukanta Dey	2013	Petrography and Geochemistry of Kadiri Greenstone Belt and their Implications	Journal Indian Geological Congress	5(2)	17-24
7.	Deepanker Asthana, Anil M. Pophare , S. Rajalingam and Harshvardhan Kumar	2014	Neoarchaeon Dongargarh Rapakivi A-type Granites and its Relationship to Pitepani Tholeiites	Gondwana Geological Magazine	Special Volume No.16, 2014	-
8.	Sarkar, B. C. and Prajapati, N.	2013	Geostatistical Modelling of Talabira-I Coal Seam, Sambalpur District, Orissa with special reference to Grade Requirement for Mining by Continuous Surface Miner	Jour. Mines, Metals and Fuels	Vol. 61, No. 3	54-59

9.	Sarkar, B. C.	2013	Integrated Approach to Geological-Geostatistical Modelling for Improved Mineral Deposit Evaluation	Jour. Indian Geological Congress	Vol. 5, No. 1	35-45
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3.2.7.4 Papers presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Bhaumik, A. K., Kumar Shiv and Kumar Pushpendra	Distribution of benthic foraminifera at gas hydrate rich zone in Krishna-Godavari basin.	18 th Convention of Indian Geological Congress and International Symposium on Minerals and Mining in India- The way forward, inclusive of cooperative mineral-based industries in SAARC countries. Organized jointly with Madhya Pradesh Council of Science and Technology, Pre Convention Volume, p-45	April 27-29, 2013	Bhopal
2.	Mohanty, S.	Paleoproterozoic Supracrustals of the Central Indian Craton: importance in correlation with Western Australian and South African Cratons.	Annual General Meeting of the Geological Society of India and Int. Conference on "Future Challenges in Earth Sciences for Energy and Mineral Resources"	Nov. 14-16, 2013	ISM, Dhanbad
3.	Bhattacharjee, N. and Mohanty, S. P.	Neotectonic study in the Lodai area, Bhuj, Kutch, Gujarat: implication on site characterization.	Annual General Meeting of the Geological Society of India and Int. Conference on "Future Challenges in Earth Sciences for Energy and Mineral Resources"	Nov. 14-16, 2013	ISM, Dhanbad

4.	Mohanty, S.	Tectonic Evolution of the Central Indian Craton: Implication on continental reconstruction "VALBARA"	International Seminar on "Magmatism, Tectonism and Mineralization"	March 27-29, 2014	Kumaun University, Nainital
5.	Nanda, S. and Mohanty, S.	Geochemistry of a paleosol horizon at the base of the Sausar Group, Central India: Implication on atmospheric condition at Archean-Paleoproterozoic boundary	International Seminar on "Magmatism, Tectonism and Mineralization"	March 27-29, 2014	Kumaun University, Nainital
6.	Varma, A.K., Hazra, B., Mendhe, V.A. Chinara, I	Organic Richness of Raniganj Shales From Raniganj Basin, India for Hydrocarbon Generation	Annual General Meeting of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	Nov. 14-16, 2013	ISM, Dhanbad
7.	Mendhe, V.A., Das, P.R., Varma, A.K., Hazra, P.N.,	Investigation on Desorption Parameters of Coal Seams in South-Eastern Part of Jharia Coalfield, Jharkhand	Annual General Meeting of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	Nov. 14-16, 2013	ISM, Dhanbad
8.	Varma, A.K., Banerjee, S.K., and Saxena, V.K.,	Petrographic Appraisal Of Coal Seams From Korba Basin, Chhatisgarh, India.	Annual General Meeting of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	Nov. 14-16, 2013	ISM, Dhanbad

9.	Varma,A.K., Hazra,B., Mendhe,V.A. Chinara,I	Hydrocarbon Generation Potential of Shales from Raniganj Basin, W. Bengal, India.	Int. Conference on Mineral Processing Technology (MPT-2013).	2013	Bhubanes- war
10.	Varma,A.K., Banerjee,S.K., and Saxena,V.K.,	Coal Beds of Korba Coalbasin: Geological and Petrographic	Int. Conference on Mineral Processing Technology (MPT-2013).	2013	Bhubanes- war
11.	Chandan Karun Kumar, Jha Vandana, Khatun Mousoma, Sahendra Singh and Venkatesh A S	Geochemistry of Paleo to Mesoproterozoic metasedimentary units, Lawa-Mayasera Area, Chandil Formation, Eastern Indian Craton: Implications for provenance and source area weathering.	125 th Annual Meeting, Geological Society of America	27-30 October, 2013	Denver, Colorado, USA
12.	Mukherjee, M. K.	Contrasting deformation Geometry, Kinematics and Microstructures between the Basement and the Mesoproterozoic cover rocks of the Kaladgi Basin, Southwestern India: indications towards deformation of the cover by gravity gliding along a detached unconformity	International Conference on Deformation Mechanisms, Rheology and Tectonics (DRT) 2013	16 to 18 Sept. 2013	Leuven, Belgium.
13.	Sahendra Singh	Metallotectonic evolution of North Singhbhum Mobile belt and its implication on the Province scale orogenic Gold Prospects of Singhbhum Craton, Eastern India	International Conference	30.03.14- 04.04.14	Asheville, North Carolina, USA
14.	S. Sarangi, A. Sarkar, R. Srinivasan and V. Balaram	REE patterns of BIF facies carbonates, Ajjanahalli gold deposit, Chitradurga Schist Belt, Dharwar Craton: Implication to environment of deposition of Archaean BIFS.	AGM of the Geological Society of India and Int. Conf. on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014 Abstract Volume page no: 49.	ISM, Dhanbad

15.	S. K. Swain, S. Sarangi, A. Sarkar S. C. Patel, R. Srinivasan, R. H. Sawkar	$\delta^{13}\text{C}_{\text{Co}_2}$ and $\delta^{18}\text{O}_{\text{H}_2\text{O}}$ composition of fluids calculated from carbonate $\delta^{13}\text{C}_{\text{pdb}}$ and $\delta^{18}\text{O}_{\text{snow}}$ data of quartz carbonate veins of Gadag gold deposits, Chitradurga Schist Belts: Implication to the source of auriferous fluids.	Annual General Meeting of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014 Abstract Volume page no 51-52	ISM, Dhanbad
16.	D.Mohanty, Sushma Gupta, Sujoy Chattaraj, S. Sarangi	A comparative account of Shale Gas Potentiality of Cambay Shale, Cambay Basin and Raghavapuram Shale, Krishna-Godavari Basin of India.	AGM of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014 Abstract Volume page no 149.	ISM, Dhanbad
17.	S.Sarangi, Debasis Behera, A.K.Tripathy, Anil Kumar, Rosy Samantray, T.Gopal Reddy, K.V. Subba Reddy	Field, Petrography and Geochemical study of granitoids south of Veligallu Schist Belt Madanpalli area, Eastern Dharwar craton, Andhra Pradesh	Annual General Meeting of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014 Abstract Volume page no 215-216.	ISM, Dhanbad
18.	Manisha Kesrwni, Monica Singh, S.Sarangi	Carbonate Veins, from Neoproterozoic orogenic deposits, G.R.Halli, Chitradurga Schist Belt: Implication to source of ore fluids.	Annual General Meeting of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014 Abstract Volume page no 289.	ISM, Dhanbad
19.	Monica Singh, Manisha Kesrwni, S. Sarangi	REE geochemistry of Chalybite dyke and Carbonate Alteration area, G.R.Gold Deposits, Chitradurga Schist Belt: Implication to source of ore fluids.	AGM of the Geological Society of India and Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014 Abstract Volume page no 290.	ISM, Dhanbad

20.	S. Sarangi, Sagar Swain, A. Sarkar, R. Srinivasan	Isotope Studies in Archaean Orogenic Gold Deposits, with a special reference to Chitradurga Schist Belt", Dharwar Craton.	Int. Seminar on Sedimentary Processes and Metallogeny through time" and field workshop.	January 21-26, 2014.	S.D.M. College of Engineering and Technology, Dharwad, Karnataka
21.	Sarkar, K., and Verma, A.K	Static and Dynamic analysis of soil slope- A case study	Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014	ISM, Dhanbad
22.	Pritvi Karan, M., Vidyarthi, S., Sahoo, P. R., Singh, S. and Venkatesh, A.S	Nature of barite and associated possible shungite mineralisation in south-eastern part of Cuddapah basin, A.P	Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014	ISM, Dhanbad
23.	R. Anand, K. Patra	Exploring the potential of mafic-ultramafic rock complexes of Sargur supracrustal belt for CO ₂ sequestration and storage	Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014	ISM, Dhanbad
24.	Sukanta Dey, S. Pal	Neoarchaean crustal growth in the eastern Dharwar craton: constraints from geochemistry of meta- igneous rocks of the Veligallu greenstone belt	Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013).	14-16 Nov. 2014	ISM, Dhanbad
25.	Sarkar, B. C.	Geostatistics in Mineral Deposit Evaluation (Keynote paper).	Proc. International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	14-16 Nov. 2014	ISM, Dhanbad
26.	Mukerji, B. and Sarkar, B. C.	GIS based Copper Potential Mapping in Singhbhum Copper . Belt, Jharkhand, India.	Proc. International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	14-16 Nov. 2014	ISM, Dhanbad

27.	Dhiman, S. C., Rishi, M. and Sarkar, B. C.	Aquifers : A Key to Sustainable Management of Water Resources.	Proc. International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	14-16 Nov. 2014	ISM, Dhanbad
28.	Roy, G. K., Sarkar, B.C., Saha, D. and Dwivedi, S.N.	Hydrogeological Framework and Recharge Mechanism in a Overstressed Hard Rock Aquifer Terrain A Case study of Ranchi Urban Area, Jharkhand,	Proc. International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	14-16 Nov. 2014	ISM, Dhanbad
29.	Ray, R.K., Mukherjee, A., Saha, D., Sarkar, B.C. and Syed, T.H.	GIS-based Hydrogeological Framework Model for Seonath-Kharun Interfluvial Area, Durg District, Chattisgarh State.	Proc. International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	14-16 Nov. 2014	ISM, Dhanbad

3.2.7.5 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Ray, S., and Bhaumik, A. K.	Methane flux in Peru Offshore region.	XXIV ICMS, WIGH, p. 120.	18-20 Nov. 2013	Dehradun
2.	Bhaumik, A. K., Gupta, A. K., Clemens, S. C., and Mazumder, R.,	Watermass controlled morphological changes in benthic foraminifera.	Abstract volume of XXIV ICMS, WIGH,	18-20 Nov. 2013	Dehradun
3.	Bhaumik, A. K.	Disappearance of Stilostomella lepidula during Mid Pleistocene Transition	Annual General Meeting of the Geological Society of India and Interna. Conference on Future Trends for Energy and Mineral Resources (ESEMR-2013)	14-16 th Nov., 2013	Department of Applied Geology, ISM, Dhanbad

4.	Mohanty, S.	Geodynamics of the Central Indian Shield: implications on supercontinent assembly and atmosphere-hydrosphere evolution at Archean- Proterozoic boundary.	50 th Annual Convention and Meeting on “Sustainability of Earth System The Future Challenges”, Indian Geophysical Union, National Geophysical Research Institute, Hyderabad	January 09-12, 2014	Indian Geophysical Union, National Geophysical Research Institute, Hyderabad
5.	Mishra, S., Mendhe, V.A. and Varma, A.K	Evaluation of geochemical parameters of coal bed methane produced water and its utilization options in Raniganj basin, West Bengal, India,	Proceedings of 101 st Indian Science Congress, Earth System Sciences Section, Section V: 93p.	3-7 Jan. 2014	Jammu
6.	Mishra, S., Mendhe, V.A., Varma, A.K., Singh, A.P., and Varade, A.M., 2014.	Coal bed Methane and mine produced water characterization in Raniganj coalfield, West Bengal, India.	N. Seminar on ground water and lakes: Recent advancements and environmental aspects, Souvenir cum Abstract Volume, , p9.	20-21 February, 2014	Nagpur
7.	Deepanker Asthana, Harshavardhan Kumar, S.Balakrishnan, Qunke Xia and Min Feng	An early Cretaceous analogue of the Neoproterozoic (~2.5 Ga) Malankhand porphyry Cu±Mo±Au deposit, Central India	National Workshop in Precambrian Geology UGC-CAS-I programme	29-03-2014	Mysore University
8.	Mukherjee, M. K. Karmakar, S., and Mohanty	Geometry and classification of Shear zone related folds from Moyar-Bhavani shear zone around Pulliyamkombai and Vaniputhur, Erode dt, Tamil Nadu, India	National Workshop on recent scientific advances in Southern Gravelite Terrain	18-19 April 2013	Geological Survey of India

9.	Gupta A. K and Mukherjee, M. K	Rock mass strength: How does it contribute to stability of rock-slopes?	National seminar on Innovative Practices in Rock Mechanics (IPRM) 2014	6-7 th February 2014	National Institute of Rock Mechanics
10.	Sahendra Singh, Shyamal Biswas, S Ravi, Somnath Das, Shashi Ranjan, Mansoor Ahmed	Metallogeny in the Precambrian Belt in Singhbhum Craton/ Singhbhum Crustal Province with Special reference to Au Mineralization	Brain storming session on IGC 2020	21.03.14-22.03.14	GSI, Eastern Region, Kolkata
11.	Verma, A.K, Sarkar, K. and Singh, T.N.	A Neurofuzzy Approach to Predict Water Quality from Field Parameters	Seminar	2013	Dhanbad
12.	Israil Khan, P.R. Sahoo and D.K. Rai	Copper mineralisation in Mundiawas-Khera area: An opportunity for mining of low grade and high tonnage copper deposit	Indian Institute of Metals, Khetri Nagar Chapter, 34 th National Seminar on Indian Mineral Industries- Challenges and Opportunities held at Khetri Nagar, Rajasthan	2014	Khetri Rajasthan
13.	Sukanta Dey	Archaean Evolution of the Dharwar Craton: 1.2 Billion Years of Crust Formation and Reworking	Crustal evolution and metallogenesis in the Indian shield	29 March, 2014.	Calcutta University
14.	Sarkar, B. C.	Geostatistical Modelling for Coal Resource Evaluation (Key Note Paper)	MineTECH '13	3-4 May 2013	Bhubaneswar
15.	Sarkar, B. C.	Geostatistics in Exploration and Mining	6 th National Seminar on Surface Mining (NSSM)	10-11 January 2014	Dhanbad
16.	Sarkar, B. C.	Geostatistics : Concepts and applications in Mineral Deposit Modelling for Exploration and Mining	6 th Professor Prem Bahadur Verma Memorial of Indian Geological Congress	15 Feb. 2014	Bhubaneswar

17.	Sarkar, B. C.	Geological-Geostatistical Modelling - An Integrated Approach. (Keynote paper)	Brain Storming Workshop on Geostatistics for Natural Resources Modelling (BSWG 2014)	28 Feb. 2014	Dhanbad
18	Mukerji, B. and Sarkar, B. C.	Geostatistics in Mineral Prognostication.	Brain Storming Workshop on Geostatistics for Natural Resources Modelling (BSWG 2014)	28 Feb. 2014	Dhanbad
19	Dhiman, S.C. and Sarkar, B. C.	Role of Geostatistics in Sustainable Ground Water Management.	Brain Storming Workshop on Geostatistics for Natural Resources Modelling (BSWG 2014)	28 Feb. 2014	Dhanbad
20	Sarkar, B. C.	Aquifer Modelling : A Geostatistical Approach (Key Note Paper)	Brain Storming Workshop on Geostatistics for Natural Resources Modelling (BSWG 2014)	28 Feb. 2014	Dhanbad

3.2.8 MAJOR ACADEMIC CONTRIBUTIONS

- **Dr A K Varma** developed Total colour assessment (TCA) of shales for total organic carbon through color manifestations.
- Successfully guided two Ph. D students, amongst them one in the capacity of Principal guide and another as co-guide; awarded in the 2014 convocation.
- Member, Faculty Selection Committee, Sikkim University, 2013
- Ph. D Doctoral Scrutiny Committee Member for ME and AGL
- **Dr. A. K. Bhaumik** received Prof. S. K. Singh Memorial Gold Medal award from Paleontological Society of India, Lucknow for the Year 2013.
- Acted as Co-Coordinator for the Training course “Petroleum Exploration” for Afghan Delegates, Ministry of External Affairs, Govt. of India, 2013.

- Acted as Organizing Secretary in Brain Storming Workshop on Geostatistics for Natural Resource Modeling (BSWG 2014) held on February, 28, 2014.
- **Prof. B. C. Sarkar** received Dr. P. N. Bose Award 2013 of the Indian Mining & Engineering Journal for contribution in the field of Geological Sciences in general and Geostatistics & IT applications in particular.
- Received Distinguished Academic Award 2013 of Indian Geological Congress for significant contribution towards enhancement and enrichment of the knowledge of geosciences.
- Coordinated capacity building programme on Geostatistics for the scientists of AMD, Hyderabad.
- Coordinated capacity building programme on Geostatistics for the officers of Oil India Limited, Duliajan.
- Convened the 6th Indian Mineral Congress & Exhibition on 'Innovations : Fusion of Management and Technology', ISM Dhanbad.
- Convened the Brain Storming Workshop on Geostatistics for Natural Resources Modelling (BSWG 2014) at ISM Dhanbad.
- Honoured a Citation by Indian Geological Congress on 15 February 2014 at Bhubaneswar for delivering the Sixth Professor Prem Bahudur Verma Memorial Lecture on Geostatistics : Applications in Modelling Mineral Deposits for Exploration and Mining and in recognition to scholarship, impeccable devotion to work and outstanding contribution in the field of geostatistics and momentous role in developing intimate academia-mineral & mining industry liaison.
- Developed course module on Mineral Geostatistics for Deposit Modelling, Orebody Evaluation, Drilling optimization and Grade control for Scientists of Atomic Minerals Directorate for Exploration and Research.
- Developed course module on Petroleum Geostatistics for Reservoir Modelling and Characterization Geostatistics for Scientists of Atomic Minerals Directorate for Exploration and Research.
- Developed Geostatistical Simulation approach to aquifer modeling and characterization.

3.2.9 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPT/CENTRE

Annual General Meeting of the Geological Society of India and International Conference on "FUTURE CHALLENGES IN EARTHSCIENCES FOR ENERGY AND MINERAL RESOURCES (ESEMR 2013) from 14-16 November	14-16 November 2013
Brain Storming Workshop on Geostatistics for Natural Resources Modelling (BSWG 2014) organised at ISM Dhanbad under the Convenorship of Prof. B. C. Sarkar	February 28, 2014
6 th Indian Mineral Congress & Exhibition on 'Innovations : Fusion of Management and Technology' at ISM Dhanbad (organized by ISMAA under the Convenorship of Prof. B. C. Sarkar).	February 1, 2014

3.2.10 PARTICIPATION OF FACULTY/OFFICERS/ STAFF IN SEMINARS/ CONFERENCES ETC

Bhaumik, A. K.,	24 th ICMS	18-20 Nov., 2013	Dehradun
Bhaumik, A. K.,	Annual General Meeting of the Geological Society of India and Int. Conference on "Future Challenges in Earth Sciences for Energy and Mineral Resources(ESEMR 2013)	14-16 th November 2013	ISM, Dhanbad
Mohanty, S.	Annual General Meeting of the Geological Society of India and Int. Conference on "Future Challenges in Earth Sciences for Energy and Mineral Resources(ESEMR 2013)	14-16 th November 2013	ISM, Dhanbad
Mohanty, S.	50 th Annual Convention and Meeting on "Sustainability of Earth System The Future Challenges", Indian Geophysical Union, National Geophysical Research Institute, Hyderabad	January 09-12, 2014	Hyderabad
Mohanty, S.	International Seminar on "Magmatism, Tectonism and Mineralization"	March, 27-29 2014	Nainital
Atul K.Varma	Annual General Meeting of the Geological Society of India and Int. Conference on "Future Challenges in Earth Sciences for Energy and Mineral Resources(ESEMR 2013)	14-16 th November 2013	ISM, Dhanbad
Atul K.Varma	International Conference on Mineral Processing Technology (MPT-2013).	November 2013	Bhubaneswar
Atul K.Varma	Brain Storming Session: 36 th IGC: A unique opportunity for advancement of Geosciences	21-22 March 2014	Kolkata

R.K. Dubey	50 th Annual meeting on Clay Minerals Society	04-10 Oct. 2013	Illinois Univ. USA
Sukanta Dey	National seminar on 'Crustal evolution and metallogenesis in the Indian shield'.	29 March, 2014	Calcitta University
Sukanta Dey	Int. Conference on 'Future challenges in earth sciences for energy and Mineral resources'.	14-16 Nov. 2013	ISM, Dhanbad
K. Sarkar	Industry-Academia Workshop on Recent Trends in Petroleum Exploration Technology Organized by ONGC Academy	10-14 Feb. 2014	Kolkata
P. R Sahoo	Int. Conference on "Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	14-16 Nov. 2013	ISM, Dhanbad
B. C. Sarkar	18 th Convention of Indian Geological Congress & International Symposium	27-29 April 2013	Bhopal
B. C. Sarkar	Int. Conference on "Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	14-16 Nov. 2013	ISM, Dhanbad
B. C. Sarkar	9 th International Heavy Minerals Conference	27-29 Nov. 2013	Visakhapatnam
B. C. Sarkar	6 th National Seminar on Surface Mining (NSSM)	10-11 January 2014	Dhanbad
B. C. Sarkar	6 th Indian Mineral Congress & Exhibition on Innovations : Fusion of Management and Technology	1 February 2014	Dhanbad
B. C. Sarkar	6 th Professor Prem Bahadur Verma Memorial of Indian Geological Congress	15 February 2014	Bhubaneswar
B. C. Sarkar	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM, Dhanbad
B. C. Sarkar	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)tural Resources Modelling	March 28-29, 2014	ISM, Dhanbad

3.2.11 VISITS OF FACULTY MEMBERS ABROAD

- Dr. R.K. Dubey AGL visited Illionois University, USA for attending meeting from 04.10.2013 to 11.10.2013.
- Dr. M. K Mukherjee visited Leuven, Belgium, to deliver an oral presentation of a paper in the International Conference on Deformation Mechanisms, Rheology and Tectonics (DRT) 2013 from 16.09.2013 to 18.09.2013.

- Dr. Sahendra Singh visited Asheville, North Carolina, USA to present a paper in Penrose conference and participate in Field Trip during 30.03.14 to 04.04.14.
- Visited China University of Geosciences from 22.12.2013 to 11.01.2014 for research.

3.2.12 TESTING SERVICES (LAB FACILITIES AVAILABLE FOR TESTING IN THE DEPARTMENT / CENTRE)

- Ore Mineralogical characterization and mineralogical characterization of rocks for mineral exploration and environmental studies.
- Dr. M. K. Mukherjee offered Consultancy services to Monnet Ispat & Energy Ltd. related to prediction of Mine water inflow through Hydrogeological study for Gare Palma (IV/5) Coal Block (Milupara), Mand Raigarh Coalfields Chattisgarh, through fieldwork and laboratory analysis of Engineering Properties of Rocks in Petrology laboratory and Engineering Geology Laboratory (CONS/2041/2012-13).

3.2.13 DISTINGUISHED VISITORS TO THE SCHOOL

Prof Srinivasan, Deptt. of Earth Sciences, IIT Roorkee	Chief Guest for Inauguration of National Seminar organized by Dept. of Applied Geophysics, under UGC SAP DSA Programe.
Prof Srinivasan, Deptt. of Earth Sciences, IIT Roorkee	Chief Guest for Inauguration of National Seminar organized by Dept. of Applied Geophysics, under UGC SAP DSA Programe.
Prof S. C. Dhiman, Former Chairman CGWB	Adjunct Professor Lectures and Interaction on Aquifer Mapping
Prof B K Sahu, Emeritus Professor, IIT Bombay	Course Lectures on Multivariate Statistics to the AMD Scientists
Dr. S. K Wadhawan, Director General, Geological Survey of India	Keynote address on Mineral Exploration in the International Conference ESEMR 2013
Prof. O. P. Varma, Former HOD Applied Geology ISM and currently the Executive President, IGC Roorkee	Chief Guest of BSWG 2014 Inaugural Function
Dr. Rabi Bastia, President Oilmax Energy Limited, Mumbai	Adjunct Professor Lectures and Interaction on Petroleum Geology

3.2.14 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Prof. O. P. Varma, Former HOD Applied Geology ISM and currently the Executive President, IGC Roorkee	Metallogeny
Prof S. C. Dhiman, Former Chairman, CGWB	Adjunct Professor Lectures on Hydrogeology
Dr. Rabi Bastia, President, Oilmax Energy Limited, Mumbai	Adjunct Professor Lectures on Petroleum Geology

3.2.15 MISCELLANEOUS:

Prof. A K Varma:

DST FIST Level II Grant was given to the Department of Applied Geology for the first time in ISM, Dhanbad

Project Title	Sponsoring Agency	Coordinator(s)	Project Value	Date of Commencement Date of Completion	Objective	Status	Findings
FIST- 2012, Level II	DST	Prof. Atul K. Varma	Rs.238.00 Lakhs	01.04.2012/ 31.03.2017	Augmentation of rock/ore/ coal/kerogen characterization and processing facility	On-going	Indents for various equipments have been raised

Prof. A S Venkatesh:

- Member: Exploration and Research Advisory Committee (ERAC), Dept of Atomic Energy, Atomic Minerals Directorate and Exploration (AMD), Eastern Region, Jamshedpur.
- Completed three consultancy studies, (Two as CI and one as CO-CI).
- Reviewer for the following International journal, namely, iii) Environmental Earth Science, Springer Verlag, (formerly Environmental Geology), 2013
- Chairman, MSc/MSc Tech/MPhil Entrance Examination-2013-2014
- Resource Person for Trainee Scientific officers of Atomic Minerals Directorate and Exploration (BARC training school) on ore geology at Hyderabad in 2013
- Conducted Off campus course for iGATE, Pune on exploration of minerals as part of a consultancy study.

- You are requested to send the information in the above format latest by **9.5.2014** to the undersigned.

Dr. M K Mukherjee:

- Dr. M. K. Mukherjee on invitation by Geological Survey of India, Regional Training Institute Nagpur, imparted training on Specialized Thematic Mapping (STM) for the officers of Geological Survey of India from 08.7.2013 to 12.7.2013 with field mapping and documentation of structures in the Sausar Mobile Belt, at Ramtek, Maharashtra.

Prof. B C Sarkar:

- Attended SERB, DST meeting at Hyderabad on March 30-31 as Expert Member for evaluation of R&D Project Proposals.
- Delivered course lectures on Geostatistics to the participants of DST sponsored programme on Mathematical Geology at WIHG, Dehradun.
- Delivered the Sixth Professor Prem Bahadur Verma Memorial of Indian Geological Congress at the Society of Geoscientists and Allied Technologists, Bhubaneswar.
- Elected as Council Member of Geological Society of India, Bangalore.
- Nominated as Council Member of Mining Engineers Association of India, Hyderabad.
- Nominated as Special Invitee of Council of Society of Geoscientists and Allied Technologists, Bhubaneswar.
- Nominated as the Academic Council Member of Aryan Institute of Engineering and Technology, Bhubaneswar.
- Assigned as the Chairman, ISM Extension Centre at Kolkata committee.

3.3 Department of Applied Geophysics

The The Department of Applied Geophysics was established in 1957. The Department offers 5- Year integrated M. Sc. Tech., 3-Years M.Sc. Tech. programme, M.Tech. and Ph. D Programme.

3.3.1 FIELD VISITS/ EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Name of the faculty	Partiuclars	Batch of students	Place of visit	Period of visit
Dr. P. K. Khan	Winter Geophysical Field Training	73	UCIL, Jadugoda, Jharkhand	Dec. 12-18, 2013
Dr. Saumen Maiti	Winter Geophysical Field Training	73	UCIL, Jadugoda, Jharkhand	Dec. 8-24, 2013
Prof. Shalivahan	Winter Geophysical Field Training	73	UCIL, Jadugoda, Jharkhand	Dec. 10-16, 2013
Prof. P.R.Mohanty	Winter Geophysical Field Training	73	UCIL, Jadugoda, Jharkhand	Dec. 22-24, 2013
Dr. U. K. Singh	Winter Geophysical Field Training	73	UCIL, Jadugoda, Jharkhand	Dec. 8-24, 2013

3.3.2 INTRODUCTION OF NEW COURSES AND PROGRAMMES, IF ANY

- New M. Tech. Course in Earthquake Disaster, Hazard and RISK Mitigation

3.3.3 BRIEF LIST OF ON-GOING R&D PROJECTS (PROJECT VALUE RS. 5,00,000/- AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
1. "Estimation of Crustal Stress and Development of Geo-Mechanical earth Models for Few oil/gas Fields of Eastern India"	Ministry of Earth Sciences, GOI, New Delhi	Dr. Rima Chatterjee as Principal Investigator	₹ 22.80	Nov. 2012	Nov. 2015	a) Estimation of in-situ stress magnitude from well log data from few oil/gas including coalbed Methane (CBM) fields subject to the permission of data from the sedimentary basins of India. b) In-situ stress orientation mapping from advanced well log and other geological data c) Petrophysical parameters shall be determined from well logs as well as from laboratory tests. d) Rock mechanical properties from well log as well as in Laboratory tests e) Statistical analysis between the petrophysical and geomechanical parameters Development of geomechanical earth models using Finite element software	Ongoing	a) Well log data are collected b) Stress magnitude are computed from 10 wells c) Pore pressure computed from well log and seismic inversion d) Statistical model is proposed for prediction of pore pressure e) Rock mechanical properties have been calculated from well logs
2. Setting up, Operation and Maintenance of GPS station at Indian School of Mines, Dhanbad	Ministry of Earth Sciences, GOI, New Delhi	Dr. P.K. Khan (Coordinator)	₹ 17.50 Lakhs	03.08.2011	02.08.2014	Setting up, Operation and Maintenance of GPS station at Indian School of Mines	Ongoing	Instruments installed and nicely operating
3. Geodynamic Modeling of the Eastern Subduction Margin of India	Department of Science and Technology, Govt. of India, New Delhi	Dr. P.K. Khan (Coordinator)	₹ 28.44 Lakhs	29.07.2013	28.07.2016	Seismotectonic modeling of the central segment of the eastern subduction margin of India, Gravity modelling of the fine structure of the descending lithosphere and the overriding plate over the central segment, Finite element stress modeling of the descending lithosphere and the overriding plate over the central segment.	Ongoing	JRF recruited Purchasing of software is under process. Research works going smoothly

4. Seismic Hazard Estimation for Bihar-Jharkhand Using GPS strain, seismicity and seismic study	Ministry of Earth Sciences, GOI, New Delhi	PI- Dr. P.N. Singha Roy; Co-PI Dr. S. K. Pal	₹ 139.786 Lakhs	01.09.2013	31.08.2018	GPS Study for estimating Crustal Deformation related to Bihar Nepal 1934 Earthquake zone. Meteorological study for entire Bihar-Jharkhand region with GPS technology.	Ongoing	NA
5. Magnetotelluric Investigations in the Geothermal Province of Bakreshwar, West Bengal, India	Department of Science and Technology, Govt. of India, New Delhi	Prof. Shalivahan	₹ 19.10 Lakhs	October 1, 2013	October 1, 2016	The identification of geologic/tectonic controls of reservoir location and the delineation of geothermal fluid flow-paths	Ongoing	Data acquisition has started
6. Seismic and Resistivity imaging for detection of subsurface cavities associated with coal working	Department of Science and Technology, Govt. of India, New Delhi	Prof. P. R. Mohanty	₹ 15.62 Lakhs	October 7, 2013	October 6, 2016	Subsurface cavity detection in old coal workings by Seismic and Resistivity imaging techniques.	JRF recruited Computer is procured under equipment head and to be installed shortly	Numerical modelling on subsurface cavities by resistivity imaging is tested. Results indicate subsurface cavities can be detected.
7. Wavelets-ANFIS conjunction method for Well logging data Analysis	Faculty Research Scheme (FRS) of ISM, Dhanbad	Dr. U. K. Singh, Coordinator	₹ 6.85 Lakhs	31.03. 2011	31.03. 2014		Ongoing	Well logs datasets are collected from available sources and literature survey is going on
8. Multi-Valued Function Approximation Using Neural Networks: Application to Geophysical Well Log data	Faculty Research Scheme (FRS) of ISM, Dhanbad	Dr. Saumen Maiti, Coordinator	₹ 5.02 Lakhs	28.01.2014	28-01.2017	To develop new framework to approximate multi-valued function	Ongoing	Equipment purchase process is started.

3.3.4 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
NGRI, Hyderabad	Prediction of Pore Pressure in Gas Hydrate bearing sediments Krishna-Godavari basin.
NGRI, Hyderabad	Gravity Modeling
IMD	Earthquake hazard analysis
ISR	Seismotectonics
NIRM	Geotechnical Modeling
Indian Institute of Geomagnetism, New Panvel, Mumbai	Electrical Imaging and Groundwater Resource Study
NGRI, Hyderabad	Geophysical Time-Series Modeling
ICTP, Trieste, Italy	Junior Associate to visit ICTP for research work

3.3.5 IMPORTANT NEW EQUIPMENT ACQUIRED (ABOVE RS.5,00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
Mathematica Software (Grid as well as individual Nodes)	Student practical and research work	January 2014	Rs. 7.58 Lakhs
FlashRES Universal 61 Chanel 64 Electrode ERT instrument,	Electrical Resistivity Tomography	July, 2013	Approx Rupees 32 Lakhs
WinGLink software	AMT, MT data analysis	March 2014	Approx 15000.00 Euro

3.3.6 RESEARCH PUBLICATIONS

3.3.6.1 Papers Published in International Journal

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	N. Murthy, K. Veeraswamy, T. Harinarayana, U. K. Singh & M. Santosh	2013	Electrical structure beneath Schirmacher Oasis, East Antarctica: a magnetotelluric study	Polar Research	32	17309
2.	Upendra K. Singh, R. K. Tiwari and S. B. Singh	2013	Neural Network Modeling and Prediction of Resistivity Structures using VES data over a Geothermal Area	Computer & Geosciences	52	246-257

3.	K. K. K. Singh, Upendra K. Singh, Indresh Kumar	2013	Interpretation of voids or buried pipes using Ground Penetrating Radar modeling	Journal of Geological Society of India	81	397-404
4.	Chatterjee, R., Datta Gupta, S. and Farooqui, M. Y.,	2013	Reservoir identification using full stack seismic inversion technique: A case study from Cambay basin oilfields, India	Journal of Petroleum Science and Engineering	109	87-95
5.	Chatterjee, R. and Paul, S.,	2013	Classification of Coal Seams for Coal Bed Methane Exploitation in Central Part of Jharia Coalfield, India - A Statistical Approach	Fuel	111	20-29
6.	Mandal, H.S., Khan, P.K. and Shukla, A.K.	2013	Shear wave attenuation characteristics over the Central India Tectonic Zone and its surroundings	Journal of Asian Earth Sciences	73	440-451
7.	Maiti, S., and Tiwari, R.K.,	2013	A comparative study of artificial neural networks, Bayesian neural networks and adaptive neuro-fuzzy inference system in Ground-water Level Prediction	Environmental Earth Sciences	73	3147-3160
8.	Naresh Kumar, Dilip K. Yadav, S. K. Mondal & P. N. S. Roy	2013	Stress drop and its relation to tectonic and structural elements for the meizoseismal region of great 1905 Kangra earthquake of the NW Himalaya	Natural Hazards	69	2021-2038
9.	A Revil, M Karaoulis, Shalivahan Srivastava, S Byrdina	2013	Thermoelectric self-potential and resistivity data localize the burning front of underground coal fires	Geophysics	78	B259-B273
10.	S S Rai, Kajaljyoti Borah, Ritima Das, Sandeep Gupta, Shalivahan Srivastava, K.S. Prakasam, K. Sivaram, Sudesh Kumar, Rishikesh Meena	2013	The South India Precambrian crust and shallow lithospheric mantle: Initial results from the India Deep Earth Imaging Experiment (INDEX)	Journal of Earth System Science	78	1435-1454

11.	V K Srivastava, Tapas Kumar Nandy, Anurag Verma	2013	Evaluation of Associated Motion Parameters of Descending Moon Impact Probe (Mip) of Chandrayan-1 from Time Sequential Images	Advances in Signal Processing	1(4)	63-67
12.	Nelliat, S., Jha, P.C., and Mohanty, P.R	2013	Imaging of Sand Lens at a Barrage Site in the Indian Himalaya A Case Study using Cross-hole Seismic Tomography,	Journal Geological Society of India	82	529-534
13.	Mandal, H.S., Khan, P. K. and Shukla, A.K.	2014	Soil responses near Delhi ridge and adjacent regions in Greater Delhi during incidence of a local earthquake	Natural Hazards	70	93-118
14.	Mandal, H.S., Shukla, A.K., Khan, P.K. and Mishra, O.P.	2014	A new insight into Probabilistic seismic hazard analysis for Central India,	Pure and Applied Geophysics	170	2139-2161
15.	Mishra. R.K, Roy. P.N.S, Pandey. J, Khalkho. A, Singh. V.K	2014	Study of coal fire dynamics of Jharia coalfield using satellite data	International Journal of Geomatics and Geosciences	4(3)	477-484
16.	Shalivahan Srivastava, Bimalendu B. Bhattacharya, NV.Chalapathi Rao, and V.P. Maurya	2014	Thin lithosphereasthenosphere boundary beneath Eastern Indian craton	Tectonophysics	612-613	128-133

3.3.6.2 PAPERS PUBLISHED IN NATIONAL JOURNAL

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Chatterjee, R., . Manoharan, K. and Mukhopadhyay, M.,	2013	Petrophysical and mechanical properties of cretaceous sedimentary rocks of Cauvery basin, Eastern Continental Margin of India	J. Ind. Geophys. Union	17(4)	349-359
2.	Koduru, A. and Mohanty, P.R	2013	Comparison of wave equation migration techniques over complex geological structure	J. Ind. Geophys. Union	17(4)	281-288

3.3.6.3 PAPERS PRESENTED IN INTERNATIONAL SEMINARS/CONFERENCES

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	A. Singh and Upendra K. Singh	Automatic Depth Estimation of Potential field Data - An Integrated Approach	75th EAGE Conference & Exhibition incorporating SPE EUROPEC	June 10-13, 2013	London, UK
2.	V K Srivastava , Salil Agarwal and TJ Majumdar	Mapping of coal mine fires and resulting subsidence in the JhariaCoal field (India) using ASTER Multispectral thermal IR and ERS SAR images	Proceeding of World Mining Congress	Aug 2013.	Montreal, Canada
3.	Singha, D. K. and Chatterjee, R., Ojha. M. and Sain, K.,	Pore Pressure Prediction from Seismic Data using Neural Network	10 th Biennial Int. Conf. & Exp. Organised by SPG India	Nov. 23-25, 2013	Kochi, India
4.	Chatterjee, R., Singha, D. K. and Sanghvi, P.,	Deformation modeling around A Wellbore using Finite Element Technique	10 th Biennial Int. Conf. & Exp. Organised by SPG India	Nov. 23-25, 2013	Kochi, India
5.	Chatterjee, R., Paul, S. and Mourya,	Prediction of Uniaxial Compressive strength from well log data in Jharia Coalfield	10 th Biennial Int. Conf. & Exp. Organised by SPG India	Nov. 23-25, 2013	Kochi, India
6.	Singha, D. K. and Chatterjee, R,	Delineation of Over Pressure Zone from Well log data	Annual general meeting (AGU) of geological society of India	Nov. 14-16, 2013	ISM, Dhanbad, India
7.	Mandal, H.S., Khan, P. K. and Shukla, A.K.,	Derivation of focal mechanism using waveform inversion of broadband seismic data over Central India Tectonic Zone (CITZ): tectonic implications	International Symposium in Advances in Earthquake Science organized by Institute of Seismological Research and Indian Society of Earthquake Science	04 - 06 January, 2014	ISR, Gandhi-nagar, India

8.	Khan, P. K. and Chowdhury, S.,	Evolving Seismicity in Northeast India: a new seismotectonic insight	International Symposium in Advances in Earthquake Science organized by Institute of Seismological Research and Indian Society of Earthquake Science	04 - 06 January, 2014	ISR, Gandhi- nagar, India
9.	Das, A., Maiti, S.,	Application of cross-plotting techniques for characterization of reservoir from well log data.	AGM of GSI & Int. Conference on Future challenges in Earth Sciences for Energy & Mineral Resources ESEMR-2013	Nov. 14-16, 2013	ISM, Dhanbad, India
10.	Roy, P.N.S. and Bhattacharjee, Raj	Phase Detection of Seismograms Using Fractal Dimension	AGM of GSI & Int. Conference on Future challenges in Earth Sciences for Energy & Mineral Resources ESEMR-2013	Nov. 14-16, 2013	ISM, Dhanbad, India
11.	P. N. S. Roy, Nitesh Bhadauria	Detection of the Statistical precursor from Spatio-temporal pattern of earthquakes in the Eastern Indonesia Banda Sea region	3 rd Annual Convention "Earthquake Science The Future Challenges" with Special theme on "Seismic Microzonation and Hazard Assessment" AES-2014	04 - 06 January, 2014	ISR, Gandhi- nagar, India
12.	Vaish, J., and S. K. Pal	Interpretation of Magnetic Anomaly data over East Basuria region using an Enhanced Local Wavenumber (ELW) Technique	10th Biennial Int. Conference & Exposition, Society of Petroleum Geophysicists conference,	23-25 Nov. 2013	Kochi, Kerala, India,
13.	Pal, S. K. and Majumdar, T. J.	High resolution EIGEN-6C2 gravity data for geological appraisal over the Singhbhum-Orissa Craton, India,	Int.l Conference on Future Challenges in Earth Sciences for Energy & Mineral Resources,	Nov. 14-16, 2013	ISM, Dhanbad, India

14.	Vaish, J., and Pal, S. K.	Subsurface Coal fire mapping of Patherdih Colliery, a part of Jharia coal field, India.	Int.l Conference on Future Challenges in Earth Sciences for Energy & Mineral Resources,	Nov. 14-16, 2013	ISM, Dhanbad, India
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3.3.6.4 Papers Presented In National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Sahadev Kumar; Maurya Ved P.; Pal, Sanjit K., Shalivahan and Srivastava P.;	Tipper Magnitude: A possible indicator of anomalous conducting zone.	35th Annual Convention and Seminar on Exploration Geophysics	3-5 October, 2013,	New Delhi.
2.	Khan, P. K., Mohanty, S.P. and Sinha, S.,	Recurrences of moderate to large earthquakes in Peninsular India with special reference to 2001 Mw 7.3 Bhuj event,	National workshop on modern geological and geophysical methods and their applications, Department of Geological Sciences	Nov. 28-29, 2013	Jadavpur University, Kolkata
3.	Banerjee, J. and Khan, P.K.,	Lithosphere dynamics in Chili subduction margin, in abstract of the national workshop seismic microzonation	National workshop seismic microzonation, Institute of Seismological Research,	January 4-6, 2014	Gandhi Nagar, Gujarat
4.	Bhukta, K., Khan, P.K., Aggrawal, S. and Benerjee, J.,	Site Effect Evaluation of Seismic Broadband station at Indian School of Mines, Dhanbad, microzonation	National workshop seismic microzonation, Institute of Seismological Research,	January 4-6, 2014	Gandhi Nagar, Gujarat
5.	Ansari, A. and Khan, P.K.,	Relative assessment of stress build-up between Nepal and Sikkim-Darjeeling Himalayas through finite element modeling,	National workshop seismic microzonation, Institute of Seismological Research,	January 4-6, 2014	Gandhi Nagar, Gujarat
6.	Singha, D. K. and Chatterjee, R,	Multiple Regression Model: A New Approach for Estimation of Pore Pressure	Annual Convention Indian Geophysical Union	Jan. 8-12, 2014	Hyderabad

7.	Khan, P.K. and Ansari, A.,	Evolving tectonics along the arcuate Himalayan belt	Annual Convention Indian Geophysical Union	Jan. 8-12, 2014	Hyderabad
8.	Mandal, H. S., Khan, P.K. and Shukla, A.K.,	Seismic Hazard Assessment along the Son-Narmada-Tapti (SONATA) lineament and its surroundings	Annual Convention Indian Geophysical Union	Jan. 8-12, 2014	Hyderabad
9.	Aggarwal, S.K., Khan, P.K. and Rastogi, B.K.,	Occasional triggering of seismicity in Valsad area	Annual Convention Indian Geophysical Union	Jan. 8-12, 2014	Hyderabad
10.	Singh, A., Maiti, S.,	Lithology boundary identification using wavelet transform: An example from KTB borehole site	50 th Annual Convention on "Sustainability of Earth System-The Future Challenges" Indian Geophysical Union (IGU),	Jan. 9-12, 2014	Hyderabad
11.	Das, A., Maiti, S.,	ANFIS modelling and classification of lithofacies using well log data: A case study from KTB Borehole Site	50 th Annual Convention on "Sustainability of Earth System-The Future Challenges" Indian Geophysical Union (IGU),	Jan. 9-12, 2014	Hyderabad
12.	Maiti, S.,	Advancement of neural network modeling: Insights for Earth Probing	50 th Annual Convention on "Sustainability of Earth System-The Future Challenges" Indian Geophysical Union (IGU),	Jan. 9-12, 2014	Hyderabad
13.	Pal, S. K. and Vaish, J.	Coal fire mapping of East Basuria, a part of Jharia colafield, India: a magnetic gradient approach	6th National Seminar on Surface Mining (NSSM)	Jan. 10-11 2014	Dept. Mining Engg. ISM, Dhanbad

3.3.7 MAJOR ACADEMIC CONTRIBUTIONS

- Dr. P. Khan, Associate Professor, Dept. of AGP, Actively was involved in revision of BOCS, AGP, 2013
- Has prepared 80% of the syllabus for new M.Tech. Course in Earthquake Disaster, Hazard and RISK Mitigation.
- Dr. Saumen Maiti, Assistant Professor, Dept. of AGP received 'Krishnan Gold Medal' from the Indian Geophysical Union for the year 2013 for outstanding contribution in the development of multiple non-linear geophysical modeling framework.
- Dr. U. K. Singh, Associate Professor, Dept. of AGP, has been involved in (i) tabulation in Exam section, (ii) conduction of annual sports as a judge and (iii) Stock verification.

3.3.8 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES ETC

Dr. Rima Chatterjee	10 th Biennial International Conference & Exposition, Society of Petroleum Geophysicists, India	18-20 Nov., 2013	Dehradun
Prof P. R. Mohanty	International conference on future challenges in earth sciences for energy and mineral resources	Nov.14-16, 2013	ISM, Dhanbad
Dr P. N. S. Roy	AGM of GSI & International Conference on Future challenges in Earth Sciences for Energy & Mineral Resources ESEMR-2013	Nov.14-16, 2013	ISM, Dhanbad
Dr P. N. S. Roy	3 rd Annual Convention "Earthquake Science The Future Challenges" with Special theme on "Seismic Microzonation and Hazard Assessment" AES-2014	04 - 06 January, 2014	ISR, Gandhi Nagar
Dr. Rima Chatterjee	50 th Annual Convention of Indian Geophysical Union	Jan 8-12, 2014	NGRI, Hyderabad
Dr. P.K. Khan	50 th Annual Convention of Indian Geophysical Union	Jan 8-12, 2014	NGRI, Hyderabad
Dr. Saumen Maiti	50 th Annual Convention of Indian Geophysical Union	Jan 8-12, 2014	NGRI, Hyderabad
Prof Shalivahan	50 th Annual Convention of Indian Geophysical Union	Jan 8-12, 2014	NGRI, Hyderabad
Prof P. R. Mohanty	6th National seminar on surface mining	January 10-12, 2014	ISM, Dhanbad

3.3.9 VISITS OF FACULTY MEMBERS ABROAD

Dr P. N. S. Roy, Associate Prof. visited ICTP, TRIESTE, ITALY (THREE WEEKS), Purpose: as Junior Associate of ICTP, TRIESTE, ITALY and also to attend the International Workshop on “Earthquake Tectonics and Hazards on the Continents” (2013).

3.3.10 MISCELLANEOUS:

- Dr. Rima Chatterjee is the member of PAC/PMC of Ministry of Earth Sciences, Govt. of India.
- Dr. Rima Chatterjee is one of the Executive members of Indian Geophysical Union.

3.4 Department of Applied Mathematics

The Department of Physics and Mathematics was established since the inception of Indian School of Mines in 1926 and was given an independent status in 1989 as Department of Applied Mathematics. The Department provides an outstanding research environment complemented by excellent teaching for its students to flourish in different arena of academics and industry as well. The department offers academic programs leading to the award of M. Sc. (Mathematics and Computing), Integrated M. Tech. (Mathematics and Computing), M. Phil. (Applied Mathematics) and Ph. D. degree. The Department is well equipped with highly qualified faculty members and supportive advanced computational labs. Apart from this, the department takes care of Mathematical input to all undergraduate courses and post graduate courses of Engineering and Science currently running in ISM. It is also leading various sponsored project received by UGC, CSIR, NBHM, DST, ISRO etc.

3.4.1 FIELD VISITS/EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of Students	Place of Visit	Period of Visit
Industrial Visit	One	CIMFR	10.04.13 (one day)

3.4.2 INTRODUCTION OF NEW COURSES AND PROGRAMMES, IF ANY (GIVE COURSE OUTLINE).

New course of "GPU Computing with CUDA" was proposed by Dr. B. S. Kushvah and has been included in 5years Integrated M. Tech (M & C). This course is very important due to its application in many fields of science and technology, especially for high performance computing (HPC) and industry oriented syllabus. This may be helpful to the students for getting placements which may also increase department-industry interactions. In addition to that, this course would be partially supported by NVIDIA through CUDA Teaching Center Program (if selected for).

3.4.3 BEST PRACTICES OF THE DEPARTMENT

- (a) Published a magazine "Reckoning Today".
- (b) Conducted different events under Society of Applied Mathematics, including guest Lecture by Dr. M. Xavier James Raj from VSSC Trivandrum, on "Applications of Mathematics in Space Research" under Society of Applied Mathematics (SAM) on February 18, 2014 in GJLT.
- (c) Prof. A Goswami, Department of Mathematics, IIT Kharagpur delivered Guest Lecture on "Data Mining" under Society of Applied Mathematics (SAM) on March 22, 2014 in GJLT.

3.4.4 BRIEF LIST OF ON-GOING R&D PROJECTS

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
To develop estimation procedures for various population parameters.	UGC	Prof. G. N. Singh	₹ 6,10,104/-	01.07.2011	30.06.2014	To develop estimation procedures for various population parameters.	Ongoing	Most of the desired estimation procedures have been developed.
"A Study on an Inventory System Model"	UGC	Prof. B. Mukherjee	₹ 8,23,440.00/-	01/02/2011	31/01/2014	The aim of the research work is to model Deterministic inventory problems where goods will be considered into three main categories based on obsolescence, deterioration and no obsolescence /deterioration.	Completed on 31st march	
Fuzzy Automata and Languages: A Topological and Categorical Approach	CSIR, New Delhi	Dr. S.P. Tiwari	₹ 9.51 lacs	May 01, 2010	April 30, 2013	To study the fuzzy automata based on higher order fuzzy sets by using topology and category theory	Completed	The findings of the project have been appeared in the form of seven papers in International Journals
Pseudo-Differential Operators and Wavelet Transform Involving Fractional Fourier Transform on Function and Distribution Spaces	NBHM (DAE)	Dr. Akhilesh Prasad	₹ 10,07,000/-	01.04.2012	31.03.2015	The objectives of study are two folds: (i) To develop a theory of pseudo-differential operators and wavelets/wavelet transforms using the technique of fractional Fourier transform. (ii) To investigate solutions of certain boundary value problems and color image encoding and decoding using fractional Fourier transform associated with wavelet transforms.	Ongoing	One paper is published in J. Comput. Appl. Math. 259, pp. 660671, (2014). (Elsevier). one is accepted for publication in Bulletin of the Calcutta Mathematical Society and some papers are communicated
A Numerical Investigation of Load Carrying Mechanism in Tilted Pad Slider Bearing Lubrication.	UGC, New Delhi	Dr. Pentyala Srimivasa Rao	₹ 6,86,300.00	Feb 1, 2011	31st Jan, 2014	To analyze the load carrying mechanism in complicated geometry of industrial context. Findings: Effect of porous and permeability on Load carrying mechanism has been applied for slider bearing lubrication.	Completed	One paper published, one accepted and two more are under processing.

Analysis of effective stability around the equilibrium points in the generalised photogravitational Chermnykh-like problem	DST, New Delhi	Dr. B.S. Kushwah	₹ 12.84 Lacs	October 04, 2010	October 03, 2013	1. Formulation of models: Power-law profile. 2. Equations of motion, zero-velocity surfaces and existence of equilibrium points. 3. Orbits and their Lyapunov-Exponent. 4. Linear Stability. 5. Nonlinear Stability: -At non-resonance cases. -At resonance cases: Normalizations of Hamiltonian. Analysis of effective stability using KAM theorem.	Completed	Finding are published in four international papers + two under publications + one Ph.D. degree awarded
Stability and Chaos in Photogravitational N-body Problem with Solar Wind Drag	ISRO-DOS Govt. of India	Dr. B.S. Kushwah	₹ 16.97 Lakhs	June 11, 2013	June 10, 2016	1. Formulation of model and integrals of the motion 2. Study of Sun-Earth and Earth-Moon systems: (a) Singularities and existence of equilibrium points (b) Halos and Invariant Manifolds (c) Orbits (periodic/quasi periodic) around equilibrium points(d) Transfer of trajectories 3. Stability and Chaos	Ongoing	Two papers ready to communicate
Generalized convexity and its applications to mathematical programming problems	DST-New Delhi, India	Dr. Anurag Jayswal	₹ 11.64 Lakhs	01-10-2013	30-09-2016	To find relations between variational inequality and vector optimization problems and also to establish optimality and duality results for MOP under generalized convexity	Ongoing	One paper have been communicated
Some aspect of mathematical programming problems involving generalized convex functions	UGC-New Delhi, India	Dr. Anurag Jayswal	₹ 9,79,800/-	01-07-2012	30-06-2015	To generalized notion of convexity and establish optimality and duality results for various kind of mathematical programming problems	Ongoing	Six paper have been published

3.4.5 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
Faculty of Engineering, Cape Peninsula University of Technology, Bellville-7535, South Africa	Collaborative Scientific research work
School of Mathematics, Statistics & Computer Sciences University of Kwazulu-Natal, Pietermaritzburg, South Africa	Collaborative Scientific research work
Department of Mathematics and Computer Science, Clarkson University, Potsdam, NY 13699, USA.	Collaborative Scientific research work
Department of Applied Mathematics and Computational Science, Thuwal 23955-6900, Kingdom of Saudi Arabia.	Collaborative Scientific research work
College of Mathematics and Information Science, Wenzhou University, Wenzhou, Zhejiang 325035, China	Collaborative Scientific research work
Department of Mathematics, Jadavpur University	Collaborative Scientific research work
School of Basic Sciences, Indian Institute of Technology Mandi, Mandi, Himachal Pradesh	Collaborative Scientific research work
Department of Mathematics, Faculty of Science, BHU, Varanasi	Scientific research and Development of Mathematical techniques under joint research activity
Department of Civil & Environmental Engineering, Biological and Agricultural Engineering, Texas A and M University, 321 Scoates Hall, 2117 TAMU, College Station Texas 77843-2117, USA	Scientific research and Development of Mathematical techniques under joint research activity
Department of Civil & Environmental Engineering, Biological and Agricultural Engineering, Texas A and M University, 321 Scoates Hall, 2117 TAMU, College Station Texas 77843-2117, USA	Scientific research and Development of Mathematical techniques under joint research activity
Department of Earth Sciences, Perugia University, Perugia, Italy	Scientific research and Development of Mathematical techniques under joint research activity
Banaras Hindu University, Varanasi	Collaborative research work on fuzzy topology and theoretical computer science is going on. One research papers have been submitted for publication.

Centre of Interdisciplinary Mathematical Sciences, Banaras Hindu University, Varanasi	Collaborative research work on Pseudo-differential operators. Two papers have been published
Department of Mathematics, NERIST, Nirjuli, Arunachal Pradesh.	Collaborative research work on Pseudo-differential operators. Three papers have been published
University of Delhi (South Campus) and Maharaja Agrasen College, University of Delhi	Collaborative research work on Pseudo-differential operators. Three papers have been published
Department of Mathematics, Gombe State University, Gombe, Nigeria.	Collaborative research work on Integral Transforms Pseudo-differential operators. One paper is communicated
IUCAA Pune, India	N-Body Simulations using HPC
IIT Bombay, Mumbai	Collaborative research work.
IIT, Indore	Collaborative research work.
Harisingh Gour Central University, Sagar, MP	Collaborative research work.

3.4.6 RESEARCH PUBLICATIONS

3.4.6.1 Books Published

1. Upadhyay, R. K and Iyengar, S. R. K., 2013, "Introduction to Mathematical modeling and chaotic dynamics", CRC press, Taylor & Francis Group, New York.

3.4.6.2 Books review/Contribution of Chapter in a book

1. Seth G. S. Mahato G. K. and Singh, J. K. 2013 Combined Free and Forced Convection Couette-Hartmann Flow in a Rotating System with Hall Effects, "Nature Science" (Edited by M. R. Islam) by NOVA Publishers Inc. New York, chapter 14, pp. 125-150.
2. Rao, V. S. H. and Upadhyay, R. K. 2013, "Modeling the Spread and Outbreak Dynamics of Avian Influenza (H5N1) Virus and Its Possible Control", Dynamics models of Infectious Diseases, Springer Science. Pp. 227-250.
3. Rai, Parimita, Upadhyay, R. K. 2014, "Modeling the complex dynamics of epidemic spread under Allee effect", Recent Advances in Information Technology. Springer (RAIT-2014) pp. 117-124.

4. Singh, M. K. (2014), Geo-mathematical modeling of Groundwater contamination, Geostatistics for Natural Resources Modeling (BSWG), pp109-118, ISBN: 9789351566359.

3.4.6.3 Paper published in International Journals/Conferences

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	A Chattopadhyay, V K Sharma and Pato Kumari	2014	Reflection and transmission of three dimensional plane qP wave through layered fluid medium between two distinct triclinic half-spaces;	"International Journal of Geomechanics" (ASCE),	14(2)	182-190
2.	A Chattopadhyay, S Gupta & Pato Kumari	2013	Torsional wave propagation in non homogeneous layer between non homogeneous half spaces	Int. Journal for Numerical and Analytical Methods in Geomechanics, (ASCE)	37	1280-1291
3.	A Chattopadhyay, and A K Singh	2014	Propagation of a crack due to Magnetoelastic Shear Waves in a Self-reinforced medium	Journal of Vibration and Control,	20(3)	406-420
4.	G. S. Seth, G. K. Mahato and S. Sarkar	2013	Effects of Hall Current and Rotation on MHD Natural Convection Flow Past an Impulsively Moving Vertical Plate with Ramped Temperature in the Presence of Thermal Diffusion with Heat Absorption'	Int. J. Energy & Tech.,	5(16)	1-12
5.	R. Nandkeolyar, G. S. Seth, O. D. Makinde, P. Sibanda and Md. S. Ansari	2013	Unsteady Hydromagnetic Natural Convection Flow of a Dusty Fluid Past an Impulsively Moving Vertical Plate with Ramped Temperature in the Presence of Thermal Radiation	ASME J. Appl. Mech.,	80	p. 061003 (1-9)
6.	G. S. Seth, S. Sarkar and G. K. Mahato	2013	Numerical Solution of Unsteady Hydromagnetic Natural Convection Flow of Heat Absorbing Fluid past an Impulsively Moving Vertical Plate with Ramped Wall Temperature	Int. J. Appl. Math. Res.,	2 (2)	317-324

7.	G.S. Seth, S. Sarkar, S.M. Hussain and G.K. Mahato	2013	Numerical Solution of Hydromagnetic Natural Convection Flow with Radiative Heat Transfer Past an Impulsively Moving Vertical Plate with Ramped Temperature	OPJIT Int. J. Innovation & Research,	2 (1)	7-15
8.	G. S. Seth, S. M. Hussain and S. Sarkar	2013	Hydromagnetic Natural Convection Flow past an Accelerated Moving Vertical Plate with Ramped Temperature in a Porous Medium with Thermal Diffusion and Heat Absorption'	J. Nature Sci. and Sustainable Tech.	7 (3)	207-226
9.	G. S. Seth, J. K. Singh and G. K. Mahato	2013	Hall Effects on Unsteady Magnetohydrodynamic Couette flow within a Porous Channel due to Accelerated Movement of one of the Plates of the Channel	J. Nature Sci. and Sustainable Tech.,	7 (3)	271-290
10.	G. S. Seth, and J. K. Singh	2013	Effects of Hall Current on Unsteady MHD Couette Flow of Class-II in a Rotating System'	J. Appl. Fluid Mech.	6 (4)	473-484
11.	G. S. Seth, S. Sarkar and G. K. Mahato	2013	Effects of Hall Current on Hydromagnetic Free Convection Flow with Heat and Mass Transfer of a Heat Absorbing Fluid Past an Impulsively Moving Vertical Plate with Ramped Temperature	Int. J. Heat Tech.	31(1)	85-86
12.	G. S. Seth, G. K. Mahato and S. Sarkar	2013	MHD Natural Convection Flow with Radiative Heat Transfer Past an Impulsively Moving Vertical Plate with Ramped Temperature in the Presence of Hall Current and Thermal Diffusion	Int. J. Appl. Mech. Eng.,	18(4)	1201-1220
13.	G. S. Seth, S. M. Hussain and S. Sarkar	2014	Hydromagnetic Natural Convection Flow with Radiative Heat Transfer Past an Accelerated Moving Vertical Plate with Ramped Temperature through a Porous Medium	J. Porous Media,	17(1)	67-79

14.	P. C. Pal and D. Mandal	2014	Generation of SH-Type waves due to shearing stress discontinuity in a sandy layer overlying an isotropic and inhomogeneous elastic half-space	Acta Geophysica (Springer)	62(1)	44-58
15.	Gupta, S., Vishwakarma, S. K., Majhi, D. K., Kundu, S.	2013	Possibility of Love wave propagation in a porous layer under the effect of linearly varying directional rigidities,	Applied Mathematical Modelling, Elsevier	37	6652-6660
16.	Gupta, S., Majhi, D. K., Vishwakarma, S. K.		Torsional surface wave propagation in an initially stressed non-homogeneous layer over a non-homogeneous half-space	Applied Mathematics and Computation, Elsevier	219	3209-3218
17.	Gupta, S., Majhi, D. K., Kundu, S., Vishwakarma, S. K.	2013	Propagation of Love waves in non-homogeneous substratum over initially stressed heterogeneous half-space,	Applied Mathematics and Mechanics, Springer	34(2)	249-258
18.	Gupta, S., Vishwakarma, S. K.	2013	P and S-wave propagation in an initially stressed gravitating half space,	Applied Mathematics and Mechanics, Springer	34(7)	847-860
19.	Gupta, S., Vishwakarma, S. K., Majhi, D. K.	2013	Influence of rigid boundary on the Love wave propagation in elastic layer with void pores	Acta Mechanica Solida Sinica, Elsevierr	26(5)	551-558
20.	Vishwakarma, Sumit Kumar, Gupta, Shishir,	2013	Existence of torsional wave in an Earth's crustal lyer lying over a sandy mantle	Journal of Earth System Science, Springer	122(5)	1411-1421
21.	Singh, G. N. and Prasad, S.	2013	Best linear unbiased estimators of population mean on current occasion in two-occasion rotation patterns.	Statistics in Transition- new series	14(1)	57-74
22.	Singh, G. N., Homa, F. and Maurya, S.	2013	Exponential method of estimation in two-occasion successive sampling.	Int. Journal of Statistics and Economics	12(3)	26-39

23.	Singh, G. N., Priyanka, Prasad, S., Singh, S. and Kim, J. M	2013	A class of estimators for population variance in two-occasion rotation patterns.	Communications for Statistical Applications and Methods	20(4)	247-257
24.	Singh, G. N., Majhi, D., Prasad, S. and Homa, F	2013	Assessment of non-response under ratio method of imputation in two-occasion successive sampling.	Journal of Statistical Theory & Applications	12(4)	403-418
25.	Panigrahi, D.C., Sinha, S. K. and Singh, G. N.	2013	A study into occurrence of fire in opencast workings over developed coal pillars and evolving control parameters for its safe extraction	Arch. Min. Sci.	58(4)	1145-1162
26.	Bandyopadhyay, A. and Singh, G. N.	2014	On the use of two auxiliary variables to improve the precision of estimate in two-occasion successive sampling	International Journal of Mathematics and Statistics.	15(1)	73-88
27.	Bandyopadhyay, A. and Singh, G. N.	2014	Some modified classes of chain-type estimators of population mean in two-phase sampling.	International Journal of Statistics and Economics	14(2)	92-103
28.	Upadhyay, R. K., Tiwari, S. K.	2013	Emergence of Spatial Patterns in a simple Model of Wetland Ecosystem: Application to Keoladeo National Park (KNP), India.	Journal of Biodiversity Management and Forestry	2(4)	1-16
29.	Yan, S., Lian, X., Wang, W. Upadhyay, R. K.	2013	Spatiotemporal dynamics in a delayed diffusive predator model.	Applied Mathematics and Computation	224	524-534
30.	Jana, D., Bairagi, N., Agrawal, R, Upadhyay, R. K	2013	Modeling the effect of gestation delay of predator on the stability of bifurcating periodic solutions in wetland ecosystem.	The Journal of Ecology.	107	175-189
31.	Parshad, R. D., Abderrahmane, H.A., Upadhyay, R. K., Kumari, N.	2013	Finite Time Blow up in a Realistic Food-Chain Model.	ISRN Biomathematics	2013	1-12

32.	Krishna Prasad, Bani Mukherjee and Shiv kumar	2014	An Inventory Model for Non instantaneous Deteriorating items under the effect of Price with Partial Backlogging and shortage	Elixir Appl. Math	66	20820-20829
33.	Bani Mukherjee & Narayan Prasad	2014	Effect of radiation and porosity parameter on hydromagnetic flow due to exponentially stretching sheet in a porous medium	International Journal of engineering science and technology (IJEST)	6(1)	58-70
34.	Bani Mukherjee & Narayan Prasad	2013	Magneto-Hydro dynamics Boundary Layer Flows over a Stretching Surface with Radiation in Porous Medium	Int. Journal of Innovative technology and Research (IJITR)	1(4)	321 -326
35.	Prasad Krishna and Mukherjee Bani	2013	Production Inventory Model for Deteriorating Item with Production Disruption and Shortage	Int. Journal of Applied mathematical Sciences (JAMS)	6(1)	117-126
36.	Chatterjee, D and Mukherjee, Bani	2013	Potential hospital location selection using Fuzzy-AHP: An empirical study in rural India	Int. Journal of Innovative technology and Research (IJITR)	1(4)	304-314
37.	Chatterjee, D and Mukherjee, Bani	2013	A study on the comparison of AHP and fuzzy AHP Evaluations of private technical institutions in India	Int. Journal of Innovative technology and Research (IJITR)	1(4)	283-291
38.	Chatterjee, D and Mukherjee, Bani	2013	Potential hospital location selection using AHP: A study in rural India'	Int. Journal of Computer Applications (IJCA)	71(17)	1-7
39.	Bani Mukherjee and K Prasad	2013	A Deterministic Inventory Model of deteriorating items with stock and time dependent demand rate	Journal of Applied Functional Analysis (JAFA)	8(2)	214-222
40.	Singh, M K, Kumari P and Mahato	2013	Two-dimensional solute transport in finite homogeneous porous formations.	Int. Journal of Geology, Earth and Environmental Sciences	3(2)	35-48
41.	Singh M K, Mahato N K, and Singh V P	2013	An analytical approach to one-dimensional solute dispersion along and against transient groundwater flow in aquifers	Journal of Groundwater Research	2(1)	65-78

42.	S.P. Tiwari and Anupam Kumar Singh	2013	On bijective correspondence between IF-preorders and saturated IF-topologies	Int. Journal of Machine Learning and Cybernetics	4	733-737
43.	S.P. Tiwari and Shambhu Sharan	2013	International Journal of Foundations of Computer Science	Int. Journal of Machine Learning and Cybernetics	24	375-391
44.	S.P. Tiwari and Shambhu Sharan and B. Davvaz	2013	l-valued automata and associated l-valued topologies	International Journal of Granule Computing, Rough Sets and Intelligent Systems	3	84-95
45.	S.P. Tiwari, Anupam K. Singh and Shambhu Sharan	2013	Fuzzy subsystems of fuzzy automata based on lattice-ordered monoid,	Annals of Fuzzy Mathematics and Informatics	7	437-445
46.	Prasad, A., Kumar, S.	2013	Hankel-Clifford transformations on some ultradifferentiable function spaces and pseudo-differential operators	J. Pseudo-Differ. Oper. Appl (Springer-Birkhauser)..	4 (4)	551-567
47.	Prasad, A., Singh, V. K	2014	Boundedness of pseudo-differential operator associated with fractional Hankel transform	Fract. Cal. Appl. Anal	17 (1)	154-170
48.	Prasad, A., Singh, M. K. and Kumar, M.	2013	The continuous fractional wave packet transform	AIP Conf. Proc.	1558	856-859
49.	P.S. Rao & S. Agarwal	2014	Effect of surface roughness on the hydrodynamic lubrication of porous inclined slider bearing considering slip velocity and squeeze velocity with couple stress fluids	Int. Journal of Engineering Science and Technology	6(2)	45 - 64
50.	Ram Kishor, Badam Singh Kushvah	2013	Periodic orbits in the generalized photogravitational Chermnykh-like problem with power-law profile	Astrophysics and Space Science	344 (2)	333-346
51.	Reena Kumari Badam Singh Kushvah	2013	Equilibrium points and zero velocity surfaces in the restricted four-body problem with solar wind drag	Astrophysics and Space Science	344 (2)	347-359

52.	Ram Kishor, Badam Singh Kushvah	2013	Linear stability and resonances in the generalized photogravitational Chermnykh-like problem with a disc	Monthly Notices of the Royal Astronomical Society	436 (2)	1741-1749
53.	Reena Kumari Badam Singh Kushvah	2014	Stability regions of equilibrium points in restricted four-body problem with oblateness effects	Astrophysics and Space Science	349	693-704
54.	Ram Kishor, Badam Singh Kushvah	2013	Lyapunov characteristic exponents in the generalized photo-gravitational Chermnykh-like problem with power-law profile	Planetary and Space Science	84	93-101
55.	Anurag Jayswal, Dilip Kumar	2013	Second order duality for minimax fractional programming involving generalized Type I functions	Maejo Int. Journal of Science and Technology	7	145-154
56.	I. Ahmad, Ravi P. Agarwal, Anurag Jayswal	2013	Higher order duality in nondifferentiable fractional programming involving generalized convexity	Journal of Computational Analysis and Applications	15	1444-1455
57.	Anurag Jayswal, Ashish Kumar Prasad	2013	Second order multiobjective fractional symmetric duality over cone constraints	Communication on Applied Nonlinear Analysis	20	33-46
58.	Anurag Jayswal, A. K. Prasad, Krishna Kumari	2013	On nondifferentiable minimax fractional programming involving higher order generalized convexity	Filomat	27	1497-1504
59.	Kundu, S., Gupta, S. and Manna, S	2014	SH-type waves dispersion in an isotropic medium sandwiched between an initially stressed orthotropic and heterogeneous semi-infinite media	Meccanica (Springer),	49	749-758
60.	Kundu, S., Gupta, S. and Manna, S	2014	Propagation of G-type seismic waves in heterogeneous layer lying over an initially stressed heterogeneous half-space	Applied Mathematics and Computation (Elsevier)	234	1-12

61.	Manna, S., Kundu, S., and Gupta S	2014	Propagation of Love type wave in piezoelectric layer overlying non-homogeneous half-space	The Electronic Journal of Mathematics and Technology	8(1)	1-16
62.	Vishwakarma, G.K. and Kumar, M. and Singh, R	2014	A class of dual to ratio-cum-product estimators of population mean using known correlation coefficient between auxiliary variates	Int. Journal of Statistics and Economics	15	43-50
63.	Vishwakarma, G.K. and Gangele, R.K	2014	A class of chain ratio - type exponential estimators in double sampling using two auxiliary variates,	Applied Mathematics and Computation	227	171-175
64.	Singh, R., Vishwakarma, G.K., Gupta, P.C. and Pareek, S	2013	An alternative approach to estimation of population mean in two-stage sampling	Mathematical Theory and Modeling	3(13)	48-53
65.	Prasad, A., Singh, V. K	2013	Pseudo-differential operators associated to a pair of Hankel-Clifford transformations on certain Beurling type function spaces	Asian-Eur. J. Math., Article ID: 1350039 (22 pages) (World-Scientific).	6(3)	

3.4.6.4 Papers presented in International Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	G. S. Seth and S. Sarkar	Effects of Hall current on unsteady hydromagnetic free convection flow past an impulsively moving vertical plate with Newtonian heating	ICMMANS	July 01-03, 2013	BBAU, Lucknow
2.	G. S. Seth, R. Sharma and S. Sarkar	Hydromagnetic natural convection heat and mass transfer flow with Hall current of a heat absorbing and radiating fluid past an accelerated moving vertical plate with ramped temperature in a rotating medium	16th International Conference of the International Academy of Physical Sciences	March 20-22, 2014	IITDM Jabalpur

3.	G. S. Seth, B. Kumbhakar and S. Sarkar	Magneto hydrodynamic flow over a permeable non-linearly stretching surface with effects of viscous dissipation and thermal radiation	16th International Conference of the International Academy of Physical Sciences	March 20-22, 2014	IITDM Jabalpur
4.	P. C. Pal, S. Majhi and S. Kumar	Propagation of SH-types in a sandwiched dry sandy medium	International conference on ESEMR	Nov. 14-16, 2013	ISM Dhanbad
5.	P. C. Pal, B. Prasad and S. Kumar	Reflection and Refraction of SH-waves through a self-reinforced elastic layer embedded between two transversely isotropic inhomogeneous elastic half-spaces	International conference on ESEMR	Nov. 14-16, 2013	ISM Dhanbad
6.	Rai, Parimita, Upadhyay, R.K	Modeling the complex dynamics of epidemic spread under Allee effect	Recent Advances in Information Technology-2014	March 13-15, 2014	ISM Dhanbad
7.	Jana, Debaldev, Agrawal, Rashmi, Upadhyay, R.K	The role of top predator interference and gestation delay on the dynamics of a food chain model	Int. Conference on Environmental Biology and Ecological Modeling	Feb. 24-26, 2014	Viswa Bharti University
8.	Agrawal, Rashmi, Upadhyay, R.K	Modeling the effect of mutual interference in a two-species delay-induced predator-prey system	Int. Conference on Environmental Biology and Ecological Modeling	Feb. 24-26, 2014	Viswa Bharti University
9.	Mondal, Argha Upadhyay R.K.	A Fractional order modified Morris-Lecar Neural model	3rd International Symposium on Complex Dynamical System and Application	March 10-12, 2014	ISI Kolkata
10.	Prasad Krishna Mukherjee Bani,	A Fractional order modified Morris-Lecar Neural model	3rd International Conference on Frontiers of Mathematics & Applications,	Jan. 29-31, 2014	Univ. of Burdwan, W.B
11.	Singh M K, and Das Pintu	One-dimensional homogeneous semi-infinite aquifer along unsteady groundwater flow with variable porosity	Int. Conference on Mathematical Modeling and Numerical Simulation	July 1-3, 2013	BBAU (A Central University) Lucknow

12.	Manna, S., Kundu, S. and Gupta, S.	Propagation of Love type wave in piezoelectric layer overlying non-homogeneous half-space,	Proc. of 18th Asian Technology Conference in Mathematics and 6th Technology & Innovations in Mathematics Education	Dec. 7-11, 2013	IIT Mumbai
13.	Manna, S., Kundu, S. and Gupta, S	Propagation of Love Wave in a Piezoelectric Layered Structures over an Isotropic Half-space under Initial Stress	Proceeding of Int. Conference on Future Challenges in Earth Sciences for Energy & Mineral Resources in conjugation with AGM of the Geological Society of India	Nov. 14-16, 2013	ISM Dhanbad
14.	Manna, S., Kundu, S. and Gupta, S	Propagation of Love wave in a piezoelectric structure overlying a piezoelectric half-space	Proceeding of Int. Conference on Structural and Physical Properties of Solids	Nov. 18-20, 2013	ISM Dhanbad
15.	S. A. Sahu	Propagation of SH waves in viscoelastic medium over a half-space under gravity"	Advances in Pure and Applied Mathematics (ICAPAM-2014)	March 07-09, 2014	JLN Govt. Haripur, Manali
16.	Abhishek Kumar Singh	Crack propagation due to shear wave in a Viscoelastic medium.	3rd International Conference on Frontiers of Mathematics and Applications ICFMA 2014	Jan 29 - 31, 2014	Depart. of Mathematics University of Burdwan, WB, India
17.	Abhishek Kumar Singh	Propagation of Stoneley wave in Viscoelastic medium	3rd International Conference on Frontiers of Mathematics and Applications ICFMA 2014	Jan 29 - 31, 2014	Depart. of Mathematics, University of Burdwan, WB, India

3.4.6.5 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Singh, M K	Geo-mathematical modeling of Groundwater contamination	Brain Storming Workshop on Geostatistics for Natural Resources Modeling (BSWG)	Feb. 28, 2014	ISM, Dhanbad
2.	Manna, S., Kundu, S. and Gupta, S	Mathematical study for existence of Love waves in inhomogeneous media	Pro. of National Conference on Emerging Trends in Engineering and Science, in McGraw Hill,	Jan. 30-31 2014	AEC. Asansol
3.	Kundu, S., Gupta, S., Vaishnav, P. K. and Manna, S	Propagation of SH-type waves in a non-homogeneous orthotropic medium overlying semi-infinite porous medium	Pro. of National Conference on Emerging Trends in Engineering and Science, in McGraw Hill,	Jan. 30-31 2014	AEC. Asansol

3.4.7 MAJOR ACADEMIC CONTRIBUTIONS

Prof. G. S. Seth

- Associate Editor of the peer reviewed SCI-Indexed international journal "Journal of Applied Fluid Mechanics"
- Editorial board member of a peer reviewed international journal "Applied Mathematics"
- Editorial board member of a peer reviewed international journal "International Journal of Applied Mathematical Research".
- Editorial board member of a peer reviewed international journal "OPJIT International Journal of Innovation and Research".
- Editorial board member of a peer reviewed international journal "Journal of International Academy of Physical Sciences".
- Member of Board of Advisors of a peer reviewed national journal, "Bulletin of the Gauhati University of Mathematics Association" (GUMA).
- Reviewer of the following International Journals:

- i. Journal of Applied Fluid Mechanics,
 - ii. Applied Mathematics,
 - iii. International Journal of Thermal Sciences,
 - iv. International Journal of Engineering, Science and Technology,
 - v. Chemical Engineering Communication,
 - vi. Computers and Mathematics with Applications,
 - vii. Zeitschrift für Naturforschung A: A Journal of Physical Sciences,
 - viii. Journal of Nature Science and Sustainable Technology,
 - ix. Thermal Sciences,
 - x. Journal of Porous Media,
 - xi. Latin American Applied Research,
 - xii. Journal of Aerospace Engineering,
 - xiii. American Journal of Fluid Dynamics,
 - xiv. Advances in Mathematical Physics,
 - xv. Bulgarian Chemical Communications,
 - xvi. International Journal of Biomathematics,
 - xvii. International Journal of Energy & Technology
1. Examiner of Ph. D. Thesis of the following University: Sri Krishnadevaraya University, Anantapur-515003 (A. P.)
 2. Acted as an External Member of 'Board of Courses Studies' to revise the syllabus of Mathematics in NIT Mizoram. (meeting held on 5th June, 2013)
 3. Chaired a technical session in the 2nd International Conference of Recent Advances in Information Technology (RAIT), March 13-14, 2014, held at ISM Dhanbad.

Prof. G. N. Singh

Reviewer of the following International Journals:

- Hacettepe Journal of Mathematics and Statistics,
- Pakistan Journal of Statistics,
- Model Assisted Statistics and Application,
- Communications in Statistics-Theory & Methods,
- Journal of Statistical Theory and Practice

Prof. R. K. Upadhyay

- Editorial board member of a peer reviewed international journal from France "Journal of Nonlinear Systems and Applications"
- Editorial board member of a peer reviewed international journal from Hong Kong "Computational Ecology and Software".
- Delivered an Invited Talk on
- Workshop on PDE & Mechanics during June 3 - 15, 2013,
- 101th Indian Science Congress during 3-7 Feb 2014 in Jammu University.
- Recent Advances in Mathematics during Feb. 1-2, 2014 in Beant Singh College of Engg. & Technology, Gurdaspur.
- National conference on Mathematical and Theoretical Biology during 20-21 Feb 2014 at Jadavpur University.
- RSM-2014 on 28th Feb. 2014 at Indian School of Mines, Dhanbad.
- Chaired a technical session for invited talk in National Conference on 'Recent Advances in Mathematics (RAM-2014), Feb. 1-2, 2014 at BSET, Gurdaspur.
- Attended Expert Committee meeting for restructure of M.Sc Integrated Programme (Mathematics), in Central University of Orissa.

- **Reviewer of the following International Journals:**
 - (i) Journal of Biological Dynamics,
 - (ii) Mathematics and computer in Simulations,
 - (iii) Applied Mathematical Modeling,
 - (iv) Applied Mathematics and computations.
 - (v) Nonlinear Analysis: real world applications.
- Examiner of Ph.D. Thesis from IIITM, Gwalior.
- Examiner of Ph.D. Thesis from Jiwaji University, Gwalior.
- Examiner of Ph.D. Thesis from BIT MESRA, Ranchi.
- Examiner of Ph.D. Thesis from Culcutta University, Kolkata.

Dr. M. K. Singh

- Member of professional bodies like International Association of Hydrological Sciences (IAHS), U.K.; American Society of Civil Engineers (ASCE)-EWRI, USA. and Life Member of Association of Global Groundwater Scientists (AGGS), India.
- Invited Lecture delivered on the topic “One-dimensional homogeneous semi-infinite aquifer along unsteady groundwater flow with variable porosity” during International Conference on Mathematical Modeling and Numerical Simulation organized by Department of Applied Mathematics, BBAU (A Central University), Lucknow, July 1-3, 2013, Lucknow (U.P.).
 - i. Invited Lecture delivered on the topic “Geo-mathematical modeling of Groundwater contamination” Brain Storming Workshop on Geostatistics for Natural Resources Modeling (BSWG), February, 28, 2014, ISMDhanbad
 - ii. Invited Lecture delivered on the topic “Advective-Dispersive Equation and Application to Hydrological Sciences” in Short Term Training Programme (STTP), March10-14, 2014, NIT Raipur.

- iii. Worked as the reviewer of Journal of Earth System Sciences (JESS) and Journal of Agricultural Science and Technology (JAST) and Journal of Hydrologic Engineering (ASCE).
- Examined Ph.D. thesis of Lucknow University, Lucknow as an External Examiner.

Dr. S. Chatterjee

Reviewer of the following International Journals:

- International Journal of Systems Science, Taylor & Francis.
- Mathematical & Computer Modelling of Dynamical Systems, Taylor & Francis.
- Information and Software Technology, Elsevier.
- Software Testing, Verification and Reliability, Wiley.
- Quality and Reliability Engineering, International Journal, Wiley.
- Journal of Systems and Software, Elsevier.
- International Journal of Systems Assurance Engineering and Management, Springer.
- Dr. S.P. Tiwari chaired a paper presentation session during IMS-2013 held at Cochin.

Dr. Akhilesh Prasad

- **Reviewer of the following International Journals:**
 - i. Transactions on Signal Processing (IEEE)
 - ii. Fixed Point Theory and Applications (Springer)
 - iii. Thai Journal of Mathematics
 - iv. ZentralblattMaths and Annual Membership of American Mathematical Society.
- Examiner of Ph. D. Thesis, NERIST, Arunachal Pradesh.

Dr. P. K. Kewat

- Delivered a talk entitled Derivatives and L-functions at IIT Bombay on October 08, 2013.

Dr. G. K. Vishwakarma

- Member of the Board of Examiner Committee, Central University of Bihar, Patna, India
- Key Note lecture in International Conference on Recent Advances in Mathematical Sciences and Applications, during December 24-26, 2013 held at Department of Applied Mathematics, RGPV, Bhopal, India.
- Chaired the session in International Conference on Recent Advances in Mathematical Sciences and Applications, during December 24-26, 2013 held at Department of Applied Mathematics, RGPV, Bhopal, India.
- Delivered a talk “on Estimation of Population Mean Using Auxiliary Information in Sample Surveys” during October 10, 2013 at Department of Mathematics, Indian Institute of Technology Indore, India.
- Delivered series of lecture in Department of Computer Science, Assam University, Silchar during **April, 13-21, 2013**

3.4.8 PARTICIPATION OF FACULTY/OFFICER/ STAFF IN SEMINARS/ CONFERENCES ETC

G. S. Seth	6th Indian Mineral Congress & Exhibition	February 1, 2014	ISM Dhanbad
G. S. Seth	Brain Storming Workshop on Geo statistics for Natural Resources Modeling	February 28, 2014	ISM Dhanbad
Prof. P. C. Pal	Indian Mineral Congress	February 1, 2014	ISM Dhanbad
Prof. R.K. Upadhyay	Recent Advances in Mathematics -2014	February 1-2, 2014	BSCET, Gurdaspur.
Prof. R.K. Upadhyay	101 Indian Science Congress	February 3-7, 2014	Indian Sc. Congress, Jammu University
Prof. R.K. Upadhyay	National conference on Mathematical and Theoretical Biology 2014	February 20-22, 2014	Jadavpur University, Kolkata

Prof. R.K. Upadhyay	RSM-2014	February 28 , 2014	ISM Dhanbad
Dr. M.K. Singh	International Conference on Mathematical Modeling and Numerical Simulation	July 1-3, 2013	BBAU (A Central University), Lucknow
Dr. M.K. Singh	Brain Storming Workshop on Geostatistics for Natural Resources Modeling (BSWG)	February 28 , 2014	ISM Dhanbad
Dr. M.K. Singh	Short Term Training Programme (STTP)	March 10-14,2014	NIT, Raipur
Dr. S.P. Tiwari	79th Annual Conference of Indian Mathematical Society	December 27-31, 2014	Cochin
Dr P. S. Rao	79th Annual Conference of Indian Mathematical Society	December 28-31, 2014	Depart. of Mathematics, Rajagiri School of Engineering & Technology Kochi, Kerala
Dr P. S. Rao	International Conference on Recent Advances in Mathematics	Jan 20 -23, 2014	Department of Mathematics, RTM Nagpur University, Nagpur
Dr. G. K. Vishwakarma	Convener; Research Scholar Meet -2014.	February 28, 2014	ISM Dhanbad
Dr. G. K. Vishwakarma	International Conference on Recent Advances in Mathematical Sciences and Applications	December 24-26, 2013	Department of Applied Mathematics, RGPV, Bhopal, India
Dr. G. K. Vishwakarma	Workshop on intellectual Property Rights	February 14, 2014	ISM Dhanbad

3.4.9 DISTINGUISHED VISITORS TO THE SCHOOL

Prof. Sir James Xavier Raj	VSSC Trivandrum delivered Guest Lecture on "Applications of Mathematics in Space Research" under Society of Applied Mathematics (SAM) on February 18, 2014 in GJLT.
Prof. A. Goswami	Department of Mathematics, IIT Kharagpur delivered Guest Lecture on "Data Mining" under Society of Applied Mathematics (SAM) on March 22, 2014 in GJLT.

3.4.10 MISCELLANEOUS

Prof. G. S. Seth:

- Prof. G. S. Seth is the Vice-Chairman of Central Purchase Committee of ISM Dhanbad.
- Acted as External Examiner for assessing the Project Dissertation and conducting the Viva-voce Examination of Final Year M. Sc. (5 Year Integrated) in Mathematics and Computing, IIT Kharagpur.

Prof. R. K. Upadhyay

- Attended Board of Studies meeting at Central University Orissa.
- Member of ACP/MACP committee for Group C &D employees at ISM Dhanbad.
- Faculty In- charge for recruitment, Deptt. of Applied Mathematics, ISM Dhanbad.
 - i. Nominated as a society member of International Society of computational Ecology.
 - ii. Life member of Indian Mathematical Society
 - iii. Member of American mathematical society

Dr. M. K. Singh

Produced two Ph.Ds in 2013.

Dr. S. Chatterjee

- Appointed as examiner in Reliability Eng. Center, IIT Kharagpur, for M.Tech final year dissertation presentation and evaluation.
- Co-Chaired a Session in RAIT 2014, held by Dept. of CSE in ISM Dhanbad.
- Member, IEEE Reliability Society.

Dr. A Prasad

- Produced a Ph.D in 2013.
- Ms. Vanita Jain has submitted her thesis to the award of Ph.D. degree in Applied Mathematics who has done the research work under supervision of Dr. Akhilesh Prasad, Department of Applied Mathematics, ISM, Dhanbad.

3.5 Department of Applied Physics

The Department of Applied Physics came into existence as a separate Department in 1989, although it existed since the inception of the Institute. The objective of the Department is to produce highly skilled manpower in the field of teaching, research and development for the institute, research laboratory and industries. The Department offers 2-year M.Sc., 5-year Integrated M.Sc., 1-year M.Phil. and Ph.D. programmes in Applied Physics.

3.5.1 FIELD VISITS/ EXCURSIONS/TRAINING PROGRAMS UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
Summer Training	II-Semester, M.Sc.(Applied Physics)	1. IIA, Bangalore 2. IPR Gandhinagar 3. IIT KGP 4. TIFR, Mumbai 5. SNBNCBS Kolkata 6. UGC-DAE CSR Indore 7. VECC, Kolkata 8. SINP Kolkata 9. HRI Allahabad 10. BARC, Mumbai	May 2013 to June 2013 (~ 8 weeks)
Summer Training	VIII-Int M. Sc. (Applied Physics)	<ul style="list-style-type: none">• IISER Kolkata• Seoul Univ, South Korea• TIFR Mumbai• SINP Kolkata• Helmholtzzentrum fur Schwerionenforchung GmbH, Darmstadt, Germany• LNGS, Italy• IPR Gandhinagar	May 2013 to June 2013 (~ 8 weeks)
Summer Training	VI-Int. M. Sc. Applied Physics	<ul style="list-style-type: none">• Osmania Univ.• NFL, Bathinda• IIT Roorkee	May 2013 to June 2013 (~ 8 weeks)

3.5.2 INTRODUCTION OF NEW PROGRAMS, IF ANY

Department of Applied Physics is going to start B.Tech (Engg. Phys) from session 2014-15 with an intake of 22 students from IIT-JEE (advanced).

3.5.3 BRIEF LIST OF ON-GOING R& D PROJECTS

Project Title	Sponsoring Agency	Coordinator(s)	Project Value	Date of Commencement Date of Completion	Objective	Status	Findings
Synthesis and characterization of ultra-thin film using Langmuir-Blodgett apparatus with application as gas sensor	UGC New Delhi	PI: Prof P. S. Gupta Co-PI; Dr A.K.Kar	Rs. 5,02,800/-	01.02.2011	To synthesis monolayer thin films of various organic and inorganic materials using LB Apparatus and study their applications with special emphasis on use as gas sensor.	Ongoing	In progress
Preparation and characterization of oxide and fatty acid thin films	UGC - DAE Consortium of Scientific Research, Indore	PI: Prof. P. S. Gupta	Rs. 35,000/- per year	01.04.2011	Preparation of oxide film by spin coating method and the organic thin films by Langmuir-Blodgett technique and to study the structural, optical and probable applications	Ongoing	In progress
UGC Special Assistance Program	UGC, New Delhi	Prof. J. Manam (Co-ordinator) Dr. S. K. Sharma (Deputy Co-ordinator)	Rs. 68.5 lacs.	01.04.09 to 31.03-2014	To synthesis and characterize various luminescent ceramics, glasses, thin films for possible applications in optoelectronics devices	Completed	Three luminescent ceramic samples were synthesized and the characterization of the samples was done by XRD and FTIR techniques Reflectance Photoluminescence and Thermoluminescence studies of the prepared samples were also carried out. Two research papers were presented in the National Conferences. Three research papers were published in International Journals.
Optical spectroscopic studies of rare earth doped molybdate phosphors.	DST, New Delhi	S. K. Sharma	Rs. 20.95 lacs	September 2011/ August 2014	Synthesis of rare earth doped molybdate phosphors for their suitable applications in Optoelectronic devices.	Ongoing	Rare earth doped /doped molybdate phosphors are synthesized. XRD, FTIR, PL and DR studies of the prepared phosphors are carried out.
Synthesis and characterization of nanocomposite thin films for Optoelectronic applications	UGC-DAE, Indore	S. K. Sharma	Rs. 7.38 lacs	February 2013/ January 2016	Synthesis of nanocomposite thin films by Pulsed Laser Deposition method for their suitable applications in Optoelectronic devices.	Ongoing	Metal oxide composite thin films are deposited. GI-XRD, AFM, Raman and Transmission studies of the prepared films are in progress.
Phononic Crystal Fiber : Designing and characterization for applications in optical communication & sensors	UGC	Dr. Vinod Kumar Singh	Rs. 9.54 Lakhs	02.04.2011	To design and characterise PCF to use as sensors	Completed	Fabrication of temp. and refractive index sensor using PCF

Density functional theory of structure and properties of colloidal dispersions in external fields	UGC, New Delhi	Dr. Panikaj Mishra	Rs. 7,52,300/-	1 Feb 2011	To study the phase diagrams of Colloids in external fields	Completed	Studies have been made regarding the effect of multipolar interaction potentials on the structure of colloidal systems and paper has been published.
Density functional theory for freezing transitions and properties of inhomogeneous systems	DST, New Delhi	Dr. Pankaj Mishra	Rs. 15,46,750/-	Sept 2013	To study the inhomogeneous systems	On going	Instrument Procurement Process is going on
Studies on rare earth ions doped upconversion nano-phosphors as optical sensors	DST-New Delhi (Young Scientist Scheme)	PI: Kaushal Kumar	Rs. 23,28,000/-	01.11.2013	To synthesis upconversion based phosphor materials and their optical emission studies	On going	In progress
Development of MgB ₂ based conduction cooled superconducting current leads with high critical current for cryogenic devices	DST, New Delhi	PI: Dr. P. M. SARUN	Rs. 26,64,000/-	10.01.2014	To develop conduction cooled superconducting current leads	On going	In progress
Development of novel rare earth doped (Bi,Pb)-2212 high temperature superconductors with enhanced properties	FRS, ISM, Dhanbad	PI: Dr. P. M. SARUN	Rs. 7,75,000/-	20.12.13	To synthesis and characterize Bi-2212 superconductor.	On going	In progress
Development of Hybrid Polymer - Nanoparticle Based White Light Emitting Diodes (WLEDs)	Department of Science and Technology	PI: Dr. Prashant Kumar Sharma	Rs. 23 Lakhs	24 March 2014	To Develop WLEDs	On going	In progress
Design and fabrication of Metal Oxide based transparent Thin film transistors".	DST-SERB	Dr. R. Thangavel	Rs. 23.28 Lakhs	Feb 2014	To fabricate transparent thin film transistors	On going	In progress

3.5.4 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
Prof. P. S. Gupta UGC-DAE Consortium of scientific research, Indore	Collaborative project with Dr. Mukul Gupta. Experimental measurements of the Langmuir-Blodgett and spin coating prepared thin films samples
Dr. S. K. Sharma Inter University Accelerator Center, New Delhi UGC-DAE CSR Indore	Collaborative research work for Swift Heavy Ion Beam/ γ -Irradiations and Thermoluminescence studies of materials. Collaborative research work for synthesis of thin films by PLD/GI-XRD /XPS studies.
Dr. Kaushal Kumar UGC-DAE, CSR, Indore	Collaborative studies on Phosphor Thin Films
Dr. P. M. Sarun National Institute for interdisciplinary Science and Technology (NIIST), CSIR, Trivandrum	Collaborative studies on synthesis and characterization of MgB ₂ superconductors
Dr. Prashant Kumar Sharma KEK Photon Factory, Japan Nanocrystals Technology (NCT), USA Michigan Technological University, Houghton, USA Linköping University, Sweden National Institute of Materials Science (NIMS), Tskuba, Japan Institute of Physics, West Pomeranian University of Technology, Al. Piastow 17, 70-310 Szczecin, Poland Department of Physics, Solid State Physics, University of Athens, Panepistimiopolis, 15 784 Zografos, Athens, Greece	Collaborative studies on X-Ray Magnetic Circular Dichroism (XMCD) Investigations on Semiconductor Nano Structures Collaborative studies on Magnetic Nanoparticles Collaborative studies on Magnetic Nanoparticles and Semiconductor Nano Structures Collaborative studies on Magnetic Nanoparticles and Semiconductor Nano Structures Collaborative studies on Magnetic Nanoparticles and Semiconductor Nano Structures Collaborative studies on EPR Investigations of Semiconductor Nano Structures Collaborative studies on EPR Investigations of Semiconductor Nano Structures
Dr. R. Thangavel Crystal Growth centre, Anna University, Chennai Research centre for Applied Science, Academia Sinica, Taiwan	Collaborative studies on Theory and experiment on Semiconductor Nano Structures Semiconductor Nanostructure and Solar Cell device

Dr. S.Sahu IIT Bombay, India (Research Group of Prof. Alok Shukla)	Electronic and optical properties of molecules and clusters.
Dr. B. Panda Harish- Chandra Research Institute, Allahabad and Dr. Sayantani Bhattacharyya, IIT, Kanpur	Collaborative research on logarithmic corrections to supersymmetric blackhole entropy.
Dr. Rakesh Singh Moirangthem Dr. Yia-Chung Chang Research centre for Applied Science, Academia Sinica, Taiwan Dr. Andreas Erbe Max-Planck Institute for Iron Research Dusseldorf, Germany	Collaborative research on development of label-free plasmonic biosensor Collaborative research on development of Whispering gallery mode biosensor using ZnO microspheres

3.5.5 RESEARCH PUBLICATIONS

3.5.5.1 Book reviews/ Contribution of Chapters in a book

1. Spectroscopic Techniques for Security, Forensic and Environmental Applications. Anurag Pandey and Vineet Kumar Rai (2014). Rare Earth Doped Materials for Temperature Sensors, Edited by Y. Dwivedi, S. B. Rai and J. P. Singh; Published by Nova Science Publishers, Inc. † New York, USA, ISBN: 978-1-63117-404-9.
2. Rahla Nagma and Bobby Antony "Total scattering cross section of S₂ by electron impact"; (Eds.) M. Vinodkumar, in "Atomic structure and collision processes"; Narosa Publishing House, New Delhi, India (2013).
3. Dhanoj Gupta and Bobby Antony "Electron impact total cross section for F₂O over a wide range of impact energies (0.1-2000 ev)"; (Eds.) M. Vinodkumar, in "Atomic structure and collision processes"; Narosa Publishing House, New Delhi, India (2013).
4. Biplab Goswami and Bobby Antony "Scattering studies of Cl₂O by electron impact"; (Eds.) M. Vinodkumar, in "Atomic structure and collision processes"; Narosa Publishing House, New Delhi, India (2013)
5. Dr. Pankaj Mishra reviewed the book "Fundamentals of Physics with Applications" written by Arthur Beiser and adapted by Prof. S. Sengupta, to be published by Tata McGraw-Hill.
6. Madhuri R., Roy E., Gupta K. and Sharma P. K., 2013/14, "Combination of Molecular Imprinting and Nanotechnology: Beginning of a New Horizon" in "Advanced Materials" book series, WILEY-Scrivener Publisher,

7. Sharma P. K. and Madhuri R., 2013/14, "Tailored carbonaceous material: A fore step towards the breaking of old achilles heel" in "Advanced Materials" book series, WILEY-Scrivener Publisher,
8. R. Thangavel., and M. Rajagopalan, "On the Optical and Magnetic Properties of Doped- ZnO" J. Kumar, S. Ramasubramanian, , ZnO Nanocrystals and Allied Materials Springer Series in Materials Science" Volume 180, 2014, pp 309-329.

3.5.5.2 Paper published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Dhrubojoyoti Roy, Nayan Mani Das, P.S. Gupta	April, 2013	Structural morphology study of Cd ²⁺ induced Langmuir-Blodgett multilayer films of arachidic acid	Applied Surface Science	271	394-401
2.	Nayan Mani Das, Dhrubojoyoti Roy, P.S. Gupta	Oct. 2013	Diffusion mediated agglomeration of CdS nanoparticle via Langmuir-Blodgett technique	Material Research Bulletin	48	4223-4229
3.	Achamma Bobby, Partha Sarathi Gupta, Bobby Kachappilly Antony	30 April, 2013	Reverse leakage mechanisms of liquid metal contacts onto IIVI group semiconductor (Ga/p-WSe ₂)	The European Physical Journal Applied Physics	62(22)	20104 (1-5)
4.	A. Bobby, N. Shiwakoti, S. Verma, P.S. Gupta, B.K. Antony	2014	Enhancement in electrical properties of Au/n-GaAs Schottky diodes exposed to ⁶⁰ Co gamma rays	Materials Science in Semiconductor Processing	21	116-121
5.	Partha P. Pal and J. Manam	2013	Effect of Li ⁺ co-doping on the luminescence properties of ZnO:Tb ³⁺ nanophosphors	Nanosystems: Physics, Chemistry, Mathematics	4	395-404
6.	Partha P. Pal and J. Manam	2013	Enhanced luminescence of ZnO:RE ³⁺ (RE=Eu, Tb) nanorods by Li ⁺ doping and calculations of kinetic parameters	Journal of Luminescence	145	340-350

7.	P. K. Baitha, P. P. Pal, J. Manam	2014	Dosimetric sensing and optical properties of ZnO-SnO ₂ nanocomposites synthesized by co-precipitation method	Nuclear Inst. and Methods in Physics Research, A	745	91-98
8.	M.D. Zaheer Ansari & Anil Kumar Nirala	2013	Biospeckle activity measurement of Indian fruits using the methods of cross-correlation and inertia moments	Optik (Elsevier)	124	2180-2186
9.	Abhijit Ghosh, R Ranjan, A.K. Nirala & HL Yadav	2014	Design and analysis of processing parameters of hololenses for wavelength selective light filters	Optik (Elsevier)	125	2191-2194
10.	S. Som, S. K. Sharma and T. Shripathi	2013	Influences of doping and annealing on the structural and photoluminescence properties of Y ₂ O ₃ nanophosphors	Journal of Fluorescence	23	439-450
11.	S. Dutta, S. Som and S. K. Sharma	2013	Optimization and characterization of trap level distribution in γ -irradiated doped/ codoped CaMoO ₄ phosphors	Physica B	417	39-45
12.	S. Dutta, S. Som, P. S. Mandal and S. K. Sharma	2013	CaMoO ₄ :Dy ³⁺ , K ⁺ near white light emitting phosphor: structural, optical and dielectric studies	Journal of Materials Science & Technology	29 (7)	633-638
13.	S. Dutta, S. Som and S. K. Sharma	2013	Luminescence and photometric characterization of K ⁺ compensated CaMoO ₄ :Dy ³⁺ nanophosphors	Dalton Transactions	42	9654-9661
14.	S. Som, S. K. Sharma and S. P. Lochab	2013	Ion induced modification of bandgap and CIE parameters in Y ₂ O ₃ : Dy ³⁺ phosphor	Ceramics International	39	7693-7701
15.	S. Som, S. K. Sharma and S. P. Lochab	2013	Morphology, ion impact and kinetic parameters of swift heavy ion induced Y ₂ O ₃ :Dy ³⁺ phosphor	Physica Status Solidi A	210 (8)	1624-1635
16.	A. K. Ambast, A. K. Kunti, S. Som and S. K. Sharma	2013	Near-white-emitting phosphors based on tungstate for phosphor-converted light-emitting diodes	Applied Optics	52 (35)	8424-8431

17.	S. Som, M. Chowdhury and S. K. Sharma	2014	Band gap and trapping parameters of color tunable Yb ³⁺ /Er ³⁺ codoped Y ₂ O ₃ upconversion phosphor synthesized by combustion route	Journal of Materials Science	49	858-867
18.	A. K. Ambast, J. Goutam, S. Som and S. K. Sharma	2014	Ca _{1-x} yDy _x K _y WO ₄ : A novel near UV converting phosphor for white light emitting diode	Spectrochimica Acta A	122	93-99
19.	Mohanty, Deepak Kumar Rai, V.K.	2013	Visible upconverter based on Eu ³⁺ -Yb ³⁺ codoped TeO ₂ -ZnO glass	J. Display Technology	9	515-519
20.	Singh, V., Rai, V. K.; Katharina Al-Shamery; Markus Haase; Sang Hwan Kim	2013	NIR to visible Frequency upconversion in Er ³⁺ and Yb ³⁺ co-doped ZrO ₂ phosphor	Appl. Phys. A	113	747-753
21.	Singh, V., Rai, V. K.; Voss, Benjamin Markus Haase Chakradhar, R.P.S.; Thirupathi Naidu D.; Sang Hwan Kim.	2013	Photoluminescence study of nanocrystalline Y ₂ O ₃ :Ho ³⁺ phosphor	Spectrochim. Acta A	109	206-212
22.	Singh, V.; Rai, V. K.; Katharina A l-Shamery; Markus Haase; Sang Hwan Kim	2013	NIR to visible Frequency upconversion in Er ³⁺ and Yb ³⁺ co-doped BaZrO ₃ phosphor	Spectrochim. Acta A	108	141
23.	Pandey Anurag; Rai, V. K.	2013	Optical thermometry using FIR of two close lying levels of different ions in Y ₂ O ₃ : Ho ³⁺ - Tm ³⁺ -Yb ³⁺ phosphor	Appl. Phys. B	113	221-225
24.	Pandey Anurag; Rai, V. K.	2013	Improved luminescence and temperature sensing performance of Ho ³⁺ -Yb ³⁺ - Zn ²⁺ : Y ₂ O ₃ phosphor	Dalton Trans.	42	11005-11011

25.	Pandey Saurabh, Pandey Anurag Rai, V. K.	2013	Synthesis and characterization of Sm^{3+} - Yb^{3+} codoped Y_2O_3 phosphor	J. Display Technology	9	989-994
26.	Pandey Anurag Rai, V. K.	2014	Influence of Li^+ codoping on visible emission of $\text{Y}_2\text{O}_3:\text{Tb}^{3+},\text{Yb}^{3+}$ phosphor	Spectrochimica Acta A	118	619-623
27.	Riya Dey, Anurag Pandey Rai, V.K.	2014	Er^{3+} - Yb^{3+} and Eu^{3+} - Er^{3+} - Yb^{3+} codoped Y_2O_3 phosphors as optical heater	Sensors and Actuators B	190	512-515
28.	Riya Dey; Rai,V.K.	2014	Yb^{3+} sensitized Er^{3+} doped La_2O_3 phosphor in temperature sensors and display devices	Dalton Trans. DOI:10.1039/ C3DT51773J.	43	111-118
29.	Mohanty, Deepak Kumar; Rai, V. K.	2014	Spectroscopy and visible frequency upconversion in Er^{3+} - $\text{Yb}^{3+}:\text{TeO}_2$ - ZnO glass	Spectrochimica Acta A	121	9-13
30.	Anurag Pandey Riya Dey; Rai, V.K.	2013	Sensitization effect of Yb^{3+} in upconversion luminescence of Eu^{3+} Codoped Y_2O_3 Phosphor	Physical Chemistry & Biophysics, doi:10.4172/2161-0398.1000129.	3	1000129
31.	Manoj K Mahata; Kaushal Kumar Rai, V. K.	2014	Structural and Optical Properties of $\text{Er}^{3+}/\text{Yb}^{3+}$ Doped Barium Titanate Phosphor Prepared by Co-precipitation Method	Spectrochimica Acta A.	124	185-291
32.	Astha Kumari, Kaushal Kumar and Vineet Kumar Rai,	2014	Yellow-orange upconversion emission in Eu^{3+} - Yb^{3+} codoped BaTiO_3 phosphor	Spectrochimica Acta A.	127	98-101
33.	Riya Dey, Anurag Pandey Vineet Kr Rai,	2014	The Er^{3+} - Yb^{3+} codoped La_2O_3 phosphor in finger print detection and optical heating	Spectrochimica Acta A.	128	508-513
34.	Achamma Bobby, PS Gupta and Bobby Antony	2013	Reverse leakage mechanisms of liquid metal contacts onto II-VI group semiconductor ($\text{Ga}/\text{p-WSe}_2$)	Eur. Phys. J.: Appl. Phys	62	20104-p1-5
35.	Avani Barot, Dhanoj Gupta, Minaxi Vinod kumar and Bobby Antony	2013	Computation of electron impact total and differential cross section for allene (C_3H_4) in the energy range 0.1 eV 2000 eV	Phys. Rev. A	87	062701

36.	Rahla Naghma and Bobby Antony	2013	Total and elastic cross sections for methyl halides by electron impact	J. Electron Spec. Rel. Phenom.	189	17-22
37.	Dhanoj Gupta, Rahla Naghma and Bobby Antony	2013	Electron impact total and ionization cross sections for Sr, Y, Ru, Pd and Ag atoms	Can. J. Phys.	91	744-760
38.	A Bobby, S Verma, K Asokan, P M Sarun and B K Antony	2013	Phase transition induced double-Gaussian barrier height distribution in Schottky diodes	Physica B.	431	6-10
39.	Biplab Goswami, Rahla Naghma and BK Antony	2013	Cross sections for electron collisions with NF ₃	Phys. Rev. A	88	032707
40.	Dhanoj Gupta, Rahla Naghma, Minaxi Vinodkumar and Bobby Antony	2013	Electron scattering studies of nitrogen dioxide	J. Electron Spec. Rel. Phenom.	191	71-78
41.	Rahla Naghma and Bobby Antony	2013	Total scattering cross sections for ethylene by electron impact for incident electron energies from 1 eV to 2000 eV	Int. J. Quantum Chem.	114	271-277
42.	Dhanoj Gupta and Bobby Antony	2013	Electron impact total ionization cross sections for simple bio-molecules: a theoretical approach	Mol. Phys.	112	1201-1209
43.	Biplab Goswami, Ujjal Saikia, Rahla Naghma and Bobby Antony	2013	Electron impact total ionization cross sections for plasma wall coating elements	Chinese J. Phys.	51	1172-1183
44.	Dhanoj Gupta, Rahla Naghma, Biplab Goswami and Bobby Antony	2014	Electron induced chemistry of disilane	RSC Advances	4	9197-9204

45.	Rahla Naghma, Dhanoj Gupta, Biplab Goswami and Bobby Antony	2014	Electron impact ionization cross sections for chlorinated and brominated methane and $C_nH_{2n+1}Cl$ (where $n=2, 3, 4$) molecules	Int. J. Mass Spectrom	360	39-44
46.	Biplab Goswami and Bobby Antony	2014	On the electron impact ionization of silicon and metal containing organic molecules	Int. J. Mass Spectrom	361	28-33
47.	Rahla Naghma, Dhanoj Gupta and Bobby Antony	2014	Total cross sections for electron scattering with halocarbon molecules	J. Electron Spec. Rel. Phenom.	193	48-53
48.	Mishra S S and Singh Vinod Kumar	2014	Investigation of Phase Birefringence and Group Birefringence of Square size Photonic Crystal Fiber at wavelength $1.3\mu m$	Optik-Int. Journal of Light and Electron Optics	Vol. 124 no. 12	1294-1296
49.	Gangwar R. K., Mishra S S and Singh Vinod Kumar	2014	Designing of Endlessly Single Mode Polarization Maintaining Highly Birefringent Nonlinear Micro-structure Fiber at Telecommunication window by FV-FEM	Optik-Int. Journal of Light and Electron Optics	Vol. 125 no. 5	1641-1645
50.	A K Singh, K Kumar, S B Rai	2014	Upconversion studies in rare earth ions doped lanthanide materials	Pramana	82	409
51.	R Bhargava, A K Singh, K Kumar, A C Pandey, N Kumar	2013	Synthesis and Lasing Action in ZnO Hexahedrons	Journal of Nanoengineering and Nano-manufacturing	03	317
52.	V K Singh, V Kumar, J Sharma, Y Khajuria, and K Kumar	2013	Importance of Laser Induced Breakdown Spectroscopy for Biomedical Applications: A Comprehensive Review	Materials Focus	03	14
53.	A. Bobby, S. Verma, K. Asokan, P.M. Sarun, B.K. Antony	2013	Phase transition induced double-Gaussian barrier height distribution in Schottky diode	Physica B	431	6-10

54.	R. Shabna, P. M. Sarun, S. Vinu, U. Syamaprasad	2014	Impact of Y doping on the metal to insulator transition behavior of $\text{Bi}_{1.7}\text{Pb}_{0.4}\text{Sr}_2\text{Ca}_{1.1}\text{Cu}_{2.1}\text{O}_{8+\delta}$ superconductor	Energy and Environment Focus	3	1-8
55.	Ranu Dutta, Prashant K. Sharma, Vandana Tiwari, Vivek Tiwari, Anant B. Patel, Ravindra Pandey and Avinash C. Pandey,	2014	Engineering of Gadofluoroprobes: Broad-spectrum applications from cancer diagnosis to therapy	App. Phys. Lett.	104	023703
56.	Ekta Roy, Santanu Patra, Rashmi Madhuri, P. K. Sharma	2014	Gold nanoparticle mediated designing of non-hydrolytic sol-gel cross-linked metformin imprinted polymer network: A theoretical and experimental study	Talanta,	120	198-207
57.	Richa Bhargava P. K. Sharma, Sushant Singh, A. C. Pandey and N. Kumar	2014	Switching in structural, optical, and magnetic properties of self-assembled Co-doped ZnO: effect of Co-concentration	Journal of Materials Science: Materials in Electronics	25	252-259
58.	P K Singh, P. K. Sharma, M Kumar, R K Dutta, S Sundar, A C Pandey	2014	Red Luminescent Manganese-Doped Zinc Sulphide Nanocrystals and its antibacterial study	J. Mater. Chem. B	2(5)	522-528
59.	D P Singh, S K Gupta, Prashant K. Sharma, R Manohar	2013	Nanosphere in Ferroelectric Liquid Crystal Matrix: The Effect of Aggregation and Defects on the Dielectric and Electro-Optical Properties	Advances in Condensed Matter Physics	23	503
60.	P. K. Sharma, Ranu K. Dutta, R.J. Choudhary and A. C. Pandey	2013	Doping, strain, defects and magneto-optical properties of monodispersed $\text{Zn}_{1-x}\text{Mn}_x\text{O}$ nanocrystals	Cryst. Eng. Comm.	15(22)	4438-4447

61.	D P Singh, Rajiv Manohara P.K. Sharma and A. C. Pandey	2013	Concentration Dependent Physical Parameters of Ferroelectric Liquid Crystal and ZnOS Nano material Composite System	Soft Materials	11	305-314
62.	Dharmendra P. Singh, Swadesh K. Gupta, Satya P. Yadav, P.K. Sharma, A C Pandey and Rajiv Manohar	2013	Guest-Host interaction in ferroelectric liquid crystal-nanoparticle composite system	Bulletin of Materials Science	41	973
63.	Abhishek Kumar Misra, Pankaj Kumar Tripathi, Prashant K. Sharma & Rajiv Manohar	2013	Changes in Material Parameters for Dye-Doped Ferroelectric Liquid Crystal	Phase Transitions	86 (10)	977-986
64.	R. Vettumperumal, S Kalyanaraman, B Santoshkumar, R Thangavel	2013	Magnetic Properties of High Li doped ZnO Sol gel thin films	Materials Research Bulletin	50	7-11
65.	R Vettumperumal, S Kalyanaraman, R. Thangavel	2013	Nanocrystalline Zn _{1-x-y} BexMgyO thin films synthesized by the solgel method: structural and near infrared photoluminescence properties	Journal of Sol-Gel Science and Technology	68	334-340
66.	Anima Ghosh, R.Thangavel and M.Rajagopalan	2013	First principles study of electronic and optical properties of Cu ₂ ZnSnX ₄ (X= S, Se) solar absorbers by Tran-Blaha modified Becke-Johnson potential approach	Jouranl of Materials Science	48	8259-8267
67.	Parmod Kumar Hitendra K. Malik, Anima Ghosh, R.Thangavel, and K. Asokan	2013	Band gap tuning in highly c-axis oriented Zn _{1-x} Mg _x O thin films	Applied Physics Letters	102	221903

68.	Sanjeev Kumar and R. Thangavel	2013	Structural and optical properties of Na doped ZnO nanocrystalline thin films synthesised sol-gel spin coating technique	Journal of sol-gel science and technology	67	50-55
69.	R.Thangavel, Mohammad Tariq Yaseen, Yia- Chung Chang, Chia-Hao Hsu, Kuo-Wei Yeh, Maw Kuen Wu	2013	Near infrared to UV dielectric functions of Al doped ZnO films deposited on c-plane sapphire substrate using pulsed laser deposition	Journal of Physics and Chemistry of Solids	74	1533-1537
70.	S. Ramasubramanian, R. Thangavel, J. Kumar, M. Rajagopalan, A Thamizhavel, K. Asokan and D. K. Avasthi	2013	Study on the Ferromagnetism in Co and N doped ZnO thin film	Current Applied Physics	13	1547-1553
71.	S. K. Parida, S. Sahu, S. Sharma	2014	Interaction of third-row main group dicarbides C ₂ X (X=K-Br) with molecular oxygen: A density functional study	Computational and Theoretical Chemistry	1032	1-6
72.	Rakesh Singh Moirangthem and Andreas Erbe	2014	Interfacial refractive index sensing using visible-excited intrinsic zinc oxide photoluminescence coupled to whispering gallery modes	Applied Physics Letters	3	051108
73.	D. Iqbal, R. Singh Moirangthem, A. Bashir, A. Erbe	2014	Study of polymer coating delamination kinetics on zinc modified with zinc oxide of different morphologies	Materials and Corrosion	65(4)	370-375

3.5.5.3 Paper published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	P. P. Pal, P. K. Baitha, N. Borgohain, J. Manam	2014	Enhanced photoluminescence emission from $XSO_4:Eu^{2+}$ (X = Mg, Sr) microphosphors	Indian Journal of Physics	88(3)	243-250
2.	R.B. Choudhary	2013	Electro-active properties and utility feature of polyindole and its nanocomposites for organo-electronic device systems.	Chem. Busi.	27,9	10-13

3.5.5.4 Paper presented in International Seminar/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Nayan Mani Das*, Dhrubojoyoti Roy, P. S. Gupta	Increase of hydrophobicity due to layer variation in CdS-Polyaniline LB Films	Structural and physical properties of solids SPPS 2013	18-20 Nov. 2013	ISM Dhanbad
2.	Dhrubojoyoti Roy, Nayan Mani Das, P. S. Gupta	Effect of surface morphology on the wetting property of composite zinc phthalocyanine arachic acid Langmuir-Blodgett thin film	Structural and physical properties of solids SPPS 2013	18-20 Nov. 2013	ISM Dhanbad
3.	Nayan Mani Das, Dhrubojoyoti Roy, M. Gupta, V. Ganesan, and P. S. Gupta	Structural, Optical and Electrical Properties of Cds Polyaniline LangmuirBlodgett Films	BARC, DAE-58 th Solid State Physics Symposium SSPS 2013	17-21 Dec. 2013	Thapar University, Patiala
4.	Dhrubojoyoti Roy, Nayan Mani Das, M. Gupta, V. Ganesan, and P. S. Gupta	Optical And Surface Morphology Study of Zinc Phthalocyanine Langmuir Blodgett Thin Film	BARC, DAE-58 th Solid State Physics Symposium SSPS 2013	17-21 Dec. 2013	Thapar University, Patiala

5.	Nayan Mani Das, Dhrubojyoti Roy, Nanda Shakti, B. R. Mehta, P.S. Gupta	Photoconducting Behavior of Cds-Polyaniline Langmuir-Blodgett Thin Films	DAE-BRNS Conference on Organic Devices: The Future Ahead (ODeFA-2014)	3-6 March, 2014	BARC, Mumbai
6.	Dhrubojyoti Roy, Nayan Mani Das, P.S. Gupta	Study of Phase Transformation of Zinc Pthalocyanine Langmuir-Blodgett Thin Film on Annealing	DAE-BRNS Conference on Organic Devices: The Future Ahead (ODeFA-2014)	3-6 March, 2014	BARC, Mumbai
7.	Pankaj Kr. Baitha and J. Manam	Effect of Eu ²⁺ dopping on the optical properties of ZnO/SnO ₂ Nanocomposite	Structural and physical properties of solids SPPS 2013	18-20 Nov. 2013	BARC, Mumbai
8.	Puja Kumari and J. Manam	Red Emission Characteristics of Eu ³⁺ Activated YVO ₄	Structural and physical properties of solids SPPS 2013	18-20 Nov. 2013	BARC, Mumbai
9.	Partha P Pal and J Manam	Band gap engineering of ZnO nanorods by doping of rare-earth ions and its applications	International Conference on Functional Materials	5-7 Feb 2014	Materials Sc. Centre, IIT Kharagpur
10.	Abhijit Ghosh, A.K.Nirala & H.L.Yadav	Use of hololenses for generation of speckle correlation fringes in LDA measurement volume	Int. Conference on Microwave & Photonics (ICMAP-2013), pp. 125.	Dec 13-15, 2013	Dhanbad
11.	Preeti D Minz and A.K. Nirala	Assessment of bio-activity of the fruits using intensity based methods	Int. Conference on Microwave & Photonics (ICMAP-2013), pp. 125.	Dec 13-15, 2013	Dhanbad
12.	Abhijit Ghosh & A.K.Nirala	Design, Analysis and Fabrication of Microlens Array using Holographic Technique	Int. Conference on Structural and Physical Properties of Solids (SPPS-2013), pp. 226.	Nov. 18-21, 2013	Dhanbad
13.	Abhijit Ghosh, R. Ranjan, A.K. Nirala & H.L. Yadav	Design and analysis of wavelength selective wide acceptance angle holographic concentrator for PV application	7th WSEAS Int. Conference on Renewable Energy Sources (RES '13) pp. 17.	April 2- 4, 2013	Kuala Lumpur, Malaysia

14.	R. Ranjan, Abhijit Ghosh, A.K. Nirala & H.L. Yadav,	Optimization of Processing Parameters of Holographic Concentrator for Maximum Efficiency Operation in PV System	7th WSEAS Int. Conference on Renewable Energy Sources (RES '13) pp. 17.	April 2- 4, 2013	Kuala Lumpur, Malaysia
15.	Abhijit Ghosh, A.K. Nirala and H.L. Yadav	Improvement of Fringe Quality in LDA Measuring Volume Using Holograms	Int. Conference on optics & opto- electronics (ICOL- 2014), pp.-126.	05-08, March 2014	IRDE Dehradun
16.	R. Ranjan, Abhijit Ghosh, A.K. Nirala & H.L. Yadav	Designing of Holograms for Semiconductor Electrodes of PEC Device	Int. Conference on optics & opto- electronics (ICOL- 2014), pp.-126.	05-08, March 2014	IRDE Dehradun
17.	R. Ranjan, Abhijit Ghosh, A.K. Nirala & H.L. Yadav	Dependence of wavelength selectivity of holographic PV concentrator on processing parameters	Int. Conference on Energy Efficient LED Lighting and Solar PhotoVoltaic Systems, pp. 24-26.	27-29 March, 2014	IIT Kanpur
18.	S. Som, S. K. Sharma and S. P. Lochab	Characterization of Trap Level in γ irradiated CaMoO_4 Phosphor by Thermoluminescence Technique	Int. Conference on Structural and physical properties of solids SPPS 2013.	18-20 Nov., 2013	ISM Dhanbad
19.	M. Chowdhury, S. K. Sharma, M. Gupta and R. J. Choudhury	Optical Properties of α Fe_2O_3 Thin Films Prepared by Pulsed Laser Deposition	Int. Conference on Structural and physical properties of solids SPPS 2013.	18-20 Nov., 2013	ISM Dhanbad
20.	A. K. Kunti, S. K. Sharma, M. Gupta and R. J. Choudhury	Effect of Post Annealing on Photoluminescence Properties of TiO_2 SiO_2 Composite Thin Films Prepared by PLD	Int. Conference on Structural and physical properties of solids SPPS 2013.	18-20 Nov., 2013	ISM Dhanbad
21.	N. K. Gondia, J. Priya and S. K. Sharma	Development in Organic Inorganic Composites for OLED: A Review	Int. Conference on Structural and physical properties of solids SPPS 2013.	18-20 Nov., 2013	ISM Dhanbad
22.	V. K. Rai	Effect of the sensitizer on the doped emitters	Int. Conference on and Exhibition on Lasers, Optics and Photonics	October 07-09, 2013	Hilton San Antonio Airport, TX, USA,

23.	Pandey, Anurag; Soni, A. Kumar; Rai, V.K.	Frequency upconversion and back energy transfer of $Y_2O_3:Pr^{3+}/Yb^{3+}$ phosphor upon 808nm excitation,	Int. Conference on Structural and physical properties of solids SPPS 2013.	18-20 Nov., 2013	ISM Dhanbad
24.	Riya Dey; Rai, V.K.	Visible upconversion emission in Er^{3+} doped La_2O_3 Phosphor	Int. Conference on Structural and physical properties of solids SPPS 2013.	18-20 Nov., 2013	ISM Dhanbad
25.	Astha Kumari, Rai, V.K.	NIR to bluegreen upconversion emission in Tm^{3+} , Er^{3+} , Yb^{3+} codoped La_2O_3 phosphor	Int. Conference on Structural and physical properties of solids SPPS 2013.	18-20 Nov., 2013	ISM Dhanbad
26.	Astha Kumari, Vineet Kr Rai	Tm^{3+} - Yb^{3+} Codoped Lithium-Titanate Tellurite Glasses	Int. Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2014)	March 27-29, 2014	Dept. of Mechanical Engg., NIT Karnataka, Surathkal, India
27.	Rahla Naghma, Jaspreet Kaur and Bobby Antony	Electron impact ionization cross section for chlorinated and brominated methane and $C_nH_{2n+1}Cl$ (where $n=2, 3, 4$) molecules.	Int. conference on Structural and physical properties of solids	18-20 Nov, 2013	ISM Dhanbad
28.	N Shiwakoti, A Bobby and B K Antony	Influence of organic interlayer on Au/n-GaAs Schottky barrier characteristics	Int. conference on Structural and physical properties of solids	18-20 Nov, 2013	ISM Dhanbad
29.	Dhanoj Gupta and Bobby Antony	Electron impact ionization cross sections of Cycloalkanes, Methylcyclohexane and Ethylcyclohexane	Int. conference on Structural and physical properties of solids	18-20 Nov, 2013	ISM Dhanbad
30.	Biplab Goswami and Bobby Antony	On the electron impact scattering by SF_6 molecule	Int. conference on Structural and physical properties of solids	18-20 Nov, 2013	ISM Dhanbad

31.	P. Dhara and V. K. Singh	Temperature Sensitivity of Photonic Crystal Fiber Mach-Zehnder Interferometer Based Sensor	Proceedings of Int. Conference on Microwave and Photonics (ICMAP- 2013) at	Dec. 13-15, 2013.	ISM Dhanbad
32.	Papiya Dhara and Vinod Kr Singh	Refractive Index Sensing by Photonic Crystal Fiber Mach- Zehnder Interferometer at 1550nm	Proc. of 3 rd Int. conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013)	Dec. 1-3, 2013.	IIT Guwahati
33.	Rahul Kumar Gangwar and Vinod Kumar Singh	Study of Fundamental Properties of Hollow-Core Photonic Crystal Fiber	Proc. of 3 rd Int. conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013)	Dec. 1-3, 2013.	IIT Guwahati
34.	Rahul Kumar Gangwar, Anupam Kr and Vinod Kumar Singh	Investigation of Fundamental Properties of Hollow-Core Photonic Crystal Fiber using FEM	Int. Conference on Structural and physical properties of solids SPPS 2013.	Nov. 18-20, 2013	ISM Dhanbad
35.	Manjori Mukherjee and Pankaj Mishra	Density Functional Theory of Binary Mixture of Superparamagnetic Colloid in External Magnetic Field.	Int. Conference on Structural and physical properties of solids SPPS 2013.	Nov. 18-20, 2013	ISM Dhanbad
36.	Sanat Kumar and Pankaj Mishra	Structure of colloids under the action of mutual capillary attraction trapped at a fluid interface.	Int. Conference on Structural and physical properties of solids SPPS 2013.	Nov. 18-20, 2013	ISM Dhanbad
37.	Shikha Dwivedi and Pankaj Mishra	Density Functional Theory of model conjugated oligomer interacting via Gay-Berne Potential.	Int. Conference on Structural and physical properties of solids SPPS 2013.	Nov. 18-20, 2013	ISM Dhanbad
38.	R.B. Choudhary	Frequency and temp. dependent dielectric study of polyindole as intrinsic conductive polymer of heterocyclic origin	SUSPOL-14	January 6-11, 2014	IIT Guwahati

39.	R.B. Choudhary and P. Maji	Dielectric response measurement of PMMA for its use in capacitor at high frequency	SPPS 2013	Nov. 18-20, 2013	ISM Dhanbad
40.	S. Ash, S. Sarkar, J. S. Hansdah, P. M. Sarun	Barrier Effect On Cu Sheathed MgB ₂ Wires For Superconducting Applications	SPPS 2013	Nov. 18-20, 2013	ISM Dhanbad
41.	J. S. Hansdah, A. Ghosh, S. Ash, P. M. Sarun	Doping Effect of Nano-Carbon And Nano-SiO ₂ On Superconducting Properties Of MgB ₂ Bulk Prepared By PIST Method	SPPS 2013	Nov. 18-20, 2013	ISM Dhanbad
42.	Shrabani Mondal, R. Madhuri, P. K. Sharma	An investigation on structural and electro-chemical properties of mixed phase TiO ₂ nanocomposites	Int. Conference on Structural and physical properties of solids SPPS 2013.	Nov. 18-20, 2013	ISM Dhanbad
43.	Gaurav Pande, Shrabani Mondal, P. K. Sharma	Low temperature synthesis of rutile phasetitanium dioxide nanostructures and their photoluminescence properties	Int. Conference on Structural and physical properties of solids SPPS 2013.	Nov. 18-20, 2013	ISM Dhanbad
44.	Saroj K. Parida and S. Sahu	Theoretical study of Si ₈ H ₈ and Si ₈ Li ₈ clusters: Searching for new high energy density materials.	RAM-2013 (AIP Proc. 1536, 311 (2013))	01 Feb. 2013	Baikaner
45.	Saroj K. Parida S. Sahu, S. Sharma	Theoretical Investigation of Photoabsorption in Cyanogen Clusters.	ICMAP 2013, (IEEE Conf. Proc.; IEEE ISBN: 978-1-4799-2176-8)	13 Dec. 2013	ISM Dhanbad
46.	D. Mukherjee, S. K. Parida, S. Sahu, S.Sharma	A Time-dependent Density Functional Study of Photoabsorption in B ₆ O ₂ Cluster: Effect of Geometry.	DAE-SSPS, 2013 (ISBN : 81-8372-071-4, AIP Conf. Proc.)	17 Dec. 2013	Patiala
47.	A. Mukherjee, S.Sahu	Charge transport in Perchlorinated Fe-Phthalocyanine: A DFT study.	ICSPPS-2013	18 Nov. 2013	ISM Dhanbad

3.5.5.5 Paper presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Pankaj Kr. Baitha and J. Manam	White light emission in Eu ³⁺ activated ZnO/SnO ₂ composite	N. Conference on Luminescence and Its Applications	5-7 Feb 2014	Rani Durgawati University, Jabalpur
2.	Jyoti Singh, Pankaj Kr. Baitha and J Manam	Synthesis and luminescent studies of Eu ³⁺ doped SrGd ₂ O ₄ phosphor	N. Conference on Luminescence and Its Applications	5-7 Feb 2014	Rani Durgawati University, Jabalpur
3.	Puja Kumari and J. Manam	Enhanced Red Emission on co-doping of Ca ²⁺ in Eu ³⁺ doped YVO ₄	N. Conference on Luminescence and Its Applications	5-7 Feb 2014	Rani Durgawati University, Jabalpur
4.	Dey Riya; Anurag Pandey Rai V. K.	Y ₂ O ₃ :Er ³⁺ -Yb ³⁺ phosphor as optical temperature sensor	National conf. on "Condensed Matter Days (CMDAYS)	29 th - 31 st August 2013.	NIT, Rourkela
5.	Astha Kumari; Anurag pandey Rai V. K.	Intense blue upconversion emission in Tm ³⁺ -Yb ³⁺ codoped lanthanum oxide nanophosphor,	National conf. on "Condensed Matter Days (CMDAYS)	29 th - 31 st August 2013.	NIT, Rourkela
6.	Pandey, 3 Anurag; Rai, V.K.	Optical heating generated by laser excitation in Ho ³⁺ -Tm ³⁺ -Yb ³⁺ codoped Y ₂ O ₃ phosphor	National conf. on "Condensed Matter Days (CMDAYS)	29 th - 31 st August 2013.	NIT, Rourkela
7.	P. Dhara, R. K. Gangwar and V. K. Singh	Photonic Crystal Fiber Mach-Zehnder Interferometric Refractive Index Sensor	Proc.of workshop on recent advances in photonics (WRAP-2013)	Dec. 17-18, 2013	IIT Delhi
8.	Manjori Mukherjee and Pankaj Mishra	Density functional theory of dipolar colloid at two dimensional interface	Condensed Matter Days-2013	29 th - 31 st August 2013.	NIT, Rourkela
9.	Sanat Kumar and Pankaj Mishra	Clustering in Binary Mixture of Particles interacting via multipole interaction	Condensed Matter Days-2013	29 th - 31 st August 2013.	NIT, Rourkela
10.	Shikha Dwivedi and Pankaj Mishra	Structure and Properties of a model conjugated oligomer interacting via Gay-Berne Potential.	Condensed Matter Days-2013	29 th - 31 st August 2013.	NIT, Rourkela

3.5.6 MAJOR ACADEMIC CONTRIBUTIONS

1. Prof. P. S. Gupta was involved in setting up of Central research Facility at ISM.
2. Prof. J. Manam was Appointed as Associate Dean (Student Welfare) on 27-06-2013 and continuing.
3. Prof. A. K. Nirala attended one day's workshop on "Intellectual property rights" organised on 14th February 2014 at ISM Dhanbad.
4. Dr. Prashant K. Sharma successfully engineered 'Gadofluoroprobes' and demonstrated their applications in cancer Theragnosis.
5. Dr. Prashant K. Sharma developed an ultra-sensitive saccharides detection assay using carboxyl functionalize chitosan containing $Gd_2O_3:Eu^{3+}$ nanoparticles probe.

3.5.7 SEMINAR, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPT/CENTRE

International Conference on Structural and Physical Properties of Solids SPSS-2013.	18-20 November,2013 in Dept. of Applied Physics, ISM ,Dhanbad
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3.5.8 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES ETC

Prof J Manam	International Conference on Structural and Physical Properties of Solids - SPPS-2013 Chairman of the Conference	18-20 November 2013	Dept. of Applied Physics, ISM, Dhanbad
	International Conference on on Microwave and Photonics-ICMAP-2013 Chaired one Technical session	13-15 December 2013	Dept. of Electronics Engg, ISM, Dhanbad
	6 th National Seminar on Surface Mining	10-11 January 2014	Dept. of Mining Engg., ISM, Dhanbad
	International Conference on Functional Materials	5-7 February, 2014	Materials Science Centre, IIT, Kharagpur

Prof J Manam	One day workshop on Intellectual Property Rights	14 February, 2014	ISM, Dhanbad
	Brain Storming workshop on Geostatistics for Natural Resources Modelling	28 February, 2014	Dept. of Applied Geology, ISM, Dhanbad
	National Conference on Water and its Sustainability in Mining and Other Environment	28-29 March 2014	Dept. of Civil Engg. ISM Dhanbad
Prof A K Nirala	International Conference on Microwave & Photonics (ICMAP-2013). Chaired one Technical session	Dec 13-15, 2013.	Dept. of Electronics Engg, ISM, Dhanbad
	International Conference on Structural and Physical Properties of Solids (SPPS-2013) Chaired one Technical session	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad
	6 th Indian Mineral Congress & Exhibition (IMC-2014)	1 st Feb 2014	ISM, Dhanbad
Dr S.K. Sharma	International Conference on Structural and Physical Properties of Solids (SPPS-2013)	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad
Dr. V. K. Rai	International Conference on Structural and Physical Properties of Solids (SPPS-2013)	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad
	International Conference and Exhibition on Lasers, Optics and Photonics	October 07-09, 2013	Hilton San Antonio Airport, TX, USA
Dr. A. K. Kar	International Conference on Structural and Physical Properties of Solids (SPPS-2013): Focal Theme Smart Materials at Nano and Micro Scale	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad

Dr. Bobby Antony	International Conference on Structural and Physical Properties of Solids (SPPS-2013): Focal Theme Smart Materials at Nano and Micro Scale	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad
Dr. Vinod Kumar Singh	International Conference on Structural and Physical Properties of Solids (SPPS-2013): Focal Theme Smart Materials at Nano and Micro Scale	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad
Dr. Pankaj Mishra	International Conference on Structural and Physical Properties of Solids (SPPS-2013): Focal Theme Smart Materials at Nano and Micro Scale	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad
	International Conference on Future Challenges in Earth Sciences for Energy & Mineral Resources	14-16 Nov, 2013	Depart. of Applied Geology, ISM Dhanbad
Dr. R. B. Choudhary	International Conference on Structural and Physical Properties of Solids (SPPS-2013): Focal Theme Smart Materials at Nano and Micro Scale	November 18-21, 2013	Dept of Applied Physics, ISM, Dhanbad
	National School on Sustainable Polymers (SUSPOL-2014)	Jan. 6 - 9, 2014	Dept of Chemical Engg., IIT Guwahati (IITG)India
	Symposium on Advances in Sustainable Polymer (ASP-2014)	Jan 10-11, 2014	Dept of Chemical Engg., IIT Guwahati (IITG)India
Dr. K Kumar	Workshop on Intellectual Property rights	Feb. 14, 2014	Dept of Environ. Sciences, ISM
	International Conference on Structural and Physical Properties of Solids (SPPS-2013): Focal Theme Smart Materials at Nano and Micro Scale	November 18-20, 2013	Dept of Applied Physics, ISM

Prof P M Sarun	International Conference on Structural and Physical Properties of Solids (SPPS-2013): Focal Theme Smart Materials at Nano and Micro Scale	November 18-20, 2013	Dept of Applied Physics, ISM
Dr. Prashant K. Sharma	International Workshop on Materials Modeling and Simulation	June 24-27, 2013	Dept of Applied Physics, Faculty of Engg. & Technology Shri Shankaracharya Group of Institutions, Bhilai
	International Conference on Structural and Physical Properties of Solids" having focal theme 'Smart Materials at Nano and Micro Scale'	November 18-20, 2013	Dept of Applied Physics, ISM
	International Workshop, Gaussian: Theory and Practices	6 th to 10 th Jan' 2014	IIT Delhi, New Delhi
Dr. S. Sahu	National Conference on Laser and Spectroscopy ALS-2012	Nov 01-03,2012	Dept of Applied Physics, ISM
Dr. S. Sahu	International Conference on Structural and Physical Properties of Solids" having focal theme 'Smart Materials at Nano and Micro Scale'	November 18-20, 2013	Dept of Applied Physics, ISM
Dr. B. Panda	International Conference on Structural and Physical Properties of Solids" having focal theme 'Smart Materials at Nano and Micro Scale'	November 18-20, 2013	Dept of Applied Physics, ISM
Dr. M. Rakesh Singh	International Conference on Structural and Physical Properties of Solids" having focal theme 'Smart Materials at Nano and Micro Scale'	November 18-20, 2013	Dept of Applied Physics, ISM
Dr. M. Rakesh Singh	ISCA Regional Science Congress-Imphal Chapter,	Dec 30-31, 2013.	Manipur University

3.5.9 VISITS OF FACULTY MEMBERS ABROAD

1. Dr. V. K. Rai visited USA to participate in the International Conference and Exhibition on Lasers, Optics and Photonics, Hilton San Antonio Airport, TX, USA, October 07-09, 2013.
2. Dr. Bobby Antony visited IAEA Vienna, Austria to attend the meeting as an expert to evaluate data on nitrogen molecule and its ion organized by International Atomic Energy Agency and EMOL (a Project funded by European Union).

3.5.10 TESTING SERVICES (LAB FACILITIES AVAILABLE FOR TESTING IN THE DEPARTMENT/CENTRE)

- i. X-ray diffractometer (XRD)
- ii. Fourier Transform Infra-red Spectrometer (FTIR)
- iii. Fluorescence Spectrophotometer
- iv. UV-Vis Spectrophotometer

3.5.11 DISTINGUISHED VISITORS TO THE SCHOOL

Prof. Yashwant Singh, F. A. Sc., F. N. A Department of Physics, Banaras Hindu University, Varanasi	On 23-05-2013
Prof. K. Sreenivas, Dept. of Physics & Astrophysics University of Delhi, Delhi	UGC nominee attended Advisory Committee meeting of UGC-SAP held on 27-03-2014

3.5.12 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Dr. Amitabha Bhattacharyya, Associate Professor, Dept of Physical Science, School of Physical and Chemical Sciences, Sikkim University delivered a lecture on the topic "Mixed surfactants polyelectrolyte systems: surface rheology, forming and micro encapsulation"	22 nd January 2014
Dr. Chandra Shekhar Pandey Ruhr University, Bochum, Germany	13 th January 2014

3.5.13 MISCELLANEOUS:

1. Dr. V. K. Rai delivered a talk in InPhAs 2013 at Department of Applied Physics, NIT, Durgapur
2. Dr. A. K. Kar delivered an invited lecture on “Scanning Tunnelling Microscopy (STM) and Spectroscopy (STS): Fundamentals and Applications” in National Short Term Course on Modern Methods in Materials Processing and Characterization (M3PAC-2013) organized during 17-21 September 2013 at NIT Durgapur, Physics Department.
3. Dr. R. B. Choudhary gave Invited talk/ lecture in National Conference on Material Science and Technology (NCMST-2014), at MMM University of Technology Gorakhpur, March 10-11, 2014.

3.6 Department of Chemical Engineering

A four year B.Tech programme in Chemical Engineering was introduced during the academic year 2011-12 and 18 students were admitted.

3.6.1 IMPORTANT NEW EQUIPMENT (above Rs. 5,00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
ANSYS Academic Research CFD V 14.5- Unlimited nodes(5 users)	Simulation	10-09-2013	Rs. 8,44,000.00
Matlab & Simulink software with associated tool boxes	Computational & Simulation	27-12-2013	Rs. 15,29,220.00

3.6.2 RESEARCH PUBLICATIONS

3.6.2.1 Book Reviews/Contribution of Chapters in a Book

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Debjani Nag, Bidyut Das, P. K. Banerjee, S. K. Haldar, and V. K. Saxena	May, 2013	Methodology to Improve the Mean Size of Coke for Stamp Charge Battery	Int. Journal of Coal Preparation and Utilization	33	128-136
2.	Dr Suman Dutta	August 2, 2013	A review on production, storage of hydrogen and its utilization as an energy resource	Journal of Industrial and Engineering Chemistry	Available online	-
3.	H P Tiwari, P K Banerjee, and V K Saxena	May 2013	A novel technique for assessing the coking potential of coals/coal blends for non-recovery coke making process.	Fuel	107	615-622

3.6.2.2 Papers presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Lutukurthi D. N. V. V. Konda	CFD Simulation of Mass Transfer Characteristics in Bubble column	Int. Conference on Chemical and Bioprocess Engineering-India (ICCBPE-IN,2013)	Nov. 16-17, 2013	NIT Warangal
2.	Suresh Kumar Yatirajula, V.K. Saxena and Samardeep Prasad	Rheological behavior of coal water slurries	Paper presented at Int. Conference on Advances in Chemical Engg. (ICACE-2013)	April 5-6, 2013	NIT Raipur, Chhattisgarh India
3.	Suresh Kumar Yatirajula, and Abhijit P. Deshpande	Rheology of Aqueous CTAB/Nasal Wormlike Micelles	9 th world Congress of Chemical Engg (WCCE9) and 15th Asian Pacific Confederation of Chemical Engg Congress (APCCHE2013)	August 18-23, 2013	Coex, Seoul, South Korea
4.	Ankit Anand Vinod Kumar, V K Saxena Nirmal Kumar Singh	Effect of Particle Size Distribution on the Coal Water Mixture [CWM]	Int. Conference on Mineral Processing Technology (MPT-2013)	10-12 Dec., 2013	CSIR- IIMT, Bhubaneswar

3.6.3 PARTICIPATION OF FACULTY/OFFICERS/ STAFF IN SEMINARS/ CONFERENCE ETC.

Prof V K Saxena	International Conference on Powder, Granule and Bulk solid: Innovation and Application (PGBSIA-2013)	28-30 Nov 2013	Thapar University, Patiala
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3.6.4 TESTING SERVICES (LAB FACILITIES AVAILABLE IN THE DEPARTMENT)

- Elemental composition (C,H,N,S,O) of Coal, Soil, Oil etc by CHNS analyzer
- Total Organic Carbon by TOC analyzer
- Nano-particle size distribution by particle size analyzer
- Rheological investigation of liquid/ slurries

- Surface Tension and Contact angle of liquid
- Potentiometric titration for all chemical, food, pulp & paper, petrochemicals, pharmaceuticals industries
- Refractive Index of liquid
- Liquid fuel testing, viz., Softening point, Aniline point, ASTM distillation, Flash point, smoke point & Char value, Cloud point, Viscosity measurement etc.
- Gas chromatograph

3.6.5 SPECIAL LECTURE BY DISTINGUISHED GUESTS

Dr. U. K. Ghosh, Department of Chemical Engineering, Curtin University, Sarawak Campus, Malaysia delivered a lecture on "Carbon Dioxide Capture Using Promoted Potassium Carbonate Solvent"	17 th December 2013
14-16 November 2014, Department of Chemical Engineering, University of Alberta, Canada delivered a lecture on "A general overview of Clean Coal Technology Research"	24 th December 2013
Dr. A. Sadhukhan, Professor, Department of Chemical Engineering, NIT Durgapur delivered a lecture on "Pyrolysis and Combustion of Coal and Biomass- Experimental and Mathematical Modelling"	16 th January 2013

Fluid Mechanics Lab

Bernoulli's Theorem Apparatus, Flow measurement through Venturimeter, Orifice meter & Rotameter, Reynolds No. Test equipment, Centrifugal Pump Test Rig, Test rigs for reciprocating pumps, Pressure Drop through Packed Bed, Losses due to friction in pipe

Mechanical Operation Lab

Jaw Crusher, Roll Crusher, Ball Mill (With Variable Speed), Vibrating Screen, Cyclone Separator, Plate & Frame Filter Press, Leaf Filter, Hard Groove Grindability Index Set Up

Heat Transfer Lab:

Lab scale Stefan Boltzmann apparatus, Lab scale Emissivity measurement apparatus, Heat transfer in forced convection, Heat transfer in natural convection, Unsteady state Heat transfer unit, Lab scale apparatus thermal conductivity of metal rod, Drop wise and film wise condensation apparatus, Thermal conductivity of liquid.

3.6.6 MISCELLANEOUS

Prof V K Saxena: Chaired a technical session at International Conference on Powder, Granule and Bulk solid: Innovation and Application (PGBSIA-2013) held from 28-30 November,2013 at Thapar University, Patiala

Prof V K Saxena: Chaired a technical session at International Conference on Mineral Processing Technology (MPT-2013) held from 10-12 December, 2013 at CSIR- IIMT, Bhubaneswar

3.7 DEPARTMENT OF CIVIL ENGINEERING

The inception of the department took place in the year 2013 with 41 students in its first batch.

3.7.1 BEST PRACTICES OF THE DEPARTMENT:

- Involvement of faculty members in R&D projects of DST and MHRD.
- Proposed setting up a Centre for Water Resource Management Department through a R&D project of Rs. 4.00 crore submitted to MHRD, New Delhi.
- Initiated setting up of various labs, viz. Structural Engg., Geotechnical Engg., Water Resources Engg., RS & GIS, Survey, Transportation System Engg. and Computer Lab.
- Organised a National Conference on 'Water and its Sustainability in Mining and other Environment Vision 2050 (WSME 2014)' during March 28-29, 2014 deliberating and addressing on trans-disciplinary issues related to the nature of water, its use and its sustainability in mining and other environment.

3.7.2 BRIEF LIST OF ON-GOING R & D PROJECTS (Project Value Rs. 5, 00,000/- and Above)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value	Date of Commencement	Date of Completion	Objective	Status	Findings
Dynamic Instability of the Elastic Structural Elements under Deterministic Loading	DST	Dr Sarat Kumar Panda (PI)	Rs. 16.80 Lakhs	18.01.2014		To study the dynamic instability of columns, plates and shells	In Progress	-

3.7.3 IMPORTANT COLLABORATIVE WORKS:

Organisation/laboratory	Nature of Interaction
Central Ground Water Board	Artificial Recharge and Rain Water Harvesting

3.7.4 RESEARCH PUBLICATIONS

3.7.4.1 Book Published

Prof B. C. Sarkar, Dr Srinivas Pasupuleti and Dr. S. Kolathayar

- Edited a Book Volume entitled “Water and its Sustainability in Mining and other Environment: Vision 2050 bearing ISBN: 978-93-5156-850-6. (Proceedings of the National Conference organized by the Department of Civil Engineering, ISM during 28-29 March, 2014).

3.7.4.2 Book Reviews/Contribution of Chapters in a Book

Dr Srinivas Pasupuleti

- Reviewed entire textbook on “Flow in Open Channels 3 e” by K. Subramanya, McGraw Hill Education, 3rd October, 2013.
- Reviewed Two chapters on “Engineering Geology 1 e” McGraw Hill Education, 20th March, 2014.

3.7.4.3 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Dr Sreevalsa Kolathayar Arjun Sil, Sitharam T G and Kolathayar S	2013	Probabilistic Seismic Hazard Analysis of Tripura and Mizoram States	Natural Hazards	Vol. 68, Issue 2	pp 1089-1108 (IF: 1.639)

3.7.4.4 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Prof. B. C. Sarkar	Aquifer Modelling : A Geostatistical Approach	Water and its Sustainability in Mining and other Environment: Vision 2050	28-29 March, 2014	ISM Dhanbad
2.	Dr. Alok Sinha	Impact of Coal Based Thermal Power Plant on Water: A Review	Water and its Sustainability in Mining and other Environment: Vision 2050	28-29 March, 2014	ISM Dhanbad
3.	Dr. S R Samadder	Effect of Arsenic Pollution in Groundwater on Life Expectancy: A GIS Approach	Water and its Sustainability in Mining and other Environment: Vision 2050	28-29 March, 2014	ISM Dhanbad

4.	Dr Srinivas Pasupuleti	Logarithmic Method of Rating Water Quality	Water and its Sustainability in Mining and other Environment: Vision 2050	28-29 March, 2014	ISM Dhanbad
5.	Dr Sreevalsa Kolathayar	Unexplored potential of seismic hazard studies	Annual Convention on Earthquake Sciences	4-6 Jan. 2014	Institute of Seismological Research, Gandhinagar Gujarat.

3.7.5 MAJOR ACADEMIC CONTRIBUTIONS:

- Initiated setting up of various labs, viz. Structural Engg., Geotechnical Engg., Water Resources Engg., RS & GIS, Survey, Transportation System Engg. and Computer Lab.

3.7.6 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPT/CENTER:

- Department of Civil Engineering, ISM, Dhanbad organized a 2-day National Conference on “Water and its Sustainability in Mining and Other Environment: Vision 2050 (WSME 2014)” during March 28-29, 2014.

3.7.7 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCE ETC

Faculty Name	Name of Conference	Date	Place
Prof. B. C. Sarkar	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM Dhanbad
Prof. B. C. Sarkar	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)	March 28-29, 2014	ISM Dhanbad
Dr. S. K. Gupta	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM Dhanbad
Dr. S. K. Gupta	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)	March 28-29, 2014	ISM Dhanbad
Dr. Alok Sinha	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM Dhanbad

Dr. Alok Sinha	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)	March 28-29, 2014	ISM Dhanbad
Dr. S R Samadder	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM Dhanbad
Dr. S R Samadder	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)	March 28-29, 2014	ISM Dhanbad
Dr. S K Panda	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM Dhanbad
Dr. S K Panda	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)	March 28-29, 2014	ISM Dhanbad
Dr. Srinivas Pasupaleti	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM Dhanbad
Dr. Srinivas Pasupaleti	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)	March 28-29, 2014	ISM Dhanbad
Dr. Srinivas Pasupaleti	Workshop on Intellectual Property Rights	February 14, 2014	ISM Dhanbad
Dr Sreevalsa Kolathayar	Brain Storming Workshop on Geostatistics for Natural Resources Modelling	February 28, 2014	ISM Dhanbad
Dr Sreevalsa Kolathayar	Water and its Sustainability in Mining and Other Environment : Vision 2050 (WSME 2014)	March 28-29, 2014	ISM Dhanbad
Dr Sreevalsa Kolathayar	Third Annual Convention on Earthquake Sciences	4-6 January 2014	Institute of Seismological Research Gandhinagar

3.7.8 DISTINGUISHED VISITORS TO THE SCHOOL (INDICATING OCCASION/PURPOSE)

Name of Visitor	Occasion/Purpose
Prof T G Sitharam (IISc Bangalore)	TAC Meeting and Interaction with students
Prof K S Rao (IIT Delhi)	TAC Meeting and Interaction with students
Prof. B. Nageswara Rao (IIT Madras)	TAC meeting on UTM, CTM amd FTM
Prof. K.V.L. Subramaniam (IIT Hyderabad)	TAC meeting on UTM, CTM amd FTM

3.7.9 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Name of Visitor	Occasion/Purpose
Prof. T G Sitharam (IISc Bangalore) & Prof K S Rao (IIT Delhi)	Scope and importance of Civil Engineering, March 8 th , 2014
Prof. P.K. Basudhar (GLA University, Mathura)	Adjunct Faculty Lectures, 6-7 th Feb 2014

3.7.10 MISCELLANEOUS: ANY OTHER RELEVANT INFORMATION

Prof. B. C. Sarkar

- Attended SERB, DST meeting at Hyderabad on March 30-31 as Expert Member for evaluation of Project Proposals.

Dr. Srinivas Pasupaleti

- Attended a Short Course on "Ecosystem Services and Integrated Watershed Management " from 6-15 November, 2013 at International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, A.P., India.
- External Question Paper Setting for End Semester University Examinations in Water Resources Engineering - I, Water Resources Engineering - II subjects for Vignana University, Guntur, A.P. on 10 December, 2013.

3.8 Department of Computer Science & Engineering

The Department of Computer Science & Engineering was set up in the year 1997. The Department conducts academic programmes leading to the award of degrees in B.Tech. (Computer Science & Engineering), Dual Degree (Computer Science & Engineering), M.Tech. (Computer Science & Engineering) and Ph.D. programmes.

3.8.1 INTRODUCTION OF NEW COURSES AND PROGRAMMES, IF ANY

A new Dual Degree (B.Tech & M.Tech) course in Computer Science and Engineering have been introduced. The admission to this course is through prestigious IIT JEE (Advanced). The purpose of introducing this course is to cultivate the students for academia and also for industry.

3.8.2 BEST PRACTICES OF THE DEPARTMENT

The best practice of the department comprises the following:

- Deliver Quality Teaching & Research Outputs
- Hands-on practical & project works
- Organize Short-Term Courses, Guest Lectures, Workshop & Conferences on regular interval.
- Organize various technical events to promote the competitive & healthy environment among the students of the department.

3.8.3 BRIEF LIST OF ON-GOING R&D PROJECTS (PROJECT VALUE RS.5,00,000/-AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (Lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
ISEA (Information Security Education and Awareness)	MIT, Govt of India	Prof. G.P. Biswas (Coordinator) Dr. Hari Om (Co-coordinator)	₹ 49.32 Lakhs	12.06.2006	31.03.2014	1) Retrofitting of Information Security (IS) Courses in B.Tech and M.Tech (CSE, Electronics, Electrical Engg) Programs 2) Awarding PhD on IS 3) Conducting certificate course and Workshops on IS	Completed	1) 3 Phd awarded (2 partially on IS) 2) Executing 3 B.Tech/ M.Tech (CSE) projects on IS 3) Some research articles on IS are published 4) Conducted two short-term certificate courses and one workshop
Design of Machine Learning Techniques for Specialized Biological Online Database-Mining	CSIR, New Delhi	Dr. Haider Banka (PI) Shri A.C.S.Rao (Co-PI)	₹ 16.005 Lakhs	31.03.2012	31.03.2015	Proposal of new frameworks for creating specialized database, further Integrated database mining with Machine learning Techniques for Feature selection, classification, clustering for biological Data	Ongoing	Research Papers have been published.
Design and Implementation of Group Key Generation Protocol and its Application for Secure Multicast	UGC, New Delhi	Dr. Sachin Tripathi	₹ 10.74 Lakhs	01.07.2012	01.07.2015	To design some group key generation protocols and develop some applications of same	Ongoing	Research Papers have been communicated for publication.

3.8.4 RESEARCH PUBLICATIONS

3.8.4.1 Books Published

1. Damodar Reddy Edla & P. K. Jana, "Clustering Algorithms for Biological Data", published by **LAP Lambert Academic Publishing**, 2013 Germany, **ISBN-13: 978-3659454745**.
2. Dharavath Ramesh, Chiranjeev Kumar & Amit Kumar Jain, "Atomicity and Snapshot Isolation on Column Oriented Databases: A Transaction Approach," published by LAP Lambert Academic Publishing, 2013 Germany, ISBN: 978-3-659-37511-8.
3. G.P. Biswas & S. Mukhopadhyay, "Recent Advances in Information Technology", published as a Book Series: Advances in Intelligent Systems and Computing, Vol. 266, Springer, 2014.

3.8.4.2 Book reviews/contribution of chapters in a book

Book Reviews:

- Chiranjeev Kumar reviewed a book on "Data Structure using C", TMH Publication, June 2013.

3.8.4.3 Contribution of Book Chapters

1. Haider Banka, Suresh Dara & Mourad Elloumi, "Feature Selection and Classification For Gene Expression Data Using Evolutionary Computation", published a book chapter 18, page 421 439, 27 Dec 2013, Biological Knowledge Discovery Handbook: Preprocessing, Mining, and Post processing of Biological Data, John Wiley.
2. Raktim Banerjee & Sukomal Pal, "ISM@FIRE-2011 Bengali Monolingual Task: A Frequency-Based Stemmer", 2013, Multilingual Information Access in South Asian Languages (Eds: Prasenjit Majumder, Mandar Mitra, Pushpak Bhattacharyya, L. Venkata Subramaniam, Danish Contractor, Paolo Rosso), LNCS 7536, Springer Verlag, Heidelberg, ISBN: 978-3-642-40086-5 (Print) 978-3-642-40087-2 (Online) pp. 51-58.

3.8.4.4 Papers Published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	SK Hafizul Islam & G.P. Biswas	2013	Design of Improved Password Authentication and Update Scheme Based on Elliptic Curve Cryptography	Intl. Journal of Mathematical and Computer Modeling	57	2703-2717
2.	SK Hafizul Islam & G.P. Biswas	2013	Provably secure Certificate-less strong designated verifier signature scheme based on elliptic curve bilinear pairings	Journal of King Saud University - Computer and Information Scs (Elsevier Journal)	25	51-61
3.	SK Hafizul Islam & G.P. Biswas	2013	Provably secure and pairing-free certificateless digital signature scheme using elliptic curve cryptography	Intl. Journal of Com. Mathematics (Taylor & Francis Journal)	90	2244-2258
4.	SK Hafizul Islam & G.P. Biswas	2014	Certificateless short sequential and broadcast multisignature schemes using elliptic curve bilinear pairings	Journal of King Saud University- Computer and Information Sciences	26	89-97
5.	SK Hafizul Islam & G.P. Biswas	2014	A provably secure identity-based strong designated verifier proxy signature scheme from bilinear pairings	Journal of King Saud University- Computer and Information Sciences	26	55-67
6.	Pratyay Kuila & P. K. Jana	2013	Approximation Schemes for Load Balanced Clustering in Wireless Sensor Networks	Journal of Supercomputing (Springer)	68	87-105
7.	Pratyay Kuila, S.K. Gupta, P.K. Jana	2013	A novel evolutionary approach for load balanced clustering problem for wireless sensor networks	Swarm and Evolutionary Computation (Elsevier)	12	48-56
8.	Damodar Reddy & P. K. Jana	2014	A new clustering algorithm based on Voronoi diagram	Int. J. Data Mining, Modelling and Management. (Inderscience)	Vol. 6 No. 1	49-64
9.	Sanjay Kumar Biswash & Chiranjeev Kumar	2013	A Novel Prediction-Based Location Management Technique for Mobile Network	Int. Journal of Mobile Computing and Multimedia Communications (IJMCMC)	Vol. 5 Issue 4	15-34

10.	Dhirendra Kr Sharma, Amar Nath Patra, & Chiranjeev Kumar	2013	An Update based Energy-Efficient Reactive Routing Protocol for Mobile Ad Hoc Networks	Intl. Journal of Computer Network & Information Security (IJCNIS)	Vol. 5 No 11	17-26
11.	Prem Nath & Chiranjeev Kumar	2013	Hybrid Scheme with Adaptive Replication and Mobility Anchoring Point (MAP) in Wireless Networks	Intl. Journal of Wireless Personal Communications (Springer)	Vol. 72 Issue 1	597-621
12.	Sanjay Kumar Biswash & Chiranjeev Kumar	2013	An Index-Based Location Management Scheme for PCS Network	Intl. Journal of Wireless Personal Communications (Springer)	Vol. 69 Issue 4	1597-1614
13.	Dharavath Ramesh & Chiranjeev Kumar	2013	An incremental protocol approach for secure collaboration between Byzantine processes in Heterogeneous distributed processing systems	Journal of AWER Procedia Information Technology & Computer Science	Vol. 3	895-902
14.	Manish Kumar & Haider Banka	2013	Changing Mutation Operator of Genetic Algorithms for Optimizing Multiple Sequence Alignment	Intl. Journal of Information and Computation Technology	Vol. 3	895-902
15.	Neha Sharma & Hari Om	2014	Extracting Significant Patterns for Oral Cancer Detection Using Apriori Algorithm	Intelligent Information Management	Vol. 6(2)	30-37
16.	Neha Sharma & Hari Om	2013	Using Data Mining for Oral Cancer Risk Stratification in terms of Age, Gender and Socioeconomic Status	Advances in Medical Informatics	Vol. 3 Issue 1	37-40
17.	Neha Sharma & Hari Om	2013	Data mining models for predicting oral cancer survivability	Network Modeling Analysis in Health Informatics and Bioinformatics	Vol. 2, Issue 4	85-95
18.	Mantosh Biswas & Hari Om	2013	An Image Denoising Method Using Selected Scale Parameter	Intl. Journal of Information Engineering	Vol. 3 No. 3	66-70
19.	Nilam Upasani & Hari Om	2013	Comparison of Fuzzy-Neural Clustering based Outlier Detection Techniques	Intl. Journal of Computer Engineering and Technology	Vol. 4 Issue 4	422-431

20.	Abhimanyu Kumar & Sachin Tripathi	2014	Ternary Tree Based Group Key Agreement Protocol over Elliptic Curve	Intl. Journal of Computer Application (IJCA)	Vol. 86 No. 7	76-80
21.	Abu Salim, Rajesh Kumar Tiwari, Sachin Tripathi	2013	Addressing security challenges in cloud computing	Intl. Journal of Computer Engineering and Applications	Vol. II Issue II	1-13
22.	Sukomal Pal	2013	Sub-document level information retrieval: retrieval and evaluation	SIGIR Forum	47 (1)	65-66
23.	Sayantana Roy & Sushila Maheshkar	2013	Offline Signature Verification using Grid based and Centroid based Approach	Intl. Journal of Computer Application (IJCA)	86 (8)	35-39

3.8.4.5 Papers Published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Hari Om & M. Ramakrishna Reddy	2013	Geometric based Remote Password Authentication Using Biometric	Journal of Discrete Mathematical Sciences & Cryptography	Vol. 16, No. 4&5	207-220

3.8.4.6 Papers Presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Shweta R. Malwe & G. P. Biswas	Dynamic Clustering based Hybrid Routing Protocol for Mobile Ad Hoc Networks	2 nd Intl. Conf. on Recent Advances in Information Technology (RAIT-2014)	13-14 March, 2014	ISM Dhanbad
2.	Sankar Mukherjee & G. P. Biswas	Design of Hybrid MAC Protocol for Wireless Sensor Network	2 nd Intl. Conf. on Recent Advances in Information Technology (RAIT-2014)	13-14 March, 2014	ISM Dhanbad
3.	Manoj K. Mishra, S. K. Hafizul Islam & G. P. Biswas	Design of ECC-Based ElGamal Encryption Scheme using CL-PKC	2 nd Intl. Conf. on Recent Advances in Information Technology (RAIT-2014)	13-14 March, 2014	ISM Dhanbad
4.	Md. Azharuddin, Pratyay Kuila & P. K. Jana	A Distributed Fault-tolerant Clustering Algorithm for Wireless Sensor Networks	Intl. Conf. ICACCI 2013	22-25 August, 2013	Mysore, India

5.	A. Tarachand & P. K. Jana	BDCP: A Backoff-based Distributed Clustering Protocol for Wireless Sensor Networks	Intl. Conf. ICACCI 2013	22-25 August, 2013	Mysore, India
6.	A. Tarachand & P. K. Jana	EDCP: Efficient Distributed Clustering Protocol for Large-Scale Wireless Sensor Networks	Intl. Conf. ICECCS 2013	17-19 October, 2013	Waknaghat, HP, India
7.	Suneet K Gupta, Pratyay Kuila & P. K. Jana	Delay Constraint Energy Efficient Routing Using Multi-objective Genetic Algorithm in Wireless Sensor Networks	Intl. Conf. ICECCS 2013	17-19 October, 2013	Waknaghat, HP, India
8.	Kumar Nitesh & P. K. Jana	Relay Node Placement Algorithm in Wireless Sensor Network	Intl. Conf. IACC 2014	21-22 Feb, 2014	Gurgaon, India
9.	Dhirendra Kumar Sharma, Amar N. Patra, Chiranjeev Kumar	AODV-OF: An Overhearing Based Route Repair Process for Reactive Routing Protocols	VIII th IEEE Intl. Conference on Computing for Sustainable Global Development	05-07 March, 2014	BVICAM, New Delhi, India
10.	Siba Mishra, Urvashi Sharma, Chiranjeev Kumar	A Novel Approach for Computing Dynamic Slices of Web Based Applications	IEEE 4 th Intl. Conference on Advanced Computing & Communication Technologies (ACCT)	08-09 Feb, 2014	Rohtak, India
11.	Dhirendra Kumar Sharma, Amar N. Patra, P. K. Mishra, Chiranjeev Kumar	Aperiodic Hello Process for Reduction of Routing Overhead in Mobile Ad Hoc Networks	IEEE International Conference on Recent Trends in Computer Science and Engineering (ICTRCSE-2014)	08-09 Feb, 2014	Central University Bihar, Patna, India
12.	Mohd. Naseem & Chiranjeev Kumar	EDSDV: Efficient DSDV Routing Protocol for MANET	IEEE International Conference on Computational Intelligence and Computing Research (ICCIC-2013)	26-28 Dec, 2013	Vickram College of Engg, Madurai, Tamilnadu, India

13.	Dharavath Ramesh & Chiranjeev Kumar	A Scalable Matching Approach Based Density Function for Heterogeneous Database Integration	2 nd International Conference on Advanced Computing, Networking and Security (ADCONS-2013)	15-17 Dec, 2013	NIT Surathkal, Karnataka
14.	Dharavath Ramesh & Chiranjeev Kumar	An Entity Resolution Approach for Integrating Heterogeneous Distributed Probabilistic Data	2 nd International Conference on Computing, Communication and Sensor Networks (CCSN - 2013)	22-24 Nov, 2013	Hotel Peerless Inn, Kolkata, India
15.	Chiranjeevi Manike & Hari Om	Complexity of Mining High Utility Itemsets from Big data Streams	1 st Int. Symposium on Big Data and Cloud Computing Challenges	27-28 Mar, 2014	VIT Univ., Chennai
16.	Chiranjeevi Manike & Hari Om	High Utility Frequent Pattern Mining Algorithms: A Comparative Study	IEEE Workshop on Computational Intelligence: Theories, Applications and Future Directions	14 July, 2013	IIT Kanpur
17.	Nilam Upasani & Hari Om	Outlier detection: A survey on techniques involving fuzzy and /or Neural Network approaches	IEEE Workshop on Computational Intelligence: Theories, Applications and Future Directions	14 July, 2013	IIT Kanpur
18.	Divyesh Sanjay Kothari, Abhinav Saraswat, Anjaney Pandey, Sarang Kapoor, Sukomal Pal	FAQ retrieval using noisy queries	5th International Workshop of Forum for Information Retrieval Evaluation	4-6 Dec, 2013	New Delhi, India
19.	Amit Jain, Nitish Gupta, Sukomal Pal	ISM@FIRE-2013 Morpheme Extraction Task	5th International Workshop of Forum for Information Retrieval Evaluation	4-6 Dec, 2013	New Delhi, India

20.	Dinesh K Prabhakar, Sukomal Pal	ISM@ FIRE2013 shared task on Transliterated Search	5th International Workshop of Forum for Information Retrieval Evaluation	4-6 Dec, 2013	New Delhi, India
21.	Ambedkar Kanapala & Sukomal Pal	ISM@ FIRE-2013 Information Access in The Legal Domain	5th International Workshop of Forum for Information Retrieval Evaluation	4-6 Dec, 2013	New Delhi, India
22.	Rajendra Pamula, Jatindra Kr Deka, Sukumar Nandi	An Outlier Detection Method Based on Cluster Pruning	Intl Conference on Business & Information Management (ICBIM-2014)	09-11 Jan, 2014	NIT, Durgapur
23.	Dharavath Ramesh, Vikas Kumar, Chiranjeev Kumar & Amit Kumar Jain	An Apriori based Vertical Fragmentation Technique for Heterogeneous Distributed Database Transactions	Intl Conference on Advanced Computing, Networking, and Informatics (ICACNI-2013)	12-14 June, 2013	CIT, Chhattisgarh, India
24.	Dharavath Ramesh, Amit Kumar Jain, Chiranjeev Kumar & Vikas Kumar	Accuracy of Atomic Transaction Scenario for Heterogeneous Distributed Column-oriented Databases	Intl Conference on Advanced Computing, Networking, and Informatics (ICACNI-2013)	12-14 June, 2013	CIT, Chhattisgarh, India
25.	Kshiramani Naik & Arup Kr Pal	An Image Cryptosystem based on Diffusion of Significant Bit-planes of a Scrambled Image with Generated Binary Key Matrices	2013 IEEE Intl. Conference on Computational Intelligence and Computing Research (ICCIC-2013)	26-28 Dec, 2013	Central Institute of Technology, Raipur, India
26.	Kshiramani Naik & Arup Kumar Pal	A Partial Image Cryptosystem based on Discrete Cosine Transform and Arnold Transform	2 nd Intl. Conference on Recent Advances in Information Technology (RAIT 2014)	13-14 March, 2014	ISM Dhanbad, India

27.	Kumar Rahul, Rohit Agrawal & Arup Kr Pal	Color Image Quantization Scheme using DBSCAN with K-Means Algorithm	Intl. Conference on Advanced Computing, Networking, and Informatics (ICACNI-2013)	12-14 June, 2013	CIT, Chhattisgarh, India
28.	Shweta R. Malwe & G. P. Biswas	Dynamic Clustering Based Hybrid Routing Protocol for Mobile Ad Hoc Networks	2 nd Intl. Conference on Recent Advances in Information Technology (RAIT 2014)	13-14 March, 2014	ISM Dhanbad, India

3.8.4.7 Papers Presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Neha Sharma & Hari Om	Significant Patterns Extraction to Find Most Effective Treatment for Oral Cancer Using Data Mining	National Systems Conference	05-07 Dec, 2013	IIT Jodhpur

3.8.5 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPARTMENT/CENTRE

Faculty	Workshop/Conference/Symposium/Seminar	Date
Prof. G. P. Biswas Dr. S. Mukhopadhyay	2 nd International Conference on "Recent Advances in Information Technology (RAIT-2014)"	13-14 Mar, 2014
Prof. G. P. Biswas Dr. Hari Om	Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India	14-15 Mar, 2014
Dr. Haider Banka	Guest Lectures (under the aegis of TEQIP-II)	19 Jan 2014

3.8.6 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINAR/ CONFERENCES ETC

Faculty Name	Seminar/Conference	Date	Place
Prof. P. K. Jana	Education Technology Summit 2013	21-22 June 2013	Surajkund, Haryana
Dr. Chiranjeev Kumar	Short Term Course on Recent Advances in Network Algorithms	09-13 Sept 2013	IIT Guwahati

Dr. Hari Om	2 nd International Conference on “Recent Advances in Information Technology (RAIT-2014)	13-14 Mar, 2014	ISM Dhanbad
Tarachand Amgoth	ICACCI - 2013	22-25 August 2013	Mysore, India
	ICECCS -2013	15-17 October 2013	Simla, India
	ICDCIT - 2014	7-9 February	Bhubaneswar, India
A C S Rao	A Workshop on “Intellectual Property Rights (under TEQIP-II)”.	14 Feb 2014	ISM Dhanbad
Dr. Arup Kumar Pal	2013 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC-2013)	26-28 Dec, 2013	Madurai, India
	2 nd World Summit on Accreditation	8-10 Mar, 2014	Delhi, India

3.8.7 DISTINGUISHED VISITORS TO THE SCHOOL

Prof. Ajoy Kumar Ray	Chief Guest for Inaugural function of 2 nd International Conference on Recent Advances in Information
Director of IEST Shibpur (Formerly BESU)	Technology (RAIT-2014) on 13 Mar 2014.
Prof. A. Bagchi ISI, Kolkata	Guest of Honor for Inaugural function of 2 nd International Conference on Recent Advances in Information Technology (RAIT-2014) on 13 Mar 2014.
Mr. B. B. Singh DRM, Dhanbad	Chief Guest for Valedictory function of 2 nd International Conference on Recent Advances in Information Technology (RAIT-2014) on 14 Mar 2014.
Prof. R. K. Shyamsunder TIFR, Mumbai	Chief Guest for Inaugural function of Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India on 14 Mar 2014.
Prof. S. Chattopadhyay Jadavpur Univ., Kolkata	Guest of Honor for Inaugural function of Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India on 14 Mar 2014.
Prof. Sukumar Nandi IIT Guwahati	Chief Guest for Valedictory function of Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India on 15 Mar 2014.
Prof. S. K. Jena NIT Rourkela	Guest of Honor for Valedictory function of Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India on 15 Mar 2014.

3.8.8 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Mr. Amrit Kumar, Senior Business Consultant from Accenture Management Consulting, B'lore Delivered a guest lecture (under TEQIP-II) on "Ubiquitous Computing and Insights into Key Industries".	19 Jan 2014
Mr. Shubham Maheshwari, Senior Manager from Proptiger.com, Noida Delivered a guest lecture (under TEQIP-II) on "How to tie-up your Coding Goal to Business Goal?".	19 Jan 2014
Prof. Ajoy Kumar Ray, Director of IEST Shibpur (Formerly BESU) Delivered a Keynote address on Role of IT in Health Sector during 2 nd International Conference on Recent Advances in Information Technology (RAIT-2014)	13 Mar 2014
Prof. R. K. Shyamsunder, TIFR Mumbai, Delivered a Keynote address based on Security entity and System security during 2nd International Conference on Recent Advances in Information Technology (RAIT-2014).	14 Mar 2014
Prof. Samiran Chattopadhyay from Jadavpur University, Delivered an invited talk on "Security in Wireless Sensor Networks" during Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India.	14 Mar 2014
Prof. Sukumar Nandi from IIT Guwahati, Delivered an invited talk on "Detection And Mitigation of Induced Low Rate TCP-Targeted DoS Attack" during Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India.	15 Mar 2014
Prof. Sugata Gangopadhyay from IIT Roorkee, Delivered an invited talk on "Normality of Boolean functions and its impact on stream cipher cryptanalysis" during Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India.	15 Mar 2014
Prof. Amitabha Mukerjee from IIT Kanpur, Delivered an invited talk on "Structure in Unstructured Data" during Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India.	15 Mar 2014
Prof. S. K. Jena from NIT Rourkela, Delivered an invited talk on "Privacy Preserving Data Mining" during Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India.	15 Mar 2014
Prof. A. Bagchi from ISI Kolkata, Delivered an invited talk on "Control Access to Semantically Enriched Digital Library Ontology" during Workshop on 'Information and Network Security' under ISEA project sponsored by MIT, Govt. of India.	15 Mar 2014

3.8.9 MISCELLANEOUS:

Prof. G. P. Biswas	<ol style="list-style-type: none"> 1. An external member in the selection committee, NIT, Jamshedpur. 2. An external member of WB College Service Commission. 3. A Nodal officer for uploading ISM-data to MHRD Portal. 4. A reviewer of research articles for publication in reputed Journals.
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Prof. P. K. Jana	<ol style="list-style-type: none"> 1. An external expert for faculty selection at NIT Durgapur on 20th April, 2013. 2. An external expert for M. Tech Project viva at BIT, Mesra on 10th May, 2013. 3. Delivered a guest lecture on “Clustering in Wireless Sensor Networks” BIT, Patna, on 1st August 2013. 4. Delivered an invited talk in 5th RC in Information and Communication Technology (ICT), Burdwan University, West Bengal on 14th September, 2013. 5. Delivered an invited talk in National workshop RTIT '13 at College of Engineering & Management, Kolaghat, West Bengal on 9th November, 2013. 6. Delivered an invited talk in national seminar entitled "Wireless Sensor Networking: The Recent Challenges" at C V Raman College of Engineering on 14th December, 2013. 7. Course coordinator for short term certificate course on Advanced Data structures & Algorithms during 10-14 January, 2014. 8. An external expert for Ph. D Entrance Interview Board held on 25th February, 2014, Department of CSE, BIT, Mesra, Ranchi
Dr. Chiranjeev Kumar	<ol style="list-style-type: none"> 1. An external expert of Selection Committee for engagement of Project Assistant Level I & II at CIMFR, Dhanbad, 28th March 2014. 2. An external examiner at St Xavier's College, Ranchi, 15 June 2013 & 25 Dec 2013. 3. An external member of Board of Examiner for the 4th Semester M.Sc. Computer Science at central University of Bihar (CUB), Patna, 14 June 2013 . 4. A Chief Guest at CIMFR, Dhanbad, on the celebration of World telecommunication and Information Society Day 2013, 17th May 2013.
Dr. Haider Banka	<ol style="list-style-type: none"> 1. Delivered an invited talk on “Application of AI techniques in Engg. & Research” at BIT Mesra, Ranchi on 23 Sept 2013 2. Delivered an invited talk on “Data warehousing & data mining” at BCET Balasore, Odisha on 28 Oct 2013. 3. Delivered an invited talk on “Improving equipment utilization by applying m/c intelligence” at Indian Institute of Coal Management, Ranchi on 07 Jan 2014. 4. Delivered an invited talk on “Application of soft computing and optimization techniques in Engg. & Engg. Sciences (ASCOTEES-2014)” at NIT Durgapur on 05 Mar 2014. 5. Evaluated Dissertation & Viva-voce (M. Tech.) at Rajasthan Technical University, Kota on 27-28 Mar 2014. 6. Attended TEQIP-II workshops on e”mbedded system and MSP430” by Texus Instrument at ISM, Dhanbad.

Dr. Hari Om	<ol style="list-style-type: none"> 1. Examined three Ph.D. Thesis from different Universities/Institutes. 2. A Technical Program Committee member of FTRA International Symposium on Frontier and Innovation in Future Computing and Communications (FCC 2014), Auckland, New Zealand, January 13-16, 2014; International Conference on Control Engineering and Information Technology (ICCEIT), August 9-11, 2013, Nanning, China; World Conference on Information Systems and Technologies (WorldCIST'13), March 27-30, 2013 Algarve, Portugal; 7th FTRA International Conference on Multimedia and Ubiquitous Engineering (MUE 2013), May 9-11, 2013, Seoul, Korea; and 7th FTRA International Conference on Multimedia and Ubiquitous Engineering (MUE 2013), Daegu, Korea, May 9-11, 2013; . 3. Advisory Board Member of 'World Research Journal of Computation Theory' journal. 4. Editorial Board Member for the Universal Journal of Communications and Network; Journal of Image Processing & Pattern Recognition Progress; International Journal of Engineering and Applied Sciences (EAAS); International Journal of Scientific Knowledge (IJSK); International Journal of Computer Networking; Wireless and Mobile Communications (IJCNWMC); International Journal of Computer Science and Engineering (IJCSE); and Journal of Computer Science and Engineering (JCSE).
Dr. Sukomal Pal	<ol style="list-style-type: none"> 1. Delivered an Invited Talk on “XML Retrieval” at Short Term Training 2. Program on Information retrieval (under TEQIP II) at MANIT Bhopal on 26-27 Feb 2014.
Dharavath Ramesh	<ol style="list-style-type: none"> 1. International Program Committee Member of ICACCI-2013; and CCSN-2013.
Dr. Arup Kumar Pal	<ol style="list-style-type: none"> 1. Program Committee Member of 1st International Conference on Signal Processing and Integrated Networks (SPIN-2014), 21-22 February 2014, at Amity School of Engineering and Technology, Amity University, Noida, India. 2. Chaired a session on Technical Paper Presentation: 2013 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC-2013), 26-28 December, 2013 at Vickram College of Engineering, Madurai, India.

3.9 Department of Electrical Engineering

The Department of Electrical Engineering was established in 2005, the B. Tech. programme in Electrical Engineering started in the academic session 2006-07, and the first batch graduated in 2011-12.

3.9.1 FIELD VISITS / EXCURSIONS / TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
One day industrial visit	35	Tata Steel	24.09.2013
One day industrial visit	35	Tata Steel	25.09.2013
One day industrial visit	35	Tata Steel	26.09.2013

3.9.2 BRIEF LIST OF ON-GOING R&D PROJECTS (PROJECT VALUE RS.5,00,000/-AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
Development of A Load-Frequency Control System With A PID Controller Designed Through A Frequency-Domain Matching Method	UGC	S Pan	₹ 9,33,000	1-04-2013	31-03-2016	Design, Simulation and experimental study of PID controller for Load Frequency Control (LFC) system.	On-going	Design and Simulation study shows favourably comparable performance with existing methods.
Development of hybrid off-grid power supply system for remote areas	UGC, New-Delhi	Nirai Pal	₹ 7,16,000/-	01/04/2013	31/03/2016	To develop the state-of-the-art set-up of hybrid off-grid power supply system for demonstrating and functioning the energy management and load balancing in remote areas.	On-going	Procurement process is going on till date. Moreover, study work is also running simultaneously.
Simulation and Real-time Implementation of Smart Grid	UGC	V. Mukherjee	₹ 5.55 Lakhs	1. 4. 2013	31.3.2016	-	On-going	-
Optimal allocation of FACTS Devices for The Increased Loadability of Power System In Deregulated Electricity Market	UGC	Biplab Bhattacharyya (PI) & Sanjay Mandal (Co-PI)	₹ 3.71 Lakhs	1. 2. 2011	31.1.2014	Optimal placement of FACTS Devices in an interconnected power system.	Completed	-

3.9.3 IMPORTANT NEW EQUIPMENT ACQUISITION (ABOVE RS. 50,0000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
Distribution System SCADA model	Power System simulation	OCT, 2013	Rs. 16.43 lakhs
Power Quality & Energy Analyzer Fluke 435 series II	Power Quality testing	-	Rs. 5,53,707

3.9.4 RESEARCH PUBLICATIONS

3.9.4.1 Book Published:

SL.	Author (s)	Year	Title of Book (s)	Publishing Company	ISBN No.	Page No.
1.	Pradip Kumar Sadhu, Nitai Pal and Ananya Bhattacharya	March 2013	Design of Working Coil Using Litz Wire for Industrial Induction Heater	Lap Lambert Academic Publishing, Germany	978-3-659-35853-1	1-65

3.9.4.2 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Nitai Pal, .S. Vamsi Krishna and Pradip Kr Sadhu	Oct. 2013	Designing Haul Road Lighting System	Australasian Mine Safety Journal (AMSJ)	Issue 18	pp. 42-45
2.	Dola Sinha, P. K.Sadhu, Nitai Pal and Nirmal B. Hui	June 2013	Genetic neural-based modeling of AC resistance of heating coil used for high-frequency inverter-fed induction cooker	Neural Computing & Application (Springer)	Vol. 22, No. 7-8	PP. 1379-1388
3.	Abhik Banerjee, V. Mukherjee, and S.P. Ghoshal	March 2014	An opposition-based harmony search algorithm for engineering optimization problem	Ain Shams Eng. J., Elsevier	5	PP. 85-101
4.	G. Shankar, and V. Mukherjee	Feb. 2014.	Load-following performance analysis of a microturbine for islanded and grid connected operation	Int. J. Elect. Power and Energy Syst.	55	PP. 704-713
5.	Binod Shaw, V. Mukherjee, and S. P. Ghoshal	Feb. 2014.	Solution of reactive power dispatch of power systems by an opposition-based gravitational search algorithm	Int. J. Elect. Power and Energy Syst.	55	29-40

6.	Abhik Banerjee, V. Mukherjee, and S.P. Ghoshal	Dec. 2013	Modeling and seeker optimization based simulation for intelligent reactive power control of an isolated hybrid power system	Swarm and Evol. Comput., Elsevier	13	85-100
7.	S. K. Saha, R. Kar, D. Mandal, S. P. Ghoshal, and V. Mukherjee	April 2013	A new design method using opposition-based BAT algorithm for IIR system identification problem	Int. J. Bio-Inspired Computing, InderScience	5	99-132
8.	S Dey, S Mandal, N N Jana	2013	Quadruple optical ring resonator based filter on silicon-on-insulator	Optik- Elsevier	124	2920-2927
9.	Ananya Chakraborty, S.P. Tiwari, Amares Chattopadhyay and Kalyan Chatterjee	2014	Duality in fuzzy multi objective linear programming problem with multi constraint	Int. J. Mathematics in Operational Research	Vol. 6, No. 3	297-315
10.	Swaroop R & Pradip Kumar Sadhu	Nov. 2013	Feasibility Analysis of Photovoltaic System for Green house using Energy Analysis Software	Int. Journal of Engineering Research & Technology (IJERT)	Vol. 2 Issue 11,	PP 386-391
11.	B. Bhattacharyya, Vikash Kumar Gupta, Sanjay Kumar	2014	Reactive power optimization with SVC & TCSC using Genetic Algorithm	Advances in Electrical and Electronics Engineering	Vol. 12, No 1	PP 1-12
12.	B. Bhattacharyya, Vikash Kuma Gupta, S. Das	2013	Evolutionary Programming for Reactive Power Planning Using FACTS Devices	WSEAS Transaction on Power System	Vol. 9, Issue 1	PP 1-9
13.	B. Bhattacharyya, Vikash Kumar Gupta, Sanjay Kumar	2013	Comparative study of GA & DE algorithm for the economic operation of a power system using FACTS devices	Archives of Electrical Engineering	Vol. 62, Issue 4	PP 541-552
14.	Jay Singh, Kalyan Chatterjee, C. B. Vishwakarma	2014	System Reduction by Eigen Permutation Algorithm and Improved Pade Approximations	WSEAS Transaction on Mathematical, Computational Science and Engg.	Vol:8 No:1, 2014	PP 117-121

3.9.4.3 Papers presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Nitai Pal, S V Krishna and Pradip Kumar Sadhu	Stand Alone Effective Lighting System using Defective Fluorescent Tube Light for Haul Road	Int. Conference on Control, Instrumentation, Energy and Communication" (CIEC14)	31 st Jan. 02 nd Feb. 2014	Kolkata, India
2.	P. K Sadhu, Ananyo Bhattacharya and Nitai Pal	Review of Microwave. Oven-a Health Hazardous Tool for Cooking as Compared to Induction Cooker	Int. Conference on Control, Instrumentation, Energy and Communication" (CIEC14)	31 st Jan. 02 nd Feb. 2014	Kolkata, India
3.	Nibedita Das, Nitai Pal and P. K Sadhu,	Selection of LED T8 Over CFL T8 for an Efficient Interior Lighting Design	Int. Conference on Control, Instrumentation, Energy and Communication" (CIEC14)	31 st Jan. 02 nd Feb. 2014	Kolkata, India
4.	Suhit Datta, Nihit Kr Singh, Swastik Roy and Nitai Pal	Some Studies on Utilization of Human Body Energy with Hybrid Piezoelectric and Thermoelectric Effect	Int. Conference on Control, Instrumentation, Energy and Communication" (CIEC14)	31 st Jan. 02 nd Feb. 2014	Kolkata, India
5.	Nitai Pal, Roshan Kumar and Milan Kumar	Design of Missile Autopilot using Backstepping Controller	Int. Conference on Electronics, Communication and Instrumentation" (ICECI2014)	16 th - 17 th January, 2014	Kolkata, India
6.	P K Sadhu, Ananyo Bhattacharya and Nitai Pal	Dual Zone Industrial Induction Heater using MOSFET based High Frequency Hybrid Resonant Converter	2013 IEEE 1st Int. Conference on Condition Assessment Techniques in Electrical Systems (CATCON 2013)	06 th -08 th Dec. 2013	IEEE, DEIS Kolkata Chapter, India
7.	Hany A. Abdelsalam, Almoataz Y. Abdelaziz, and V. Mukherjee	Optimal PMU placement in a distribution network considering network reconfiguration	Int. Conf. Circuit, Power and Computing Techniques (ICCPCT 2014)	20-21 March 2014	Kumaracoil, India

8.	Binod Shaw, V. Mukherjee, and S. P. Ghoshal	Solution of optimal reactive power dispatch by an opposition-based gravitational search algorithm	Int. Conf. Swarm Evolutionary and Memetic Computing (SEMCCO 2013)	19-21 Dec. 2013	Chennai, India
9.	Abhik Banerjee, V. Mukherjee, and S.P. Ghoshal	Real-coded genetic algorithm and fuzzy logic approach for real-time load-tracking performance of an autonomous power system	Int. Conf. Swarm Evolutionary and Memetic Computing (SEMCCO 2013)	19-21 Dec. 2013	Chennai, India
10.	C.P.Roy, B.K.Naick, G.Shankar.	Modified three point weight comparison method for adaptive MPPT of photovoltaic systems	Int. Conf. on Advances in Recent Technologies in Electrical and Electronics ARTEE 2013	Sept. 20-21, 2013.	Bangalore, India
11.	Vikash Kumar Gupta, Biplab Bhattacharyya, Sanjay Kumar	Fuzzy-DE approach for the optimal placement of FACTS devices to relief Congestion in a power system	Int. Conference on Control, Instrumentation, Energy and Communication" (CIEC14)	31 st Jan. 02 nd Feb. 2014	Kolkata, India
12.	Biplab Bhattacharyya, Vikash Kumar Gupta, Sanjay Kumar	Optimal Placement of Series & Shunt FACTS Devices in a Power System using Differential Evolution	Second Michael Faraday IET India Summit 2013, MFIS-2013	17 th Nov. 2013	Kolkata, India
13.	Biplab Bhattacharyya, Vikash Kumar Gupta, Sanjay Kumar	Fuzzy Based Evolutionary Algorithm for The Optimal Planning of FACTS Devices in an Interconnected Power System	IEEE Workshop on Computational Intelligence: Theories, Applications and Future Directions	14 July 2014	IIT Kanpur
14.	Md. Nishat Anwar and S. Pan	Synthesis of the PID controller using desired closed-loop response	10 th IFAC (The Int. Federation of Automatic Control) International . Symposium on Dynamics and Control of Process Systems	Dec. 18-20, 2013	Mumbai, India

3.9.4.4 Papers presented in National Seminars/Conferences :

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Nitai Pal, Nibedita Das, Keshav Gupta Kumar Sanjeev and Rahul Kumar Maurya	Modelling and Simulation of a Photovoltaic system with MPPT using MATLAB	National Conference Emerging Trends in Engineering & Science (ETES 2014)	30 th - 31 st January 2014	Asansol Dhanbad
2.	Kalyan Chatterjee, Ravi Shankar & T.K. Chatterjee	Load Frequency Control considering Very Short-term Load Prediction and Economic Load Dispatch using Neural Network and its Application	37 th National System Conference (NSC-2013)	5-7 th Dec., 2013	IIT Jodhpur

3.9.5 SEMINARS, SYMPOSIA, WORKSHOPS , CONFERENCE ORGANIZED BY THE DEPT./CENTRE

Short Courses Conducted

1. "Advanced Power Electronics and Drives" (From 30th December, 2013 to 4th January, 2014)
2. "PLC Programing, Applications and Troubleshooting" (From 4 9 September, 2013)
3. Professional Skill Development Program on "MATLAB & Simulink for Engineering Application" 24th June to 29th June, 2013

3.9.6 PARTICIPATION OF FACULTY / OFFICERS / STAFF IN SEMINARS / CONFERENCES ETC

Faculty Name	Seminar/Conference	Date	Place
G Shankar	Attended Summer Research Program under INAE Fellowship for two months	20 th May 2013 to 19 th July 2013	IIT, India
B Krishna Naick	ARTEE 2013 (conference)	September 20-21, 2013	Bangalore, India
Vijaybhaskar, D	Three Day Work Shop on Power Control and Energy Management	09-11 th , May 2013	NIT Warangal
Vijaybhaskar, D	Work shop on Intellectual property Rights	14 th , February 2014	ISM Dhanbad

3.10 Department of Electronics Engineering

The Department has been running B.Tech. programme in Electronics Engineering (currently renamed as Electronics & Communication Engineering) since 1998. It also offers M.Tech. and Ph.D. programmes. The students are exposed not only to the core electronics courses but also to state-of-art courses that are offered by only a few premier institutes in the country.

3.10.1 INTRODUCTION OF NEW COURSES AND PROGRAMMES, IF ANY

A new B. Tech course in **Electronics & Instrumentation Engineering** was started from July 2013 with an intake capacity of 40 students. The selection process is through IIT JEE (advance). The course is designed to train young engineering graduates in instrumentation and automation as per industry requirement.

3.10.2 BRIEF LIST OF ON-GOING R&D PROJECTS (PROJECT VALUE RS. 5,00,000/- AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
Basic Scientific Research (BSR) Projects for strengthening of infrastructure in the Department.	UGC	Prof. V. Kumar	₹ 20.00 Lakhs-	4.7.2011	3.1.2013	To develop infrastructure in term of power supply, safety equipments, laboratory working tables and infrastructure required for including the component of research at PG level.	Project completed and final Utilization Certificate to be sent.	New Port Fiber Optical table, 3-Nos. of 10- KVA UPS, one color laser printer, faculty chairs, computer tables and chairs have been procured from the project.
Real-time Implementation of Speech coders	UGC	Subrata Bhattacharya	₹ 7.88 Lakhs	1 st April, 2013	31 st March, 2016	To implement different speech coders in real-time, using TMS 320C6416 and compare their performances based on computation time, memory and reconstructed speech quality	Ongoing	Literature survey is made and models for implementation are being made. The Hardware (TMS 320C6416) has been purchased and real-time implementation is to start.
Implementation of Spectrum Sensing for Cognitive Radio"	UGC	Prof. Debjani Mitra	₹ 12.938 Lakhs	01.04.2013	31 st March, 2016	Analysis and development of spectrum sensing algorithms	Ongoing	USRP interface developed for spectrum data acquisition
University Grants Commission Assistance to The Department of Electronics Engineering, Indian School of Mines, Dhanbad at the Level of DRS-I in the thrust area: "Modeling of Semiconductor Nanostructured Devices"	UGC (SAP)	Dr. Mukul K Das Coordinator Dr. J. Kumar Co-coordinator	₹ 28.5 Lakhs	01.04.2013	31 st March, 2016	Performance analysis and optimum design of nanostructured devices, e.g. Solar cell, Photodetector, MOSFET etc.	Ongoing Simulation of some nanoscale optoelectronic devices e.g. thin film solar cell, QWIP are going on	Obtained maximum efficiency of SiGe/Si heterojunction solar cell is ~17% and SiGe/Si/SiGe triple junction solar cell is 24%.
Accurate analysis of passive waveguide structures under pulse / FM excitation	DST	Dr. Sushrut Das	₹ 14.4 lakhs	28.02.2009	27.02.2012	Analysis of passive waveguide structures under non-sinusoidal periodic excitations.	Ongoing	Different waveguide based circuits have been analyzed under periodic non sinusoidal excitation to find the aperture field distribution.
Fund for Improvement of S&T Infrastructure in Higher Educational Institutions (FIST)	DST	Dr. Sushrut Das	₹ 120 Lakhs	01.04.2013	31.03.2018	Improvement of S&T Infrastructure of the Department of Electronics Engineering, Indian School of Mines, Dhanbad.	Ongoing	CST microwave Studio has been purchased. Purchase order for LCR meter has been sent. The file of VNA has been cleared by CPC.

Design and Characterization of Compact, High Performance Patch antennas Loaded with Metamaterials	UGC	Dr. Santanu Dwari	₹ 8.555 Lakhs	01.04.2013	31. 03.2016	To design and characterize compact multiband, broadband, and circular polarized patch antennas using metamaterials.	Ongoing	Design and Characterization of Compact multiband patch antennas using metamaterial is completed.
Studies on Dielectric resonator antenna arrays	FRS-ISM Dhanbad	Dr. R.K. Gangwar	₹ 7.20 Lakhs	01.01.2011	-	Design, simulation and fabrication of dielectric resonator antenna array. Improvement in bandwidth and gain of the dielectric resonator antenna array.	Ongoing	DRA arrays have various advantages over single DRA elements including directional radiation patterns, increased gain, and often wider bandwidths. DRA arrays generally have low cross-polarization levels.
Study on opto-Electronics Devices and System Processing Signals at Microwave Frequencies	FRS-ISM Dhanbad	Amitesh Kumar	₹ 8.00 Lakhs	Funding arrived on 27.03.2013	-	To study the combine world of microwave and photonics system to introduce new application which will be able for photonic processing of microwave and mm-wave signals.	Ongoing	Literature Survey Completed
Wideband Circularly Polarized Dielectric Resonator Antenna	ISM Dhanbad	Dr. Raghendra Kumar Chaudhary	₹ 8.2 Lakhs	1 st Jan. 2014	31. Dec 2016	Design the Wideband Circularly Polarized Antenna	Ongoing	Wideband Circular Polarization

3.10.3 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
Central Bureau of Investigation (CBI), Anti Corruption Branch, Dhanbad	Investigating the anomalies in weigh bridge of ECL at at Mugma.
IUCEE-(Indo-US Collaboration for Engineering Education)	Access to Webinars and Mini Courses conducted by the IUCEE groups

3.10.4 IMPORTANT NEW EQUIPMENT ACQUIRED (ABOVE RS.5,00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
PCB fabrication machine + Vacuum cleaner + bits	PCB fabrication	11.07. 2013	Rs. 9,59,945/-
i) Nano Board NB2-1 ii) Altium Designer custom board implementation 1 iii) Xilinx Virtex4 BB46 Daughter Board 1 iv) University Trainer kit 1 set	Simulation, Synthesis, and Implementation.	22.07.2013	Rs. 5,96,075/-
Perpetual license of CST studio suite™ educational license with accessories	Simulation	06.11.2013	Rs. 17,94,445/-
NI USRP with accessories	Frontend trans receiver for communication purpose	22.11.2013	Rs. 5,46,824/-
NI Labview software	Simulation	16.01.2014	Rs. 6,40,805/-
i) Rsoft CAD v 9.0 GUI software with fullwave add-on module ii) Rsoft CAD v 9.0 GUI software with FEMSIM add-on module	Simulation	08.01.2014	Rs. 11,23,500/-
Optisim v2013 12-1, single user node locked Academic License for windows XP/vista/7/8	Simulation	25.03.2014	Rs. 7,98,000/-
SILVACO Full TCAD Omni Bundle Single License - software for advanced device simulation.	Modeling of nanostructured devices e.g. solar cell, photodetectors, MOSFET etc.	17.02.2014	Rs. 12,80,000/-

3.10.5 RESEARCH PUBLICATIONS

3.10.5.1 Book Reviews/Contribution of Chapters in a Book

- Dr. Sushrut Das Reviewed few chapters of a manuscript on Microwave Engineering, to be published by TATA McGraw Hill.

3.10.5.2 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Neeta Pandey and Sajal K. Paul	2013	Active_C Universal Filter Using a Single Building Block	Journal of Activ and Passive Electronic Devices	8	141-155
2.	Rajeshwari Pandey, Neeta Pandey, Sajal K Paul, Kashish Anand and Kranti Ghosh Gautam	2013	Voltage Mode Astable Multivibrator Using Single CDBA	ISRN Electronics	2013	8 pages
3.	Mayank Bothra Rajeshwari Pandey, Neeta Pandey and Sajal K Paul	2013	Operational Transresistance amplifier Based Tunable Wave Active Filter	Radioengineering	22	159-166
4.	Rajeshwari Pandey, Neeta Pandey, and Sajal K Paul	2013	Voltage Mode Pulse Width Modulator using Single Operational Transresistance Amplifier	Journal of Engineering,	2013	6 pages,
5.	Rajeshwari Pandey, Neeta Pandey, and S K Paul	2013	Electronically Tunable Transimpedance Instrumentation Amplifier Based on OTRA	Journal of Engineering,	2013	6 pages,
6.	V. Kumar, Bhanu P. Singh, Bramha P. Pandey.	2014	First - principle calculations of the elastic properties of $A^{\text{II}}B^{\text{IV}}C_2^{\text{V}}$ semiconductors.	Comput. Mater. Sci. (Elsevier)	87	227-231
7.	V. Kumar, S. K. Tripathy, Vijeta Jha and B. P. Singh.	2014	Second-harmonic generation properties of $A^{\text{II}}B^{\text{IV}}C_2^{\text{V}}$ chalcopyrite semiconductors.	Phys Lett. A (Elsevier)	278	519-523

8.	S. K. Tripathy and V. Kumar	2014	Electronic, elastic and optical properties of ZnGeP ₂ semiconductor under hydrostatic pressures.	Mat. Sci. Engg. B. (Elsevier)	182	52-58
9.	V. Kumar and S. K. Tripathy	2014	First-principle calculations of the electronic, optical and elastic properties of ZnSiP ₂ semiconductor	J. Alloys and Compds. (Elsevier)	583	101-107
10.	B.P. Pandey and V. Kumar	2013	Heat Capacity of BN and GaN binary semiconductor under high Pressure-Temperature (PT) from First-principles.	IOSR J. of Appl. Phys. (IOSR-JAP)	4	42-48
11.	Anamika and Vishnu Priye	2013	XPM and SPM induced crosstalk in WDM system employing distributed Raman amplifier for DPSK and OOK modulation format	Optical Fiber Technology	19	75-82
12.	S Roy, Vishnu Priye and S Kumar	2013	Performance analysis of dynamic erbium doped fiber amplifier simulator	Optical Engineering	52(4)	045009 - 1 - 11.
13.	S Roy, Vishnu Priye	2013	Performance analysis of an optically amplified add/drop wavelength division multiplexing fiber communication link	Optical Engineering	52(7)	076108 - 1 - 11.
14.	S. Kumar, S. Bhattacharya V. Dhiman and S. Mohapatra	2013	Performance Evaluation of a wavelet-based pitch detection scheme	International Journal of Speech Technology (Springer)	16	431-437
15.	R. Ranjan, D. Mitra	2013	Performance of HMM based Burst Error Modeling for CDMA and OFDM Transmissions	Journal of Wireless Networking and Communications	3(5)	63-73
16.	R.Ranjan, Dipen Bepari, Debjani Mitra	2013	Genetic Algorithm Based Finite State Markov Channel Modeling	Int. Journal of Wireless Comm. and Mobile Computing	1(4)	96-102
17.	Dharmendra Kumar, C M S Negi, S K Gupta, and Jitendra Kumar	2013	Effect of shape Anisotropy and Size on Electronic Structure of CdSe/ ZnSe Quantum Dots	IEEE Transactions on Nanotechnology	12	925

18.	C.M.S. Negi, Irfan A. Khan, Gireesh G. Soni Saral K. Gupta and Jitendra Kumar	2013	Performance analysis of coherently detected orthogonal wavelength division multiplexing scheme	Optik - Int. Journal for Light and Electron Optics	124	2758
19.	C.M.S. Negi, Saral K. Gupta, Dharmendra Kumar and Jitendra Kumar	2013	Nonlinear optical absorption and refraction in a strained anisotropic multi-level quantum dot system, and Jitendra Kumar	Superlattices and Microstructures	60	462
20.	C. M SNegi, Dharmendra Kumar, Saral K. Gupta, and Jitendra Kumar	2013	Theoretical Analysis of Resonant Cavity p-Type Quantum Dot Infrared Photodetector	IEEE Journal of Quantum Electronics	49	839
21.	Mrinal Sen and Mukul K. Das	2013	Raman mediated all-optical cascadable inverter using silicon-on-insulator waveguides	Optics Letters, OSA	38	5192-5195
22.	Mukul K. Das and Santosh K. Choudhary	2013	Ge-content Dependent Efficiency of Si/SiGe Heterojunction Solar cell	Applied Physics A, Springer	112	543-548
23.	Mrinal Sen and Mukul K. Das	2013	Determination of Resonance Frequencies in Silica Fiber using SRS Gain	Optical and Quantum Electro- nics, Springer	45	735-745
24.	R Dutta, S Gupta, M K Das	2013	Energy-Aware Chaotic Communication in Wireless Sensor Network	Applied Mechanics and Materials	367	536-540
25.	Yadav. R. K., Das S. and Yadava R. L.	2013	Investigations on Broadband Microwave Discone Antennas	Journal of Information, Intelligence and Knowledge	5	1-12
26.	R. K. Gayen and S. Das	2013	A High-Gain Broad-Band Waveguide Longitudinal Slot Array Antenna	Progress in Electromagnetic Research C, Electromagnetics Academy, USA.	44	239-249
27.	D. Gangwar, S. Das R. L. Yadava	2014	Reduction of Mutual Coupling in Metamaterial Based Microstrip Antennas: The Progress in Last Decade	Springer-Wireless Personal Communications	75	1-24

28.	S. Kumar and S. Jha	2013	Impact of elliptical cross section on the propagation delay of multi-channel gate-all-around MOSFET based inverters	Microelectronics Journal	44	844
29.	S. Jha and S. Kumar	2014	Comment on 'A compact drain current model of short-channel cylindrical gate-all-around MOSFETs'	Semicond. Sci. Technol.	29	038001
30.	O P Thakur, Santanu Dwari, and Alok K Kushwaha	2013	A new yagi-uda microstrip antenna with good f/b ratio	Int. Journal of Scientific & Engineering Research	4	2080-2082
31.	Mans Sarkar, Santanu Dwari, and Anitha Daniel	2013	Compact printed monopole antenna for ultra-wideband application with dual bandnotched characteristic	Microwave and Optical Technology Letters (MOTL), Interscience Wiley	55	2595-2600
32.	Sai K. Venkata, Muktikanta Rana, Pritam S. Bakariya, Santanu Dwari, and Manas Sarkar	2014	Planar Ultrawideband Monopole Antenna with Tri-Notch Band Characteristics	Progress in Electromagnetics Research C (PIERC) Electromagnetics Academy, USA.	46	163-170
33.	Ajay Kumar, Santosh Kumar S. K Raghuwanshi	2014	Implementation of Full-adder and Full-subtractor based on Electro-optic Effect in Mach-Zehnder interferometer	Optics Communication (Elsevier)	324	93-107
34.	Santosh Kumar S. K. Raghuwanshi, Ajay Kumar	2013	Implementation of Optical Switches by using Mach-Zehnder Interferometer	Optics Communication (Elsevier)	52	097-106
35.	Mandeep Singh and S. K. Raghuwanshi	2013	Microwave generation analysis with higher order dispersion in two cascaded mach zehnder modulator	Optik (Elsevier)	125	761-771
36.	S. K. Raghuwanshi, Santosh Kumar	2013	Eigenvalue Equation for an Asymmetric Left-Handed Meta-material Planar Slab Optical Waveguide	Indian Journal of Physics (Springer)	87	803-807

37.	Ajay Kumar, Sanjeev Kumar Raghuwanshi, Santosh Kumar	2013	53nm Wavelength Tunability due to a Curvature of S-Bend in Optical Power Splitter	The Int. Journal of Engineering and Science	2	60-77
38.	S. K. Raghuwanshi and Mandeep Singh	2013	Effect of higher order dispersion terms on microwave generation due to single mode fiber, dispersion shifted fiber and non-zero dispersion shifted fiber on lithium niobate mach-zehnder modulator	Int. Journal of electrical and electronics engineering research	125	761-771
39.	Ravi Kumar Gangwar, S. P. Singh and D. Kumar	2013	A New Four Element Wideband Rectangular Dielectric Resonator Antenna Array Terminated in a Bio-medium	Springer Wireless Personal Communications	73	663-677
40.	Ravi Kumar Gangwar, S.P. Singh and D. Kumar	2014	A Modified Fractal Rectangular Curve Dielectric Resonator Antenna Terminated in a Bio-medium	Signal and Imaging System3 Engineering	7	43-51
41.	R. K. Chaudhary, R. Kumar, K. V Srivastava	2013	Wideband Ring Dielectric Resonator Antenna with Annular-Shaped Microstrip Feed	IEEE Antenna and Wireless Propagation Letters (AWPL) (SCI)	12	595-598
42.	R. K. Chaudhary, K. V. Srivastava and A. Biswas	2013	A Practical Approach: Design of Wideband Cylindrical Dielectric Resonator Antenna with Permittivity Variation in Axial Direction and its Fabrication using Microwave Laminates	Microwave and Optical Technology Letters (MOTL), Wiley Journals (SCI)	55	2282-2288
43.	R. K. Chaudhary, K. V. Srivastava and A. Biswas	2013	Broadband Four-element Multi-layer Multi- permittivity Cylindrical Dielectric Resonator Antenna	Microwave and Optical Technology Letters (MOTL), Wiley Journals (SCI)	55	932-937

3.10.5.3 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Mourina Ghosh, and Sajal K. Paul	2014	Design of Grounded Immittance Simulator Using single CDBA	Journal of VLSI Design Tools and Technology	Vol. 3, No. 3	8-14
2.	S. K. Raghuwanshi, Vikram Palodiya, Ajay Kumar, Santosh Kumar	2014	Experimental Characterization of Fiber Optic Communication Link for Digital Transmission System	Journal on Communication Technology	5	-
3.	Ajay Kumar, Santosh Kumar Sanjeev Kumar Raghuwanshi	2013	Implementation of all-optical logic gate using SOA-MZI structures	Trends in Opto Electro and Optical Communications	3	1-9
4.	Sumit Kumar Jindal and Sanjeev Kumar	2013	A complete analytical model for circular diaphragm pressure sensor with clamped edge	i-manager's journal on circuit and systems	1	18-27
5.	Mandeep Singh and S. K. Raghuwanshi	2013	Analysis of the crosstalk in optical amplifiers	Journal on Communication Technology	4	744-749
6.	Mandeep Singh and S. K. Raghuwanshi	2013	Influence of chromatic dispersion , dispersion slop, dispersion curvature on microwave generation	Journal on Communication Technology	4	675-684
7.	Ajay Kumar, S. K. Raghuwanshi and Santosh Kumar	2013	Semi-vectorial analysis of parabolically versus exponentially tapered inbuilt chip-to-fiber butt coupler	Journal of Communication Engineering & Systems	3	11-15
8.	Mandeep Singh S. K. Raghuwanshi	2013	Comparative Analysis of Power Penalty versus Crosstalk in Optical Active Network Components like Erbium Doped Fiber Amplifier, Raman Amplifier and Semiconductor Optical Amplifier	Trends in Opto-Electro & Optical Communications	3	1-10

3.10.5.4 Papers presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	S. K. Tripathy and V. Kumar	Ab-initio Calculation of ZnGeAs ₂ Semiconductor	58 th DAE--Solid State Solid Physics Symposium	2013	Thapar University, Patiala
2.	S. K. Tripathy and V. Kumar	Theoretical investigations of structural, electronic and optical properties of ZnGeAs ₂ : under pressure	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
3.	V. Kumar, Vijeta Jha and Anita Sinha	Linear properties of ternary chalcopyrite semiconductors	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
4.	V. Kumar, Bhanu P. Singh S. K. Tripathy	First-principles calculations of the elastic properties of ternary chalcopyrite semiconductors	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
5.	Vishnu Priye and A R Mickelson	Multiple Scale analysis of low index subwavelength slot waveguide electrooptic modulator'	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
6.	J K Mishra and Vishnu Priye	Estimation of crosstalk in alpha index profile multicore fibers for optical interconnect applications	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
7.	Jaisingh T, Amitesh Kumar, and Vishnu Priye	Heuristic approach for survivability in WDM optical networks with impact of four wave mixing	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
8.	J K Mishra and Vishnu Priye,	Estimation of crosstalk in alpha index profile multicore fibers for optical interconnect applications'	Int. Conference on Advance Infocomm Technology (ICAIT 2013)	July 6 -9, 2013.	Hsinchu, Taiwan
9.	A. R. Jadhav and S. Bhattacharya	A Novel Approach to Wavelet Transform Based Edge Detection in Wide-band Spectrum Sensing	Int. Conference on Electronics and Communication Systems (ICECS)	13-14 Feb. 2014	Coimbatore, India

10.	Mitra, D.; Mahapatra,	FIS based cognitive radio scheduling	IEEE International Conference on, Fuzzy Systems (FUZZ), 2013	7-10 July 2013	Hydrabad
11.	Sneha Sharma and Jitendra Kumar	Solid core photonic crystal fiber for Supercontinuum Generation	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
12.	C. M. S. Negi, Dharmendra Kumar, Jitendra Kumar, Saral K. Gupta	Performance investigations of Muti-color, broadband Quantum dot infrared photodetector	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
13.	Dharmendra Kumar, C.M.S Negi, Jitendra Kumar Saral K. Gupta	Study of Gain Characteristics of GaAs/ GaAlAs Self Assembled Quantum Dots	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
14.	Mrinal Sen, Tanmoy Datta and Mukul K. Das	Effect of Geometry and Reverse Bias on Free Carrier Lifetime in p-i-n Structured Optical Rib Waveguide	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
15.	Santosh K. Choudhary, Ravi Ranjan and Mukul K. Das	Performance Analysis of Si/SiGe Double Junction Solar Cell	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
16.	Mrinal Sen, and Mukul K. Das	Stimulated Raman Scattering based All-Optical Logic Inverter using Tellurite Fiber	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
17.	Md. Aref Billaha and Mukul K. Das	Performance Analysis of III-V Based Long Wavelength QWIP	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
18.	Bindu Priyadarshini and Mukul K. Das	Modeling and Analysis of Core-Shell p-n Junction Si Nanorod Solar Cell with Pyramidal Structure	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad

19.	Santosh K. Choudhary and Mukul K. Das	On the Temperature Dependent Efficiency of SiGe/Si Heterojunction Solar Cell	Int. Conf. on Microwave and Photonic (ICMAP 2013)	Dec 13-15, 2013	ISM Dhanbad
20.	Yadav, R.K., Das, S. and Yadava, R.L	DGS Based Microstrip Patch Antennas for UWB Systems	IACC-2013	2013	Ghaziabad
21.	Thakur, S., Yadava, R.L. and Das, S.	A Review on Adaptive Frequency Selective Surfaces (AFSS) based Patch Antennas	IEEE ComComp Ap 2013, CNIT-2013	2013	Hong Kong, SAR China
22.	S. Mishra, S. Das and S. S. Pattnaik	Array of SIW Resonant Slot Antenna for V Band Applications	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
23.	Ram M., Das S. and Yadava R. L.	A Novel Trapezoidal Printed Fractal Multiband Antenna	Int. Conf. on Microwave and Photonic	2013	ISM Dhanbad
24.	Gangwar D., Das S. and Yadava R. L.	Multiband Microstrip Staked Patch Antenna using CSRR	Int. Conf. on Microwave and Photonic	2013	ISM Dhanbad
25.	Bage A. and Das S.	Studies of Some Non Conventional Split Ring and Complementary Split Ring Resonators for Waveguide Band Stop & Band Pass Filter Application	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
26.	Hussain I., Das S. and Tiary M. G.	An Ultra Wideband Bandpass Filter using Microstrip Stub Loaded Resonators	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
27.	Yadav R. K., Das S. and Yadava R.L	Performances Analysis of a 5 GHz Rectenna for Indoor Applications	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
28.	Gayen R. K. and Das S.	Moment Method Analysis of Dual Slot Coupled Broad Wall Slot Coupler using Multiple Cavity Modeling Technique	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad

29.	Gayen R. K. and Das S.	Moment Method Analysis of Dual Slot Coupled H Plane Waveguide Tee junction using Multiple Cavity Modeling Technique	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
30.	Murmu L. and Das S.	Hexagonal Bandpass Filter using Open End Step Impedance Stub Perturbation	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
31.	Yadav R. K., Das S. and Yadava R.L	Complete CAD based Parametric Analysis and Designing of UWB Bicone and Discone Antennas	ICCCCM-2013	Sept. 2013	Noida, India
32.	Mohan A., Yadav M., Kumar J., Yadav R. K. and S. Das	Complete Cad based Parametric Analysis and Designing of Modified Bow Tie Aperture Coupled Patch Antenna	CONFLUENCE	Sept. 2013	Noida, India
33.	Jhuma Saha, Amrita Kumari Shankaranand Jha and S. Kumar	On the Voltage Transfer Characteristics (VTC) of some Nanoscale Metal-Oxide-Semiconductor Field-Effect-Transistors (MOSFETs)	17th International Workshop on The Physics of Semiconductor Devices (IWPSD 2013)	10-13 Dec. 2013	Amity University, Noida.
34.	Soumen Sen, S. S. K. Sinha and S. Kumar	On the Optical absorption Spectra of as-grown III-V Quantum Dot Systems	Int. Conf. on Microwave and Photonic (ICMAP 2013)	10-13 Dec. 2013	ISM Dhanbad
35.	Amrita Kumari and S. Kumar	Analysis of Nanoscale Strained-Si/SiGe MOSFETs including Source/Drain Series Resistance through a Multi-Iterative Technique	27 th International Conference on VLSI Design 2014 (VLSID 2014)	5-9 Jan. 2014	IIT Bombay, Mumbai.
36.	Shankaranand Jha, Jhuma Saha and S. Kumar	Tuning the noise margins of Gate-All-Around MOSFET based inverters through non-circular multi-channel architecture. [Paper received BEST PAPER AWARD]	International Conference on Advances in Electrical Engineering 2014 (ICAEE 2014)	9-11 Jan. 2014	VIT University, Vellore

37.	Pritam Singh Bakariya and Santanu Dwari	A New Compact Planar ultra-wideband Microstrip Patch antenna	3rdInt. Conf. on Advanced Computing & Commu. Techno. (ACCT-2013)	2013	Rothak
38.	Pritam Singh Bakariya and Santanu Dwari	Compact proximity coupled multi-band patch antenna	2013 IEEE Intl. symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting (APS/ USNC-URSI,2013)	2013	Oelando, Florida, USA
39.	Dinesh Kumar Singh, Binod kumar Kanaujia, Santanu Dwari and Ganga Prasad Pandey	L-Strip Fed Circularly Polarised Microstrip Antenna with Cross Slots	Int. Conf. on Microwave and Photonic (ICMAP 2013)	10-13 Dec. 2013	ISM Dhanbad
40.	Ashmi Chakraborty Das, Lakhindar Murmu, and Santanu Dwari	A Compact Branch-Line Coupler using Folded Microstrip Lines	Int. Conf. on Microwave and Photonic (ICMAP 2013)	10-13 Dec. 2013	ISM Dhanbad
41.	Rohit Kumar Saini, and Santanu Dwari	CPW-fed Broadband Circularly Polarized Microstrip Rectangular Slot Antenna with circular shaped tuning Stub	Int. Conf. on Microwave and Photonic (ICMAP 2013)	10-13 Dec. 2013	ISM Dhanbad
42.	Mukesh Kumar Khandelwal, Binod Kumar Kanaujia, S. Dwari, and Sachin Kumar	Design And Analysis of Microstrip DGS Patch Antenna With Enhanced Bandwidth for Ku Band Applications	Int. Conf. on Microwave and Photonic (ICMAP 2013)	10-13 Dec. 2013	ISM Dhanbad
43.	Monika Singh, Navneet Kumar, S. Dwari and Pradyot Kala	Bandwidth enhancement using small triangles on sierpinski fractal	2013 Int. Conference on . Signal Processing and Communication (ICSE)	2013	Noida

44.	Rohit Kumar Saini, and Santanu Dwari	CPW-fed Broadband Circularly Polarized Microstrip Rectangular Slot Antenna with triangular fractal slots in tuning Stub	IEEE Applied Electromagnetic Conference 2013	2013	Bhubaneswar
45.	Nirmal Kumar Mahali, Santanu Dwari, and Rohit Kumar Saini	Design and analysis of cylindrical dielectric resonator antenna using substrate integrated waveguide for X-band application	2014 Fourth Intl. Conference on Advanced Computing & Communication Technologies (ACCT-2014)	2014	Rothak
46.	Vikram Palodiya, Santosh Kumar Ajay Kumar S. K. Raghuwanshi	Dispersion Properties of Solid Core Bragg Fiber having an Arbitrary Refractive Index	Int. Conf. on Microwave and Photonic (ICMAP 2013)	13-15 Dec. 2013	ISM Dhanbad
47.	Ajay Kumar, S. K. Raghuwanshi, Santosh Kumar	Analysis of Various Optical Filtering Techniques	Int. Conf. on Microwave and Photonic (ICMAP 2013)	13-15 Dec. 2013	ISM Dhanbad
48.	Reena Sharma and S. K. Raghuwanshi	Matlab simulink based test bed of QW laser for optical	Int. Conf. on Microwave and Photonic (ICMAP 2013)	13-15 Dec. 2013	ISM Dhanbad
49.	Santosh Kumar S. K. Raghuwanshi, Ajay Kumar	1 × 8 Signal Router Using Cascading The Mach-Zehnder Interferometers	6 th IEEE/Int. Conference on Advanced Infocomm Technology	July 2013	Hsinchu, Taiwan
50.	Ajay Kumar, S. K. Raghuwanshi, Santosh Kumar	Analysis of comb filter using Mach-Zehnder Interferometer	6 th IEEE/Int. Conference on Advanced Infocomm Technology	July 2013	Hsinchu, Taiwan
51.	N. Mandal, Brajesh Kumar, G.Rajita, Bikas Mondal	A Modified Design of a Flow Transmitter Using Rotameter as a Primary Sensor and LVDT as a Transducer	Int. Conference on Control, Instrumentation, Energy & Communication (CIEC14),	Jan. 31- Feb. 02, 2014	University of Calcutta, India

52.	Sudhir Bhaskar Ravi Kumar Gangwar and S. P. Singh	Simulation Study On H-Shaped Log Periodic Microstrip Antenna Array	Antenna Testing and measurement society (ATMS-2014)	February 02, 2014	Chennai
53.	Ravi Kumar Gangwar, Abishek Aigel and Pinku Ranjan	Four element dual segment Triangular dielectric resonator antenna for wideband Application	Antenna Testing and measurement society (ATMS-2014)	February 02, 2014	Chennai
54.	Pinku Ranjan and R. K. Gangwar	Two element half split cylindrical dielectric resonator antenna for wide band Monopole like Radiation	IEEE Applied Electromagnetic Conference 2013	Dec. 2013	Bhubaneswar
55.	Anshul Gupta and Ravi Kumar Gangwar	Four-Element High Gain Conformal Strip Excited Rectangular Dielectric Resonator Antenna Array	IEEE Applied Electromagnetic Conference 2013	Dec. 2013	Bhubaneswar
56.	A. K. Singh, Ravi Kumar Gangwar and Binod K. Kanaujia	Bandwidth Enhancement of L-Probe Proximity-Fed Annular Ring Microstrip Slot Antenna	Int. Conference on Advance Infocomm Technology (ICAIT 2013)	July 6 -9, 2013.	Hsinchu, Taiwan
57.	A. K. Singh, Ravi Kumar Gangwar, Binod K. Kanaujia and Abhishek Sharma	Effect of Cylindrical Cavity Enclosure on Resonance Frequency of Annular Ring Microstrip Antenna	Int. Conf. on Microwave and Photonic (ICMAP 2013)	13-15 Dec. 2013	ISM Dhanbad
58.	Pinku Ranjan, Ravi Kumar Gangwar	Four element rectangular dielectric resonator antenna for 5.0 GHz WLAN and WiMAX band application	Int. Conference on Advance Infocomm Technology (ICAIT 2013)	July 6 -9, 2013.	Hsinchu, Taiwan
59.	Ravi Kumar Gangwar and S. P. Singh	A low profile wideband slotted square dielectric resonator antenna	European Conference on Antenna and Propagation (EuCAP-2013),	9-13 April 2013	Gothenburg, Sweden

60.	Manan Temani, Rohank Agarwal, Rhythm Kohli, and Mrinal Sen	Smart Approach to Traffic Management Using LabVIEW	Proceeding of Fifth Int.Conference on Intelligent Systems, Modelling and Simulation, ISBN 978-1-4799- 3857-5, p 62	27-29 January, 2014.	Langkawi, Malaysia.
61.	Rajeev K. Ranjan, Y. S. Prasanna Kumar, S. Sorya, Sajal K. Paul, M. Ghosh	Efficient active filter for filtering of harmonics in biomedical signals	3rd International Conference on Biomedical Engineering and Assistive Technologies : BEATS 2014	14-15 Feb, 2014	PHD Chamber of Commerce Chandigarh
62.	Devendra Chack, S. K. Raghuwanshi, V. Kumar, Niteshkumar Agrawal	Analyzing the Optimum Parameter of an 1×2 MMI Splitter	IEEE-International Conference on . Communication Systems and Network Technologies, (CSNT-13)	April 6-8	Gwalior
63.	R. K. Chaudhary, K. V. Srivastava and A. Biswas	A Concentric Three-layer Half-split Cylindrical Dielectric Resonator Antenna for Wideband Applications	URSI International Symposium on Electromagnetic Theory (EMTS)	May 20-24, 2013	Hiroshima, Japan
64.	R. Kumar, R. K. Chaudhary and K. V. Srivastava	Annular Shape Microstrip Feeding Technique for Cylindrical and Half-split Cylindrical Dielectric Resonator Antenna for Broadband Applications	IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting	July 7-12, 2013	Florida, USA
65.	R. K. Chaudhary, K. V. Srivastava and A. Biswas	Dual-Band Cylindrical Dielectric Resonator Antenna with Varying Permittivity in ϕ -direction	IEEE Int. Sympo- sium on Antennas and Propagation and USNC-URSI National Radio Science Meeting	July 7-12, 2013	Florida, USA
66.	Prachi, R. K. Chaudhary and K. V. Srivastava	Wideband Cylindrical Dielectric Resonator Antenna excited by a rounded bevel shaped patch	IEEE Int. Sympo- sium on Antennas and Propagation and USNC-URSI National Radio Science Meeting	July 7-12, 2013	Florida, USA

67.	A. Srivastava, R. K. Chaudhary, A. Biswas, M. J. Akhtar	Dual-band L-shaped SIW Slot Antenna	Int. Conf. on Microwave and Photonic (ICMAP 2013)	2013	ISM Dhanbad
68.	K Mazumdar, A Ghosal and V P Singh	Study of temperature dependent mobility in AlGa _N /AlN/GaN heterostructures due to various scattering	Int. Conf. on Scattering and Diffraction Techniques For Material Characterization	13-15 Dec 2013	NIT, Rourkela

3.10.5.5 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Rupam Das and Sajal K. Paul	Voltage Mode Amplifier, Integrator and Differentiator using Differential Difference Current Conveyor (DDCC)	Emerging Trends in Engineering and Sciences	30-31 January 2014.	Asansol Engineering College, Asansol
2.	Yadav R. K., Das S. and Yadava R.L	Square Patch Antenna with Inverted T-Shaped Notch in the Ground Plane for Broadband Application	NCECIS-2013	October, 2013	Greater Noida, India
3.	Yadav R. K., Das S. and Yadava R.L	A Novel Small Sized Biconical Antenna for ISM Band Applications	RAMCWC-2013	October, 2013	Greater Noida, India
4.	Amrita Kumari and S. Kumar	Impact of Some Important Parameters on the Drain Current and Threshold Voltage of Nanoscale Strained-Si MOSFETs	3rd N. Conf. on Electronics, Com- munication and Signal Processing (NCECS-2013)	19th Sept. 2013	Siliguri institute of Technology, Siliguri, W. Bengal
5.	Ajay Kumar, S. K Raghuwanshi, Santosh Kumar	Photonic crystal Fiber Sagnac loop as a Flat top Comb-Filter	National Conf. on Emerging Trends in Engineering and Science	January 30-31, 2014	Asansol
6.	Vikram Palodiya, S. K. Raghuwanshi, Ajay Kumar, Santosh Kumar	Effect of various Parameters on LiNbO ₃ Modulator using Sellmeier's Equation	National Conf. on Emerging Trends in Engineering and Science	January 30-31, 2014	Asansol

7.	Brajesh Kumar, R. Sarkar and N. Mandal	A Modified Design of a Hydrostatic Level Transducer using Bourdon Tube	National Conf. on Emerging Trends in Engineering and Science (ETES) 2014	January 30-31, 2014	Asansol
8.	G.Rajita, R. Sarkar, N.Mandal	Design of an Inductive Pick up Type Flow Transducer Using Rotameter	National Con. on Emerging Trends in Engineering and Science (ETES) 2014	January 30-31, 2014	Asansol
8.	Deblina Banerjee, N. Mandal	Design of a PC based Flow Indicator Using AD590 as a sensor	National Con. on Emerging Trends in Engineering and Science (ETES) 2014	January 30-31, 2014	Asansol

3.10.6 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPT/CENTRE

International Conference on Microwave & Photonics, ICMAP 2013 General Chair: Prof. Vishnu Priye Convener: Dr. Mukul K. Das Co-Convener: Dr. Subindu Kumar Technical Secretaries: Dr. J. Kumar and Dr. Sushrut Das Treasurer: Dr. Santanu Dwari	Dec 13-5, 2013
Workshop on Java and PHP, conducted by GlobSyn India Pvt. Ltd (TEQIP sponsored)	13 th Feb 2014 to 16 th Feb 2016

3.10.7 PARTICIPATION OF FACULTY/OFFICERS/ STAFF IN SEMINARS/ CONFERENCES ETC

Faculty Name	Seminar/Conference	Date	Place
Prof. Vishnu Priye	Invited talk in Workshop on Recent Advances in Photonics WRAP 2013.	Dec 13-15, 2013	IIT Delhi, New Delhi
Prof. Vishnu Priye	Invited talk in Indo UK Seminar on Computational Photonics	March 1-3, 2014	IIT Delhi, New Delhi
Prof. Debjani Mitra	Technical Summit, "Educators Day, organized by National Instruments	2 nd Sept. 2013	Chennai
Dr. Santanu Dwari	2013 IEEE International symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting(APS/ USNC-URSI,2013)	7-13 July, 2013	Oelando, Florida, USA
Dr S. K. Raghuwanshi	National Conference on Emerging Trends in Engineering and Science (ETES)	Jan. 30-31, 2014.	Asansol

Instrumentation work Shop IIIT Allahabad	National Conference on Emerging Trends in Engineering and Science (ETES)	March 5-8, 2014	Allahabad
Dr. N. Mandal	International Conference on Control, Instrumentation, Energy & Communication (CIEC14),	January 31-February 02, 2014	University of Calcutta, India
Dr R.K.Gangwar	International workshop on Advanced Antenna Technology (Indian Antenna Week 2013)	02-07 June 2013	Aurangabad Maharashtra India
All faculty Members of Electronics Engg.	International Conference on Microwave and Photonics (ICMAP-2013)	13 th -15 th December 2013	ISM, Dhanbad
Dr R.K.Gangwar	Antenna Testing and Measurement Society (ATMS-2014),	10-12 Feb. 2014	Chennai, India
Devendr Chack	Workshop on Recent Advances in Photonics (WRAP2013).	Dec. 17-18, 2013	IIT-Delhi
Mr. Jaisingh Thangaraj	International Workshop on Recent Trends on Photonics	Dec. 17-18, 2013	IIT-Delhi
Mr. Amitesh kumar	Attended workshop on Recent Advance in Photonics (WRAP-2013) at IIT Delhi in December 2013.	Dec. 17-18, 2013	New Delhi

3.10.8 VISITS OF FACULTY MEMBERS ABROAD

- **Prof. Vishnu Priye**, Head, Electronics Engineering Department was Visiting Faculty at University of Colorado, Boulder, US from June 1, 2013 to August 31, 2013.
- **Dr. Santanu Dwari** participated 2013 IEEE International symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting (APS/ USNC-URSI, 2013) during 7-13 July, 2013 in Oelando, Florida, USA.

3.10.9 DISTINGUISHED VISITORS TO THE SCHOOL (INDICATING OCCASION/PURPOSE)

Prof. Alan Mickelson, University of Colorado	To participate ICMAP-2013
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3.10.10 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Dr T Srinivas, ECE Department, IISC Bangalore delivered a Lecture on “MOEMS”.	5 th April, 2013
Prof M R Shenoy, Physics Department, IIT Delhi, New Delhi delivered a Lecture on “Optical Couplers”.	27 th September, 2013

3.10.11 MISCELLANEOUS :

<p>Prof. V. Kumar</p> <ul style="list-style-type: none">• Key note speaker at Nat. Conf. on Latest Advances, Trends in Electronic Science & Technology (LATEST-2014) held at Shivaji Univ., Kolhapur during 14-15 Feb. 2014. He was also member of Advisory Committee for SAP Project, Shivaji Univ, Kolhapur as an UGC Nominee.• Member of Review Committee meeting of DeitY sponsored project at CSIR-CIMFR on 5.3.2014 as a DeitY nominee.• An expert of interview board for the appointment of Asstt. Prof. at UCET, Vinoba Bhave Univ., Hazaribad during the year.•-An Examiner of a Ph. D. thesis entitled “Development of Fuzzy Logic Based Improvement Schemes for Wireless Sensor Networks” of IIIT Allahabad and also conducted Viva-voce Exam. of the same on 7.3.2014• Prof. V. Kumar attended General Body Meeting of District e-Governance Society, Dhanbad during the year.• Member, Selection Committee for Project Fellows, CIMFR, Dhanbad.• Examiner for M. Tech Projects and conducted Viva-Voce Exam at NIT Jamshedpur on 8.7.2013.
<p>Dr. Mukul K. Das</p> <ul style="list-style-type: none">• Supervised one Ph. D. (Degree awarded by a student for the Thesis entitled “Some Studies on the Design of Si/SiGe Based Thin Film Solar Cell”

3.11 Department of Environmental Science and Engineering

Centre of Mining Environment was created by the Ministry of Environment and Forest in 1987 at ISM, Dhanbad as a Centre of Excellence in Mining Environment. The Department of Environmental Science & Engineering was established out of the existing Centre of Mining Environment in June 2007 with the commencement of a regular B.Tech program in Environmental Engineering under IIT-JEE (first of its kind offered by any national institute).

3.11.1 FIELD VISITS/EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
Field visit of M.Tech and Ph.D. scholars	IV M.Tech and Ph.D students	Sidhi, Singrauli, Devsar, Petarwar (Bokaro)	One week (June and August) 2013

3.11.2 BEST PRACTICES OF THE DEPT.

The Department of Environmental Science & Engineering is created out of existing Centre of Mining Environment (Established in 1987 as centre of excellence in the field of mine environment by the Ministry of Environment and Forests, Govt. of India) at Indian School of Mines in June 2007 with the commencement of a regular B.Tech program in Environmental Engineering under IIT-JEE (first of its kind offered by any national institute) covering the following practices:

- (i) Offers basic engineering and science subjects on Air, Water and Soil Quality Monitoring, Assessment and Management; Socio-economic Aspects; Environmental Legislation, EIA, Environmental Audit; Environmental Chemistry, Ecology & Environmental Microbiology, Environmental Geotechnology, Wastewater Engineering, Soil Mechanics, Fluid Mechanics & Hydraulics, Remote Sensing & GIS, etc.
- (ii) The Department offers Environmental Leadership Projects starting from III semester onwards to individual student to carry out research projects throughout the programme.
- (iii) The Department has the state of the art facilities for laboratory 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.

- (iv) The Department has an Environmental Information System on Mining Environment (MINENVIS) with a distinctive web-site: geocities.com/envis_ism and maintains a database management system to cater the requirements of various users/ stakeholders of the mineral industry and regularly publishes Newsletters and Monographs.
- (v) The MINENVIS has been upgraded to “A” category by Ministry of Forestry & Environment, GOI.
- (vi) Department has revised & upgraded the UG & PG syllabus.
- (vii) Emphasis on topics of current interest in the academic program and project based learning instead of the traditional subjects and examination centric pedagogy.
- (viii) 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.
- (ix) The B.Tech. Program of the Department has been strengthened by introduction of greater emphasis on project work and continuous monitoring.
- (x) Encouragement of creative project work in under-graduate, post-graduate and research programs.
- (xi) A large number of new and sophisticated equipments and technical software's have been added to our laboratories and computer centre to improve and strengthen the quality of education of the Department.
- (xii) Emphasis on 100% attendance in all courses.
- (xiii) Job function of faculty and staff has been redefined in terms of creative work rather than dissemination of existing knowledge.
- (xiv) Each of the faculty members of the Department has been nominated as faculty adviser of the students for their personal counseling.

3.11.3 BRIEF LIST OF ON-GOING R&D PROJECTS (PROJECT VALUE RS. 5,00,000/- AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
ENVIS Centre on Environmental Problems of Mining	Ministry of Environment & Forests (MoEF)	Prof. A K Pal Dr. M K Jain Dr. Vipin Kumar	₹ 10.50 (2013-14)	1991	continue	Systematically collect, collate, store and disseminate information related to mining environment.	Ongoing	Information dissemination and website on mine environment
Disinfection By-products Formations and Their Management in Water Supplies in India	Ministry of Rural Development (GoI), New Delhi	Dr. S. K. Gupta, ASP/ESE	₹ 7.38	March, 2011	Dec, 2013	To find out the DBPs in drinking water	Completed	Establish the statistical correlation of DBPs in drinking water along with concentration study of DBPs in various water treatment plant.
Estimation of aquifer potential in Jharia coal mining region with suitable techniques to improve the recharge	MoWR	Dr. P. K Singh	₹ 28.547 lakhs	26.03.2012	26.03.2015	Develop a techniques to improve the recharge of aquifer in Jharia coal mining region	Ongoing	1. Water table in the area is highly fluctuating. 2. Aquifer of mining areas are disturbed.
Assessment of groundwater level fluctuations with respect to changing patterns of rainfall in Jharia coal mining region	UGC	Dr. P. K Singh	₹ 9.256 lakhs	01.07.2012	01.07.2014	To evaluate the relationship between rainfall and aquifer recharge of the region and suggest conservation aspects in suitable region of the study area.	Ongoing	1. Rainfall pattern is very much irregular. 2. Water table is having different depth at mining and non-mining.
Electro Kinetic Removal of Toxic Contaminants from Municipal Sewage Sludge	ISM Dhanbad	B. K. Mishra	₹ 8.65 Lakh	31-03-2013	Ongoing	To find out the basic sludge properties, removal efficiency of toxic elements in sludge.	Fund allocated	Basic data were generated. Laboratory study will start from July 2014.
Physical and chemical characterization of PM for Dhanbad city to identify the contribution from traffic sources	ISM Dhanbad	S Pandian E	₹ 9.9 Lakh	31-03-2013	Ongoing	Assessment of present air quality status of Dhanbad city by means of ambient PM concentration in influence of vehicle type and fuel used.	Ongoing	In-progress
Regional Environmental Impact Assessment of Goa Mining Region	MOEF	Prof. Gurdeep Singh	₹ 202.00	April 2011	May 2014	To identify environmentally sensitive Hot Spots development and evaluation of scenarios through sustainability criteria.	Completed	The Environmental components (Air & Noise, water, land) quality status and water quality was determined. Water quality was majorly impacted by enhancement of turbidity in water body. Hot Spots are identified regional environmental monitoring plan and Environmental decision support system was developed.

3.11.4 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
SES (JNU), NMDC (Sandur, Bellary)	Analysis of soil texture, trace elements in soil and ground water samples

3.11.5 IMPORTANT NEW EQUIPMENT ACQUISITION (ABOVE RS.5,00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
IAQ VOC meter	Air pollution lab/ Real time monitoring of ambient & indoor concentrations of VOC, carbon dioxide, temperatures and relative humidity	2014	Rs. 5.01 Lakhs
GRIMM real-time portable aerosol monitor	Air pollution lab/ Simultaneous Measurement of 32 size ranges of Ambient Particulates	2014	Rs. 17.5 Lakhs

3.11.6 RESEARCH PUBLICATIONS

3.11.6.1 Books published

Prof. A.K. Pal, Dr. M.K. Jain and Dr. Vipin Kumar edited following News letter (MINENVIS) ISSN 0972-4648.

Sl. No.	Particulars	Volume Number	Period	Description
1.	MINENVIS Newsletter	77	June 2013	Remediation of Mine Waste
2.	MINENVIS Newsletter	78	September 2013	Water Treatment
3.	MINENVIS Newsletter	79	December 2013	Sustainable Development
4.	MINENVIS Newsletter	80	March 2014	Air Pollution

3.11.6.2 Book reviews/contribution of chapters in a book

Review/Evaluation of Research Project Report made by Prof. A. K. Pal

1. Evaluation of Project entitled “ Development of a predictive model for SPM concentration in surface mines using soft computing approach” submitted

by Dr Suranjan Sinha (PI) and Dr. Subhabrata Dutta (Co-PI), Bengal Engineering and Science University, Shibpur, West Bengal for Ministry of Science and Technology, Department of Science and Technology, GOI, New Delhi.

2. Research Proposal on “Development of a workable solution for acid mine drainage problem in Meghalaya and other Indian States” submitted by Dr Sudipta Sarkar, Dept of Civil Engg., Indian Institute of Technology, Roorkee, Uttarakhand 247667. Review Report was submitted to Mrs Sujata Khaparde, Additional Director (S0, Paryavaran Bhawan, CGO Complex, Lodhi Road, New-Delhi-110003 on 04.09.2013.
3. Research Proposal on “A Biological approach on Bioremediation of Heavy Metals in Indian mines and industrial wastes” submitted by Dr S T Girisha, Assistant Prof, Dept of Microbiology and Biotechnology, Jnanabharathi Campus, Bangalore University, Bangalore-560056. Review Report was submitted to Mrs Sujata Khaparde, Additional Director (S0, Paryavaran Bhawan, CGO Complex, Lodhi Road, New-Delhi-110003 on 19.11.13
4. Research Proposal on “Revegetation of Coal mine spoils and overburden with selected multipurpose legume tree species using multiagent bioinoculant” submitted by Dr. P Srinivas, Asstt Prof, Dept of Biotechnology, Kakatia University, Warangal, AP. Review Report was submitted to Mrs Sujata Khaparde, Additional Director (S0, Paryavaran Bhawan, CGO Complex, Lodhi Road, New-Delhi-110003

Review of Paper

- ❖ **Review of paper entitled “A GIS based DRASTIC Model for assessing Groundwater Vulnerability in Hard Rock Graitic Aquifer” for *Arabian Journal of Geo-Sciences* on 19.11.13.**

Paper Reviewed by Dr. M. K. Jain

1. Spatial Changes of Estuary in Ernakulum District, Southern India for Last Seven Decades, using Multi-Temporal Satellite Data (JEMA-D-13-01693)

Contribution of chapters in a book by Prof. Gurdeep Singh

1. Best Environmental Management Practice of Responsible Mining. Published Chapter in Book “Environmental Science”, Edited by Prof. (Dr.) S.N. Kaul, Dr. D. R. Saini and Prof. (Dr.) B.N.Rai, Published by APH Publishing Corporation, 4435-36/7, Ansari Road, Darya Ganj, New Delhi. ISBN 978-93-313-1870-1, pp. 219-234, 2013.

2. Best Management Practices on Environmental and Social Aspects of Mining. Published Chapter in Book "Mining Economic, Environmental and Social Implications" Editors: Padmaja Mishra and Amarendra Das, Abhijeet Publications, New Delhi, 2013 pp 150-171.
3. Environmental Aspects of Coal Combustion Residues from Thermal Power Plants. Published Chapter in Book "Thermal Power Plants Advanced Applications" Edited by: Md. Rasul, Publisher INTECH, ISBN 978-953-51-1095-8, April 2013.

3.11.6.3 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Mandal, B.B., Pal, A. K., Sishodia, P.K	2013	Vibration Characteristics of Mining Equipment used in Indian Mines and their Vibration Hazard Potential.	Intl. Journal of Environmental Health Engineering	2(4)	14-22
2.	Amit K. Mishra Subodh Kumar Maiti, Asim Kumar Pal	2013	Status of PM ₁₀ bound heavy metals in ambient air in certain parts of Jharia coal field, Jharkhand	Intl. Journal of Environmental Sciences,	4(2)	141-150
3.	Mukhopadhyay S, Maiti S.K and R.E. Masto	2013	Use of Reclaimed Mine Soil Index (RMSI) for screening of tree species for reclamation of coal mine degraded land	Ecological Engineering	57	133-142
4.	Kumar S., S. Chaudhuri and S.K. Maiti	2013	Soil Dehydrogenase Enzyme Activity in Natural and Mine Soil - A Review	Middle-East Journal of Scientific Research	13	898-906
5.	Mishra, AK, Maiti SK and Pal, AK	2013	Status of PM ₁₀ bound heavy metals in ambient air in certain parts of Jharia coal field, Jharkhand, India	Middle-East Journal of Scientific Research	4	898-906
6.	Chowdhury, A and Maiti SK	2013	Effect of anthropogenic pollution on mangrove biodiversity: A review	J of Environmental Protection	4	1428-1434
7.	Maiti, D and Maiti SK	2014	Ecorestoration of waste dump by the establishment of grass-legume cover	Int J of Scientific & Technology Res	3	37-41
8.	Chowdhury A., P. Sanyal and S K Maiti	2014	Ethnobotanical Understanding of Mangroves: An Investigation from Central Part of Indian Sundarbans	Int J Botany and Research	4	29-34

9.	Chowdhury A. and S K Maiti	2014	A comparative study of variations in Mangrove biodiversity at Central and Eastern parts of the Sundarban Biosphere Reserve, India	Am Int J of Res in Formal, Applied and Natural Sc	5	27-31
10.	Shibam Mitra, S.K. Gupta	2013	Biodegradation of tetrachloroethylene-rich synthetic wastewater in anaerobic hybrid reactor	Desalination and Water Treatment	51	4506-4513
11.	Swati Tomar, S.K. Gupta	2013	Early start-up of Anamox Reactor....A Review	Int. J. of Environmental Research and Development	3(4)	36-41
12.	Swati Tomar, S.K. Gupta	Dec. 2013	Water Quality Indices Used for Water Resources Vulnerability Assessment Using GIS Technique	International Journal of Earth Sciences and Engineering	06(01)	1594-1600
13.	P.K. Singh, Ritu Ranjan Sinha and Monisha Awasthi	Dec. 2013	Water Poverty Index: A Tool for Sustainable Water.	International Journal of Earth Sciences and Engineering	06(01)	1608-1613
14.	Prasoon Kumar Singh, Ashwani Kr. Tiwari and Mukesh Kr. Mahato	July-Sept. 2013	Qualitative Assessment of Surface Water of West Bokaro Coalfield, Jharkhand by Using Water Quality Index Method	International journal of Chem. Tech Research	05(5)	2351-2356
15.	Gurdeep Singh and Prasoon Kumar Singh	Aril 2013	Some Indian Initiatives towards Managing Climate Change Impacts."	Journal of sustainable Planet	4(1)	57-72
16.	Avantika Chandra, M. K. Jain	2013	Evaluation of Heavy Metals Contamination due to overburden Leachate in Groundwater of coal Mining Area	Jour. of Chemical, Biological and Physical sciences (An international peer review E-3 Jour. of sciences)	3(3)	2317-2322
17.	Anshumali, Manisha Rani, Sanjay K Yadav, Ashish Kumar,	2014	Geochemical alterations in surface waters of Govind Ballabh Pant Sagar, Northern Coalfield, India	Environ Earth Sci	71	3181-3193

18.	Lama, Y., Sinha, A., Singh, G.	2013	Mobilization of Nano Zero Valent Iron (n-ZVI) Particles in Subsurface	Int. J. Res. Engg. Tech.	2(8)	365-369
19.	Raja Kumar and Alok Sinha	2013	Degradation of Mono-Azo Dye in Aqueous Solution Using Cast Iron Filings	Int. J. Res. Engg. Tech.	2(9)	227-231
20.	Lama, Y., Sinha, A., Singh, G.	2013	Treatment of Endosulfan by High Carbon Iron Filings (HCIF)	Int J Environ Engg and Mgt.	4(3)	177-184
21.	Mukherjee, R., Kumar, R., Lama Y., Sinha, A. and Kumar, Vipin	2013	In-Situ remediation of Groundwater Contaminated by Heptachlor using Nano Iron particles Extracted from Steel Industry Waste (S-nZVI)	Int. J. Environmental Research & Development	3(6)	1-4
22.	Vipin Kumar	2014	Characterization, Bio-Formulation Development and Shelf-Life Studies of Locally Isolated Bio-Fertilizer Strains	Octa Journal of Environmental Research	2(1)	32-37
23.	Vipin Kumar and A. Chandra	2013	Microbiological quality monitoring of raw eaten salad vegetables	Int. J. Multidisciplinary Research	2(7)	25-28
24.	Debishree Khan and S. R. Samadder	2014	Application of GIS in Landfill Siting for Municipal Solid Waste.	Int. J. of Environmental Research and Development	4(1)	37-40
25.	Sneh Lata and S. R. Samadder	2014	Removal of Heavy Metals Using Rice Husk: A Review	Int. J. of Environmental Research and Development	4(2)	165-170
26.	Debananda Roy and Gurdeep Singh	2014	Chemical Characterization and Particulate Distribution of PM ₁₀ and PM _{2.5} at Critically Polluted Area of Dhanbad/ Jharia Coalfield	Int. Journal of Engineering Research and Application (IJERA)	4(3)	625-634
27.	Debananda Roy and Gurdeep Singh	2014	Source Apportionment of Particulate Matter (PM ₁₀) in an Integrated Coal Mining Complex of Jharia Coalfield, Eastern India, a Review	Int. Journal of Engineering Research and Application (IJERA)	4(4)	97-113

28.	Anil Kumar Singh, Dayal Singh Mehra, Utpal Kumar Niyogi and Gurdeep Singh	2014	Skin Irritation Study due to Electron Beam Cured Polyurethane Based Pressure Sensitive Adhesive Tape in <i>Oryctolagus Cuniculus</i>	Res. J. Chem. Sci.	4(3)	54-59
29.	Anil Kumar Singh, Dayal Singh Mehra, Utpal Kumar Niyogi, Sunil Sabharwal and Gurdeep Singh	2014	Life Performance Evaluation of Electron Beam- curable Polyurethane Pressure-sensitive Adhesive Tape for Medical Applications	Journal of Adhesion Science & Technology	28(12)	1192-1206

3.11.6.4 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Bhawna Dubey, Asim Kumar Pal and Gurdeep Singh	2013	Airborne particulate Matter and their possible Sources in the Industrial Region of Jharkhand, India, in an Annual Period	The Journal of Energy and Environmental Science, Photon	127	201-208
2.	Maiti SK & Mishra A	2013 (June)	Airborne Inhalable Heavy Metals concentration in Coal Mining and Non-Mining Areas in India: A Review	Indian J of Environmental Protection	33(6)	491-499
3.	Maiti S K, Das B and Banerjee S	2013 (Sep)	Critical Evaluation of Water Quality Indices and finding of best indices for Indian River: A case study on Subarnarekha River, Jharkhand	Indian J of Environmental Protection	33(9)	705-719
4.	Das Rimi, . S K Maiti & Chaudhuri S	2014 (April)	Importance of carbon mineralization and soil respiration on soil organic matter dynamics in mine soils	Indian J of Environmental Protection	34(4)	290-300
5.	Prasoon Kumar Singh, Ravi Makawana, Ashwani Kr. Tiwari, Mukesh Kr. Mahato	2013 (April)	Assessment of Variation in Land Use Patterns of Jharia Coalfield Region, Jharkhand	Indian J of Environmental Protection	33(4)	265-273

6.	Ashwani Kr. Tiwari, Prasoon Kumar Singh, Mukesh Kr. Mahato	2013 March	Groundwater Chemistry and the Health Effects on Human Health: A Review	Indian Journal of Health and Wellbeing	4(4)	923-927
7.	Prasoon Kr Singh, Mukesh Kr. Mahato, Ashwani Kr. Tiwari	June 2013	GIS based Spatial Analysis of Groundwater Arsenic Contamination and Its Effect on Human Health: A Review	Indian Journal of Health and Wellbeing	4(4)	1185-1191
8.	Shruti Mishra, Anshumali	2014	Forest structure and diversity in the tropical deciduous forests of Jharia Coalfield, Jharkhand	The Indian Mining & Engineering Journal	53	14-18
9.	S. Sen and Vipin Kumar	2014	Reclamation of coal mine degraded land by revegetation of <i>Vigna unguiculata</i> L with application of various soil amendments	The Indian Mining & Engineering Journal	53(3)	27-31
10.	Rizwan Reza and Gurdeep Singh	2013	Groundwater Quality Status with respect to Fluoride Contamination in industrial area of Angul District, Orissa, India	Ind. J. Sci. Res. and Tech	1(3)	54-61
11.	Gurdeep Singh and Parsoon kumar Singh	2013	Some Indian Initiatives towards Managing Climatic Change Impacts	Journal of Sustainable Planet	4(1)	57-72
12.	Arvind Kumar Rai, Biswajit Paul and Gurdeep Singh	2013	Studies on the possibilities of Land Degradation due to Opencast Mines in Jharia Coalfield	The Indian Mining & Engineering Journal	52(5)	13-18

3.11.6.5 Papers presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Chowdhury, A and Maiti SK	Degradation and deterioration of mangrove biodiversity of Indian Sundarbans: A case study from Jharkhali Island, WB, India	Int Con on "Conserving biodiversity for sustainable development" (ICCBSD 2013)	16-18 Aug, 2013	NIT, Rourkella, India

2.	Subodh Kumar Maiti and Adarsh Kumar	Reclamation to ecological restoration of surface coalmine degraded lands: A Stairway.	Int Conf on Coal and Energy-Technological Advances and future Challenges (CETAFA 2013)	Dec 15-17, 2013,	BESU, Shibpur, WB, India
3.	Kumari M, Gupta S.K.	Multi-pathway risk assessment of trihalomethanes exposure in drinking water supplies	First International Forum on Asian Water Environment Technology	18-20 Dec, 2013	JNU Delhi
4.	Tomar Swati, Gupta S.K.	Startup of Anammox Process in Anaerobic Hybrid Reactor	Int. Conference on Health, Environment and Industrial Biotechnology	21-23 Nov, 2013	MNNI, Allahabad
5.	Naz A, Gupta S.K.	Microbial Remediation of Hexavalent Chromium from Water- A Promising Technique	First International Forum on Asian Water Environment Technology	18-20 Dec, 2013	JNU Delhi
6.	Tomar Swati, Gupta S.K.	Innovative Approach towards removal of nitrogen from industrial effluent.	6 th International Congress of Environmental Research	19-21 Dec, 2013	Aurangabad
7.	Tomar Swati, Gupta S K.	Early start-up of Anammox Reactor -A Review	Int. Conference on Sustainable innovative Techniques in Civil and Environmental Engineering	5-6 June, 2013	JNU, New Delhi
8.	Prasoon Kumar Singh, Ashwani Kr. Tiwari, Mukesh Kr. Mahato	Groundwater Quality Assessment of West Bokaro Coalfield, Jharkhand, India, Using GIS Technique	Int. conference on Advance in Water Resources Development and Management (AWRDM)	23-27 October, 2013.	Chandigarh
9.	Mukesh Kr. Mahato, Prasoon Kumar Singh, Ashwani Kr. Tiwari	Evaluation of Heavy Metals Pollution Index of Mine Water in East Bokaro Coalfield Region, Jharkhand, India	Int. conference on Advance in Water Resources Development and Management (AWRDM)	23-27 October, 2013.	Chandigarh

10.	Prasoon Kumar Singh, Mukesh Kr. Mahato, Ashwani Kr. Tiwari	Quantitative and Qualitative studies of groundwater in part of East Bokaro Coal Region, Bokaro District, Jharkhand	Int. Conference on Future Challenges in Earth Science for Energy & Mineral Resources (ESEMR-2013)	14-16 Nov. 2013	ISM, Dhanbad
11.	Prasoon Kumar Singh and Monisha Awathi	Evaluation of Groundwater Recharge Potential of the Coal Mining Region, Jharkhand	Int. Conference on Future Challenges in Earth Science for Energy & Mineral Resources	14-16 Nov. 2013	ISM, Dhanbad
12.	P K Singh, A. K. Tiwari, M. K. Mahato and Binay Prakash Panigarhy	Hydrogeochemical Investigation and Qualitative Assessment of groundwater Resources in West Bokaro Coalfield, Jharkhand	Int. Conference on Harmony with Nature in Context of Ecotechnological Intervention and Climate Change (HARMONY-2013)	11-13 Nov. 2013	Gorkhapur, U.P.
13.	Mukesh Kr. Mahato, A K Tiwari, Prasoon Kumar Singh	Study on the Heavy Metal Contamination of Mine Pit Water in East Bokaro Coalfield Region, Jharkhand, India	6 th International Congress of Environmental Research (ICER-13)	Dec. 19-21 2013	Arungabad, Maharashtra
14.	P K Singh, A.K. Tiwari, M K. Mahato and Binay P. Panigarhy	Assessment of Surface Water Chemistry of West Bokaro Coalfield, Jharkhand, India	6 th International Congress of Environmental Research-ICER-13	Dec. 19-21 2013	Arungabad, Maharashtra
15.	Jitin Rahul, Manish Kumar Jain	Effect of dust particles (Particulate Matter) on plants along the National Highway	Int. Conference on Glo-Cal Crisis and Environmental Governance in North-Eastern Region of India	Nov. 11-13, 2013	Silchar, Assam
16.	Manish Kumar Jain	Sustainable Mining Practices in India	23 rd World Mining Congress	Aug 11-15, 2013	Montreal, Canada
17.	R Mukherjee, A. Sinha, and Vipin Kumar	In-Situ Remediation of Groundwater by Nano Zero-Valent Iron (nZVI) Particles Extracted from Steel Industry Waste	Sustainable Development Conf. 2013: Green technology, renewable energy and environmental protection	21-23 June 2013	Bangkok, Thailand

18.	Raja Kumar and Alok Sinha	Cast iron filings for enhancing biodegradability of mono-azo dye	Int. Conference on Health, Environment, and Industrial Biotechnology ICHEIB (Bio-Sangam 2013)	21-23 Nov 2013	MNNIT, Allahabad
19.	Raja Kumar and Alok Sinha	Decolourization of bis-azo dye Brilliant Crocein MOO solution by cast iron"	6 th International Congress of Environmental Research (ICER-13)	Dec. 19-21 2013	Arungabad, Maharashtra
20.	Vipin Kumar and A. Chandra	Microbiological quality monitoring of raw eaten salad vegetables	Int. Conference on Emerging trends in Environmental, Mathematical, Physical and Life Sciences	24-25 October, 2013	Singapore
21.	Vipin Kumar	Pesticides Resistant Phosphate Solubilizing Bacteria in Pesticides Stressed Soil: Isolation, Characterization, Resistance profile and Solubilization Pattern	Int. Conference on Biotechnology, Bioinformatics and Bioengineering	28-29 June, 2013	Tirupati
22.	Zeba Usmani and . Vipin Kumar	Treatment of sewage sludge using heavy metals accumulating earthworm species.	1 st International forum on Asian water environment technology	18-20 Dec, 2013	JNU Delhi
23.	S. Sen and Vipin Kumar	The effect of different amendments on the yield of Cajanus cajan in revegetation of coal mine overburden dumps - A study	Int. Conference on coal and energy Technology advances and future challenges	18-20 Dec, 2013	BESU, Kolkata
24.	Suresh Pandian E	Assessment of Rain Water Quality for Wet Precipitation of gaseous Pollutants in Dhanbad, India	Recent Advancements in Chemical, Environmental & Energy Engg. (RACEEE 2014)	27-28, February 2014	Chennai

25.	Sneh Lata and S. R. Samadder	Arsenic Detection Techniques and Their Drawbacks	Int. Conference on Conserving Biodiversity for Sustainable Development (INCCBSD-2013)	August 16-18, 2013	Rourkela
26.	Khan, D. and Samadder, S. R.	The Status of Municipal Solid Waste Management in Dhanbad, India and a GIS Approach for Landfill Sitting	Int. Conference on Conserving Biodiversity for Sustainable Development (INCCBSD-2013)	August 16-18, 2013	Rourkela
27.	A. Kumar and S. R. Samadder	Trace and Heavy Metals in Fly Ash and Bottom Ash: A Review	Int. Conference on Harmony with Nature in Context of Ecotechnological Investigation and Climate Change	Nov. 11-13, 2013	Gorakhpur
28.	Yadav, P., Samadder, S. R.	Life Cycle Assessment of Solid Waste Management Options: A Review	Int. Conference on Emerging Challenges and Issues in Environmental Protection	January 23-24, 2014	Raipur, Chhattisgarh
29.	Ashvani Kumar and S. R. Samadder	Groundwater Contamination by Trace Metals from Coal-Based Thermal Power Plants	Int. Conference on Emerging Challenges and Issues in Environmental Protection	January 23-24, 2014	Raipur, Chhattisgarh
30.	Ashok Kumar Singh	Coal Bed Methane A Clean Source of Energy	Int. Conference on Environmental Technology and Sustainable Development: Challenges & Remedies	February 21-23, 2014	BBA University, Lucknow, Uttar Pradesh

3.11.6.6 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Kumar A and . Maiti S. K	Environmental and health impact of surface and underground mining of chromite and asbestos of Roro, Chaibasa, Jharkhand: A case study of blighted hills	National Seminar on Surface Mining (NSSM), pp. <u>359-371</u>	10-11 Jan' 2014.	ISM Dhanbad
2.	Kumar A and Maiti S.K	Heavy metal contamination and growing up green on serpentine soil: A phyto-engineering approach	Int. Conf. on Emerging Challenges and Issues in Environmental Protection". Chattisgarh Council of Sc. & Technology, pp 8-9	23-24 January, 2014	Raipur institute of technology
3.	Maiti S.K and Kumar A	Nutritional Problem Associated with the Tree Growth on Serpentine Soil And Its Remediation	National Seminar on "Green Technology for Sustainable Environmental Management	March 22-23, 2013	Doon University, Dehradun
4.	Prasoon Kumar Singh, Ritu Ranjan Sinha, Monisha Awasthi & PoornimaVerma	Linking the Water Poverty Index with Poverty	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
5.	P. K.Singh, Monisha Awasthi, Ritu Ranjan Sinha & Poornima Verma	Statistical Evaluation of Physico- Chemical Parameters of Ground-water in Jharia Coalfield region, Jharkhand, India	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
6.	P. K.Singh, B.P. Panigrahy & Monisha Awasthi	Hydrological Effects and Groundwater Level Fluctuations in Jharia Coalfield Region.	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad

7.	Ritesh Kumar, Sarda Nath, P K Singh, Shivnandan, Mahesh Prasad.	Augmenting the Prospects of Livelihood through Watershed Programme: A Case Study of Bedauli and Masaundha Village under Nakteya Watershed of Gaya District, Bihar.	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
8.	Mukesh Kumar Mahato, P. N Singh, P K Singh	Depth to Water Level Monitoring and Qualitative Analysis of groundwater in part of East Bokaro Coalfield Region, Bokaro District, Jharkhand.	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
9.	Mukesh Kumar Mahato, Anjani Kumar P K Singh.	Appropriate and Reliable Treatment Technology for Mine Water Reclamation	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
10.	P K Singh, Mukesh Kumar Mahato, P.N. Singh and A.K.Pal.	Recent Advances to Water Resource Management	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
11.	P K Singh, Subhash Chandra, Pragati Rai and Bijendra Kumar	Resource Management through Artificial Recharging of Aquifer in Hard Rock Terrain and in Alluvial Planes	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
12.	Ashwani Kr. Tiwari, P K Singh Manoj Kumar	Assessment of Groundwater Quality and Its Suitability for Domestic and Agriculture Uses of Lower Gondwana Coalfield Region, Jharkhand, India.	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad
13.	P K Singh Ashwani Kr. Tiwari, M.K. Mahato and B P Panigarhy	GIS Based Groundwater Vulnerability Assessment and Protection of Groundwater Resources with the Help of Drastic Methods: A Review	N. Seminar on Recent Approaches for Water Resource Management (RAWRM- 2013)	Dec. 9 th -10 th , 2013	ISM, Dhanbad

14.	P K Singh Poornima Verma and Monisha Awasthi	Assessment of Groundwater Quality using Water Contamination Index	3 days National conference on “environment: pollution and protection” (epp-2014)	From Jan'30 to feb'01, 2014	NIT, Durgapur
15.	P K Singh, A K Tiwari, M K Mahato' and B P Panigarhy	Hydrochemical Investi- gation and Qualitative Assessment of Surface water Resources in West Bokaro Coalfield, Jharkhand	Nat. conference on water and its sustainability in mining and other environment: Vision 2050	March 28-29 2014.	ISM, Dhanbad
16.	Hansda A., Kumar Vipin and Anshumali	Removal of copper contaminants through bacterial adsorbents: A review	Nat. conference on Environment: Pollution and Protection	From Jan'30 to Feb'01, 2014	NIT, Durgapur
17.	Sen S., Tripti and Kumar Vipin	Effect of different soil amendments on Vigna unguiculata L.	6 th national seminar on surface mining	January 10-11, 2013	ISM, Dhanbad
18.	Yadav, P., and Samadder, S. R.	A Comparative Study of Composting and Land filling of Municipal Solid Wastes Using Life Cycle Assessment Technique: A Review	Nat. conference on Environment: Pollution and Protection	From Jan'30 to Feb'01, 2014	NIT, Durgapur
19.	Samadder, S. R. and Subbarao, C.	Effect of Arsenic Pollution in Groundwater on Life Expectancy: A GIS Approach	N Conference on “Water and its Sustainability in Mining and Other Environment: Vision 2050	March 28-29, 2014	ISM, Dhanbad
20.	Ashok Kumar Singh	Dragline Mining in India	National Seminar on Dragline Mining: Prospects & Challenges	Dec. 6-8, 2013	NCL, Singrauli and ISMA, Singrauli Chapter
21.	Ashok Kumar Singh	Slope Stability: Mitigating Risk in Dragline Dump Slopes	6 th National Seminar on Surface Mining (NSSM)	January 10-11, 2014	ISM, Dhanbad

22.	Gurdeep Singh	Best Management Practices for Sustainable Mining	Proc. of National Seminar on Iron Ore Mining in India Present Challenges & Future Prospects	June 7-8, 2013	NMDC, Karnataka
23.	Gurdeep Singh	Status of Water Resources in Mining Region of Goa	Proc. of National Seminar on Recent Approaches to Water Resource Management	Dec. 9-10, 2013	ISM, Dhanbad

3.11.7 MAJOR ACADEMIC CONTRIBUTIONS

Prof. Gurdeep Singh

- Workshop on Findings of Regional Environmental Impact Assessment (REIA) of Mining in Goa Region at Goa International Centre, Goa, organized on 28 October 2013.
- Off Campus Training Workshop for the officials of the Mahanadi Coalfields Ltd at Sambalpur, Odisha on "EIA/ Auditing of Mining Projects" June 27-29, 2013.
- Off Campus Training Workshop for the officials of the NTPC at Noida on "EIA/ Auditing of Mining Projects" August 21-23, 2013.
- Delivered Guest Lectures at NIT Rourkela during May 31 June 1, 2013.
- Panelist in the Technical Session "Mining-Technical Constraint" at the National Seminar on Mining Agenda for Future, organized by the MEAI at Hyderabad, April 20-21, 2013.
- Presented an invited lecture and participated in the deliberation on the Workshop for establishing Centre of Excellence in Mining in Gujarat May 20-21, 2013.
- To participate in the Meeting of the Expert Committee to evaluate nominees for National Geoscience Awards at New Delhi, November 18, 2013.
- Participated as the President of Indias nominee in the Selection Committee Meetings for Recruitment/Promotion of Faculty of Environmental & Sustainable Development, BHU January 27-28, 2014.

- Participated in the BOCS Meeting at Central University, Jharkhand on February 7, 2014.
- Conducted the Ph.D. Viva-voce Exam, VNIT, Nagpur on February 24, 2014.
- Presented an invited key note lecture and participated in the International Workshop on Best Practices for Mainstreaming Biodiversity Conservation in Mining Sector organized by IUCN at New Delhi March 19-20, 2014.

Dr. S. K. Gupta

- Evaluation of Ph. D thesis as an external examiner for the “SHIATS- Deemed University, Allahabad”.
- Review of the paper entitled “Development of fuzzy synthetic coupled AHP model for air quality assessment in Taj trapezium Zone, Uttar Pradesh, India” for the “Journal of Environmental Monitoring and Assessment”.
- Special Lecture for NHPC Executives on “Importance of Survey & Investigation in Hydropower Projects for NHPC Executives”.
- Special Lecture for DRDO Executives on “Geotechnical Engineering and Soil Mechanics”.

Dr. M. K. Jain

- Evaluator and question paper setter at M.Tech. Environmental Engineering at NIFFT Ranchi, Ranchi University.
- Member Board of Course studies at NIFFT Ranchi.

Dr. Alok Sinha and Dr. Vipin Kumar received a Certificate of Excellence for his innovation “Utilization of Steel Waste for treating Pesticide Contaminated Groundwater” for Knimbus Young Innovator Award for the year 2013-14.

3.11.8 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPT/CENTRE

National Seminar on Recent Approaches to Water Resources Management (RAWRM-2013) (Convener Dr. P.K. Singh)	9 th -10 th December, 2013
One day workshop on Intellectual Property Rights held at ISM	14 th Feb, 2014

3.11.9 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES ETC

Faculty Name	Seminar/Conference	Date	Place
Prof. A K Pal	Attended International Conference on Microwave and Photonics (ICMAP 2013) organized by the Dept of Electronics Engineering, ISM, Dhanbad.	Dec 13-15, 2013	ISM, Dhanbad
Prof. A K Pal	National Conference on Water and its sustainability in mining and other environment: Vision 2050 organized by the Dept of Civil Engineering , ISM, Dhanbad	March 13-15, 2014	ISM, Dhanbad
Prof. Gurdeep Singh	Proc. of National Seminar on Iron Ore Mining in India Present Challenges & Future Prospects	June 7-8, 2013	NMDC, Karnataka
Prof. Gurdeep Singh	Proc. of National Seminar on Recent Approaches to Water Resource Management	Dec. 9-10, 2013	ISM, Dhanbad
Prof. A. K. Singh	National Seminar on Dragline Mining: Prospects & Challenges	December 6-8, 2013	NCL, Singrauli and ISMA, Singrauli
Prof. A. K. Singh	6 th National Seminar on Surface Mining (NSSM)	January 10-11, 2014	ISM, Dhanbad
Dr. S.K. Gupta	First International Forum on Asian Water Environment Technology (IFAWET 2013)	18-20 Dec, 2013	JNU Delhi
Dr. S.K. Gupta	Indo German Joint Workshop	January 30-31, 2014	IIT Delhi
Dr M K Jain	23 rd World Mining Congress	Aug 11-15, 2013	Montreal, Canada
Dr M K Jain	TEQIP II Project Review Workshop	Sept 24, 2013	ITC Windsor, Bangaluru
Dr M K Jain	National Seminar on Recent Approaches to Water Resource Management	Dec. 9-10, 2013	ISM Dhanbad
Dr M K Jain	5 th Asian Mining Congress	February 13-15, 2014	MGMI, Kolkata
Dr M K Jain	National Interaction cum Evaluation workshop 2014 for ENVIS Scheme	March 28-30, 2014	Gangtok, Sikkim
Dr Alok Sinha	“Sustainable Innovative Techniques In Civil and Environmental Engineering” (SITCEE - 2013)	5-6 June, 2013	JNU, New Delhi

Dr Alok Sinha	Sustainable Development Conference 2013: Green technology, renewable energy and environmental protection	21-23 June 2013	Bangkok, Thailand
Dr Alok Sinha	6 th International Congress of Environmental Research (ICER 2013)	19-21 Dec, 2013	Aurangabad
Dr. Vipin Kumar	International Conference on Emerging trends in Environmental, Mathematical, Physical and Life Sciences	24-25 October, 2013	Singapore
Dr. Vipin Kumar	International Conference on Biotechnology, Bioinformatics and Bioengineering	28-29 June, 2013	Tirupati
Suresh Pandian E	Recent Advancements in Chemical, Environmental & Energy Engineering" (RACEEE 2014)	27-28, February 2014	Chennai

3.11.10 VISITS OF FACULTY MEMBERS ABROAD

- **Dr. M K Jain**, Associate Professor visited Montreal Canada for participation and presenting a paper at 23rd World Mining Congress during Aug 10-15, 2013.
- **Dr. Alok Sinha** presented a research paper on "In-Situ Remediation of Groundwater by Nano Zero-Valent Iron (nZVI) Particles Extracted from Steel Industry Waste" during an International Conference on Sustainable Development Conference 2013: Green technology, renewable energy and environmental protection (SDC 2013) organized by the Tomorrow People Organization in Bangkok, Thailand during 21-23 June, 2013.
- **Dr. Vipin Kumar** visited Singapore to deliver lecture in International Conference during 24-25 October, 2013.

3.11.11 DISTINGUISHED VISITORS TO THE SCHOOL (INDICATING OCCASION/PURPOSE)

Mr. Sanjay Kumar, SO, Ministry of External Affairs (MOEA), Govt. of India and MOEA Officials.	Visited Dept. of ESE in connection with 12 two weeks training Programmes for officials of Ministry of Mines, Govt. of Afghanistan.
Four distinguish delegates, namely (i) Prof Baray Sediqi, Deputy Minister of MOHE, (ii) Mr Bahram Emami (from President's Office), (iii) Prof Faqiri, HOD, Administrative and Finance and (iv) Mr Sediqullah Sahar, Education Attache in India.	Visited the Dept of Env'tl Sc. & Engg. on 12.05.13 in connection with exploring and finalization of BE program in ISM for Afghanistan students. They visited all the departmental laboratories and interacted with faculty and research scholars.

Prof. R Upadhayaya, BHU, Varanasi	Ph.D. Examiner
Prof. B S Sastry, IIT Kharagpur	Ph.D. Examiner

3.11.12 MISCELLANEOUS: ANY OTHER RELEVANT INFORMATION

- ❖ World Environment Day was celebrated on 5th June, 2013 at Department of Environmental Science & Engineering. During this program, drawing and collage competition was organized for the school going children up to Std X. This was then followed by plantation at Teachers' enclave, Square Park and New Teachers Colony, Govindpur road side, ISM. T-shirts as per the theme of World Environment Day, 2013 was released in the banner of Society of Environmental Science and Engineering.
- ❖ Prof. Ashok Kumar Singh (Rajiv Gandhi Chair Professor) received Indira Gandhi Rajbhasa Puraskar for Moulik Lekhan on Rajbhasa Day on dated September 14, 2013 for the Ministry of Home Affairs, Rajbhasa Vibhag, GOI.
- ❖ Two of our B Tech (Env Engg students, namely, Nikhil Agarwal (V B Tech) and B Venkata Kumar (VII B Tech) and one Ph D Scholar (Ms Neha Shreya) have been selected for the prestigious Indo-European Scholarship Program (Erasmus Mundas) as mentioned below:
 - Ms Neha Shreya: Universidade do porto, Portugal (Doctoral Exchange 1 yr)
 - Nikhil Agarwal: University of Porto, Portugal (6 month)
 - B Venkata Kumar: University of Bologna, Italy (6 month)

3.12 Department of Fuel and Mineral Engineering

The Department of Fuel and Mineral Engineering was established in 1976 and is actively engaged in teaching, research and consultancy activities. The Department offers academic programmes, such as, B.Tech. in Mineral Engineering, 5-years integrated dual degree programmes, M.Tech.courses and Ph.D. programmes.

3.12.1 FIELD VISITS/EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
Field Visit/ Excursions	II M.Tech MLE	Bhelatand, Coal Preparation Plant (CPP), TataSteel	One day
	VI B.Tech Dual Degree	Jamadoba, (CPP), TataSteel	One day
	II M.Tech (MLE)	Electrosteel Steel plant	One day
	VII B.Tech	Jamadoba, (CPP), Tata Steel, FBC Power Plant	One day
	VII B.Tech Dual Degree	Jamadoba, (CPP), Tata Steel, FBC Power Plant	One day
	VII B.Tech Dual Degree	Bhelatand, Coal Preparation Plant (CPP), TataSteel	One day
	B.Tech Dual Degree	Electrosteel Colliery	One day
	II M.Tech (MLE)	Electrosteel Steel plant	One day
	VI BTech (MLE) Dual Degree	Chandrapura, Dhanbad	One day
Industrial Training	V Sem B.Tech (46 students)	HCL Malanjkhanda	42 Days
		SAIL RMD, Kiriburu	
		HCL Khetri	
		Visakhapatman Steel Plant	
		Tata steel Noamundi	
		HZL, Rampura Agucha Mines	
		Tata west bokaro	
		Best granite	
		BCCL, Moonidih	
		Tata Steel Bhelatand	
		UCIL Turamdih	
UCIL Jaduguda			

Industrial Training	VII Sem B.Tech (51 students)	MN Dastur	42 Days
		Trimex Sands	
		ACC Chaibasa	
		Adhunik	
		BCCL Mahuda	
		BCCL Bhojudih	
		Chasnala Colliery	
		ACC Madukarai	
		Mecon Ranchi	
		Monnet Daniels	
		Siemens	
		S K Mines	
		MBE	
		Tata Steel Bhelatand	
		RD Mines, Vedanta	
HCL Malanjkhanda			
HCL Khetri			
Summer Internship	IX Sem B.Tech Dual Degree (11 Students)	TATA Internship	Two Months
		TATA R & D	
		Essel Mining	
		MBECL	
		Gujarat NRE Dharwad	
		S L Mining Internship	
		Andritz India, Internship	
		PWC Internship	
		S & T Mining, Internship	

3.12.2 BEST PRACTICES OF THE DEPT.

- 1) Virtually all the laboratory scale coal preparation and mineral processing equipment are in working condition.
- 2) Large number of industrial visits by students.
- 3) Cordial and amicable relationship between the teachers, staff and students.
- 4) A feeling of strong bonding with the department among the students.

3.12.3 BRIEF LIST OF ONGOING R&D PROJECTS (PROJECT VALUE RS. 5,00,000/- AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
Characterisation and beneficiation studies on low grade graphites from the state of Arunachal Pradesh, India	CSIR, New Delhi	Prof Nikkam Suresh (PI) Mrs Dr. Pratima Gajbiye (Co-PI)	₹ 14,72,000/- (Money yet to be received)	01/04/2014	31/03/2017	To character and evolved a beneficiation strategy for beneficiation of Graphites from state of Arunachal Pradesh, NE-Region, India	Ongoing	Information dissemination and website on mine environment
Characterization, Beneficiation and Coke making of Low Volatile Medium Coking coals.		Dr. Shalini Gautam (PI) Prof N. Suresh (Co-PI)	₹ Rs 5,66,800/- (Five lakh sixty six thousand eight hundred only)	01/02/2011	31/01/2014	Potential utilization of Low Volatile Medium Coking coals for coke making and their proper use for metallurgical purposes	Completed	Report writing going on

3.12.4 IMPORTANT NEW EQUIPMENT ACQUISITIONED (ABOVE RS. 5,00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
Atomic Absorption Spectrophotometer (AAS)	Wet Chemical Analysis of Ores and Minerals	05/06/2013	Rs. 25,53,320/-
Wet High Intensity Magnetic Separator	Separation of non-magnetic impurities from magnetic materials	06/08/2013	Rs. 7,56,686/-
Devis Tube Tester	Separation of non-magnetic impurities from magnetic materials	06/08/2013	Rs. 5,10,221.5/-

3.12.5 RESEARCH PUBLICATIONS

3.12.5.1 Books reviews/contribution of chapters in a book

- ❖ Prof. R. Venugopal: Book review of Handbook of 'Mineral Processing Experiments and Testing' by N. V. Ramanamurthy, 2014.
- ❖ Prof. S. Bhattacharya: The Coal Handbook: Towards Cleaner Production; Vol 2 Coal Utilization: (Ed. D. G. Osborne), Chapter 8, **Woodhead Publishing, Cambridge**, 2013, pp 169-199.

3.12.5.2 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	S. Bhattacharya and Rachit Tiwari	2014	Evolution Of Non-Coking Coal Pricing System in India.	Economic and Political Weekly	XLIX (3)	pp 20-22
2.	L. Panda, P.K. Banerjee, S.K. Biswal, R. Venugopal and N.R. Mandre	2013	Performance evaluation for selectivity of the flocculant on hematite in selective flotation.	Int. Journal of Minerals, Metallurgy and Materials	Vol. 20, No. 12	pp 1123-1129
3.	Amit Kumar Sarkar, N. R. Mandre, A. B. Panda, Sagar Pal	2013	Amylopectin grafted with poly (Acrylic acid): Development and application of a high performance flocculant.	Carbohydrate Polymers	Vol.95, Issue 2	PP 753-759

4.	Dr. Shalini Gautam	2014	Gasification of non-coking coals	Int. Journal of Advance Research and Innovation	paper id ICARI-ME-14-02-113	PP 09
5.	Shatrughan Soren, R.N. Gupta, N. Prasad and M.K. Banerjee	2013	Microstructural Characterization and Elastoplastic Behaviour of High Strength Low Alloy Steel	Int. Journal of Advance Research and Innovation	Vol-4, Issue 6	PP 107-116
6.	S. Soren, M.K. Banerjee, R.N. Gupta and N. Prasad	2013	Evolution of Microstructure in Microalloyed Steel Under Continuous Cooling	Int. Journal of Design and Manufacturing Technology	Vol-4, Issue 3	PP 101-107

3.12.5.3 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Surabhi, Udaibhanu G and Nikkam Suresh	2014	Characterization and Beneficiation of Carbonaceous Material in from Indian Fly Ash	Journal of Indian Chemical Society	Vol. 91	PP 73-80
2.	Divya Jyoti, S. Bhattacharya and V K Saxena	2013	Common errors in generating and analyzing washability data.	Journal of the CPSI	No 11	PP 171
3.	A Anupam and S. Bhattacharya	2013	Effect of feed characteristics on the performance of industrial Dense Media Cyclones: What literature says?	Journal of the CPSI (Coal Preparation Society of India)	No 11	PP 171
4.	Rachit Tiwari, Piyush Raghav and S. Bhattacharya	2013	Study of thermal coal pricing system of India and of other countries	Journal of the CPSI	No 11	PP 181

3.12.5.4 Papers presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Veerendra Singh, P. K. Banerjee, V. K. Saxena and R. Venugopal	Exploring New Grinding Aids to Improve the Energy Efficiency of Dry Grinding Process	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar

2.	U.S. Chattopadhyay T. Gouri Charan and R. Venugopal	Recovery of Settling Pond Coal Fines through Physico-Chemical Techniques for Optimum Utilization	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar
3.	D. Manoj Kumar Reddy, Gowtham Munda and R.Venugopal	Influence of Variable Parameters on Green Pelletization of Gua Iron Ore Fines	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar
4.	V. Sriram Kumar, Vineet Sinha, R. Venugopal	Study on Beneficiation of Heavy Minerals / Beach Sand Minerals Using Magnetic Separation	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar
5.	K. Santhosh, K. Uday Kiran Reddy and R. Venugopal	Fly Ash Beneficiation and Resource Development- A Review	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar
6.	Lata Kumari, Nandini A.T., R.Venugopal and G. Sivakumar	Modifying Sodium Silicate Chemistry for better Depressant Activity/Efficiency- A Case Study	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar
7.	N. Suresh, A. S. Choudhary, Y. K Gupta, Sugandha Sharma, Preet Jain	Studies on beneficiation of low grade iron ores using Mozley Mineral Separator.	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar
8.	Sunil Kumar Tripathy, P K Banerjee and Nikkam Suresh	Separation behavior of individual size fractions of Para Magnetic minerals in a High Intensity Dry Drum Magnetic Separator.	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT-Bhubaneswar
9.	Ram Chandra Chaurasia, Suresh Nikkam Pankaj Dwivedi Rahul Kumar and AK Choudhary	Beneficiation of Low Grade Iron Ore Fines by Multi Gravity Separator (MGS).	Int. Conf. on Science and Technology for steel making, STIS-2013	10-12 Dec 2013	IMMT-Bhubaneswar

10.	S K Tripathy, P K Banerjee and Nikkam Suresh	Comparative Study on Magnetic Separation of Ultrafine Chromite to Enhance Cr:Fe Ratio.	Int. Conf. on Science and Technology for steel making, STIS-2013	16-19, Dec 2013	NML- Jamshedpur
11.	Nikkam Suresh (Key Note Speaker)	Flow sheet Design and Layout Preparation of Coal Processing Plants.	Int. Conf. on Science and Technology for steel making, STIS-2013	16-19, Dec 2013	NML- Jamshedpur
12.	M. S. Jena, D. Dash, J. K. Mohanty, N. R. Mandre and R. Venugopal	Characterisation of PGE Mineralisation at Boula Nuasahi Igneous Complex, Odisha, India. (pp 27-38)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
13.	S. Siddique, K. Srinivas and N.R. Mandre	Optimization of Grinding Circuit in Uranium Milling Operations. (pp 87-92)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
14.	S. Kumar, S. Bhattacharya & N.R. Mandre	Studies on settling characteristics of coal preparation plant tailings by flocculation. (pp 191-195)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
15.	Rakesh Kumar, N.R. Mandre	Beneficiation of Iron Ore Fines by Selective Flocculation. (pp 430-434)	XIII Int. Seminar on Mineral Processing Tech- nology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
16.	Lopamudra Panda, P.K. Banerjee, R. Venugopal, N.R. Mandre	Assessing the Effects of Surface Properties on Separation Performance of Ultrafine Chromite Ore by Selective Flocculation Method. (pp 549-555)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
17.	S. Siddique, K.Srinivas, N.R.Mandre and S.K. Srivastava	Experiences in Construction and Operation of Alkaline Pressure Leaching Autoclaves for Processing Low Grade Uranium Ores in India.(pp 814-817)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war

18.	Ramanuj Mitra, Utkarsh Agrawal, Surabhi, Reetu Verma and N.R. Mandre	Beneficiation of Low-Grade Iron Ore- A review. (pp 1023-1032)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
19.	Dr. Shalini Gautam,	Study of reduction kinetics of iron ore pellets by using low volatile caking coal. (Vol II. pp 737-740)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
20.	Dr. Shalini Gautam,	Effect of Thermo mechanical Controlled Processing Parameters on Microstructures and Mechanical Properties of Microalloyed Steel	Int. Conference on structural and physical Properties of Solids (SPPS-2013)	18-20 Nov. 2013	ISM Dhanbad
21.	S. Soren, Vivek R, Gaurabh Jha and Shalini Gautam	Effect of Thermo mechanical Controlled Processing Parameters on Microstructures and Mechanical Properties of Microalloyed Steel(PP-09)	Int. Conference on structural and physical Properties of Solids (SPPS-2013)	18-20 Nov. 2013	ISM Dhanbad
22.	S. Kumar, S. Bhattacharya & N.R. Mandre	Studies on settling characteristics of coal preparation plant tailings by flocculation. (pp 191-195)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
23.	A. Kumar and S. Kumar	Advantage of anionic reverse flotation over cationic reverse flotation on an Indian low grade iron ore slimes. (pp 1033-1037)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war
24.	Pankaj Kumar Jain	Media Stability issues with Dense Medium Separators. (pp 299-307)	XIII Int. Seminar on Mineral Processing Technology (MPT-2013)	10-12 Dec 2013	IMMT- Bhubanes- war

3.12.5.5 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	S. Bhattacharya	Responsible and sustainable thermal coal preparation. (pp.131-140)	National Seminar on Sustainable and Responsible Mining	2013	Kolkata
2.	S. Bhattacharya and Rachit Tiwari	Thermal (Non-coking) Coal Pricing in India. (pp 251-257)	25 th National Convention of Mining Engineers and N. Seminar on Policies, Statutes and Legislation in Mines	2013	Dhanbad
3.	Sunil Tripathy, P K Banerjee and Nikkam Suresh	Dry High Intensity Magnetic Separators in Mineral Industry Present Status and Future Prospects, Paper presented in Heavy Mineral Concentration.	Heavy Mineral Concentration, Vishakapatnam	Nov. 2013	Vishakapatnam
4.	Gaurabh Jha, KM Jyoti and S. Soren	Effect on Environment by the Pollutants Generated from Iron Ore Mines and its Management. (pp-33)	N. Seminal on Recent Advancement in Manufacturing and its Management (RAMM-2014)	07-08 th Feb' 2014	BIT Sindri
5.	Pratima Gajbhiye	A Review on Flotation Frothers	26th National Convention of Metallurgical and Materials Engineers and N. Seminar on Exploitation of Lean Grade Ore, Ore Fines and Urban Ores: Challenges, Problems and Solutoins (LGO-2013)	22-23 January 2013	Jamshedpur India

3.12.6 SEMINAR, SYMPOSIUM, WORKSHOP, CONFERENCES ORGANIZED BY THE DEPT/CENTRE

Member of the Judges committee in the 2 days workshop on LEARNING FROM EACH OTHER [LEO] organized by MTI-SAIL, Ranchi	22-23, February 2014
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3.12.7 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES ETC

Faculty Name	Seminar/Conference	Date	Place
Prof. S. Bhattacharya	International Conference and Expo on Coal Beneficiation	18-19 th April, 2013	CPSI, Delhi
Prof. S. Bhattacharya	National Seminar on Sustainable and Responsible Mining	19-20 th April, 2013	ISMAA, Kolkata
Prof. S. Bhattacharya	Workshop on Coal Quality Issues	18-19 Sep., 2013	Thermal Power Plant Bakreshwar
Prof. S. Bhattacharya	25th National Convention of Mining Engineers and National Seminar on Policies, Statutes and Legislation in Mines	Nov. 30 Dec. 01, 2013	CIMFR, Dhanbad
Prof. S. Bhattacharya	Workshop on Scale Up Studies and Related Issues	13th March, 2013	Tata Steel R&D
Prof Nikkam Suresh	5 th Asia Mining Congress	13-16 Feb, 2014	Kolkata
Prof Nikkam Suresh	Indian Mineral Congress	08 March 2014	ISM Dhanbad
Dr. Shalini Gautam (AP)	National seminar on "Recent Approaches to Water Resource Management" RAWRM-2023	09-10 Dec' 2013.	ISM Dhanbad
Sri P K Jain (AP)	National Seminar on Sustainable Mining the way forward	April 19-20, 2013	ISMAA, Kolkata
Ms. Sarika N. Pimpalkar (SSA)	Training Course on Selection and Use of Instruments for Chemical Analysis of Rock and Minerals.	04-05 March, 2014	Indian Bureau of Mines (IBM), Modern Mineral Processing Laboratory & Pilot Plant, MIDC, Hingana, Nagpur

3.12.8 TESTING SERVICES (LAB FACILITIES AVAILING FOR TESTING IN THE DEPARTMENT/CENTRE)

Broad Areas	Name of Equipment (Make and Model No.)	Applications
Comminution	Laboratory Jaw Crushers (Multiple Units)	Ore Crushing
	Laboratory Roll Crusher (Multiple Units)	Coal Crushing
	Vertical Rotary Crusher (Sturtevant Engg. Co. Ltd., UK)	
	Sizer (MMD)	
	Laboratory Ball Mills (Multiple Units)	Ore Grinding
	Laboratory Vibrating Mill	
Sample Preparation	Sampling Facility	Reduction in sample quantity
	Coal and Ore Pulverising Facilities	Fine Grinding
Analysis	Cyclosizer (Warman International, MK5)	Sub-sieve size analysis
	Screen and Sieve Analysis Facilities (20µm to 150 mm)	Dry and Wet Size Analysis
	Bond Work Index Ball Mill	Grindability Determination
	HGI Apparatus (Multiple Units)	
	Simultaneous TG-DTA/DSC Apparatus (NETZSCH-Gerätebau GmbH, STA 449 F3 Jupiter)	Thermal Analysis
	Proximate Analysis Facility	Coal Characterisation
	CHNS & O Element Analyser (Vario, EL III)	Ultimate Analysis of Coal
	Bomb Calorimeter (Leco, AC-350)	Calorific Value Determination of Coal
	Low Temperature Gray King Assay Furnace	Coking Coal Characterisation
	Shatter Index Apparatus	Coke Characterisation
	Micum Index Apparatus	
	Drum Test Apparatus	
	Atomic Absorption Spectrophotometer (AAS) (Make: Thermo Fisher Scientific, Model No.: ICE 3300 AA Spectrophotometer India Pvt.Ltd.)	Quantitative Chemical Analysis
	Float-Sink/ Heavy Liquid Separation Test Facility (for all particle sizes)	Determination of Washability of Coal and Ore

Analysis	Chemical Analysis Facility	Estimation of grade of ore
	Davis Tube Magnetic Separator (Electromagnetic Devices)	Magnetics Content Determination
	Zeta Potential Analyser (Zetameter, 3.0+)	Zeta Potential Measurement
Size Separation	Vibrating Screen	Classification
	Hydrocyclone with Test Rig (custom made)	Classification
Beneficiation	Coal Jig (KHD Humboldt Wedag, MN922/4)	Laboratory testing for Beneficiation of Coal and/or Ore
	Mozley Mineral Separator (Richard Mozley Ltd.)	
	Bartles-Mozely Laboratory Vanner (Bartles {Carn Brea} Ltd., BMV-132)	
	Spiral Concentrator (Make: Star Trace)	Separation of solid components in slurry by density.
	Wet High Intensity Magnetic Separator (Size range of sample 0.5-0.044 mm) (Make: Star Trace)	Determination of Magnetics Content

3.12.9 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Sl. No.	Guest Details	Lecture topic	Date
1.	Prof. A. Chattopadhyay (Former Professor & Dean, F&P, ISM)	Construction, Operation, Maintenance and Selection of Belt Conveyors	23.03.2013
2.	Prof. K.A. Natarajan, Professor (Retired), Department of Metallurgy, IISc Bangalore	Minerals Biotechnology	25.09.2013 & 26.09.2013
3.	Mr. Swadhin Saurabh, 'Senior Process Engineer' in FLSmidth, Salt Lake City Inc, USA	Coal Preparation Plant Design- Recent International Trends	02.12.2013
4.	Dr. G. Bhaskar Raju (Deputy Director-NML Chennai Centre)	Surface Phenomena and Froth Flotation	09.01.2014
5.	Dr. V. K. Gupta, Retired Professor and Consultant	Modelling & Simulation and Beneficiation Process Control	29.01.2014, 30.01.2014 & 31.01.2014
6.	Prof. L. N. Jha (Ex-SAIL Chair Professor)	Agglomeration Techniques	17.02.2014 & 18.02.2014

7.	Mr. N.G. Chakrabarty (Deputy General Manager -SAIL/ Salem Steel Plant)	Iron making and steel making	28.02.2014
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3.12.10 MISCELLANEOUS:

- Prof. R. Venugopal presides over the inaugural function of International Conference on 'Mineral Processing Technology 2013' held at IIMT, Bhubaneswar during 10-13 December, 2013. He also chaired the plenary Lecture Session I of the same conference.
- Prof. Nikkam Suresh, Department of Fuel & Mineral Engineering, unanimously got elected as the Vice-President of Indian Institute of Mineral Engineers [Student Affairs], in the Annual General Body Meeting of IIME Held on 08.12.2013 at IMMT Bhubaneswar.

3.13 Department of Humanities and Social Sciences

The Department of Humanities and Social Sciences is one of the first departments of Indian School of Mines started in the year 1926. It is essentially inter-disciplinary Department to make budding engineers and technologists linguistically communicative, socially aware and ethically conscious individuals. The Department also offers M.Phil. in English and Ph.D. in the emerging areas of Humanities and Social Sciences.

3.13.1 INTRODUCTION OF NEW COURSE/PROGRAM

New Course on **Engineering Ethics** has been incorporated in **M. Tech. (Chemical Engineering)**. Aim of the course is to provide the conditions for discussing the basic issues in Engineering Ethics. Emphasis is given to the moral problems engineers face in the corporate setting and to stimulate critical and responsible reflection on moral issues surrounding engineering practice.

3.13.2 BRIEF LIST OF ONGOING R & D PROJECTS

Project Title	Sponsoring Agency	Coordinator(s)	Project Value	Date of Commencement Date of Completion	Objective	Status	Findings
Poetics of Tension: Contempo-rary Indian English Women's Poetry	U.G.C New Delhi	PI: Dr. Rajni Singh Co- PI: Prof. R.K. Singh	Rs. 8,55,000/-	1.7.2012 to 1.7.2014	To bring the women poets from margin to centre	Report writing	-

3.13.3 RESEARCH PUBLICATIONS

3.13.3.1 Books Published

1. Md. Mojibur Rahman (ed.). Cultural Contexts in English Language Learning and Teaching. Jaipur: Yking Books, 2014. ISBN 978-93-82532-43-9.
2. Singh, Rajni (ed.). The Indian English Fiction: A Critical Spectrum. New Delhi: Authorspress, 2013.

3.13.3.2 Book Reviews/Contribution of Chapter in a Book

1. R. K. Singh. 'Foreword'. Cultural Context in English Language Learning and Teaching edited by Md. Mojibur Rahman. Jaipur: Yking Books, 2014, pp. v-viii.
2. R. K. Singh. 'Teaching English for Communicative Performance and Business Communication'. In Cultural Context in English Language Learning and Teaching edited by Md. Mojibur Rahman. Jaipur: Yking Books, 2014, pp. 157-168.

3. R. K. Singh. 'Preface'. *Metric Conversions: Poetry of Our Time*, compiled and translated into Crimean Tatar by Taner Murat. Iasi: Editura StudIS, 2013, pp. 7-15.
4. R. K. Singh. Selected Poems of A. Mao. Reviewer's Bookwatch, Vol. 13, No. 5, May 2013. www.midwestbookreviews.com/rbw/may_13.htm#rc.
5. Singh, Rajni. "When East Meets West ... : ' A Study of Gita Mehta's Karma Cola." *Five Indian Women Novelists: Feminist Vision*. Jaipur: Yking Books, 2013. pp. 243-249.
6. Manna, Nirban "Tripti Mitra's Boli" in *Gender Space and Resistance* Eds . Prof. A. Singh & T.T. Mukherjee, New Delhi : D.K.Print, 2013. Print
7. Manna, Nirban. "Rhetoric of Desire and Despair : Badal Sircar's That Other History in Existential Vision" . *Indian Drama in English*. Ed. Abha Shukla. New Delhi : Atlantic Publisher and distributor, 2013. Print

3.13.3.3 Paper Published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Jamal, Sadaf & Rajni Singh	2013	Woman as the 'Other': A Study of Shauna Singh Baldwin's <i>What the Body Remembers</i>	Int. Journal of Humanities and Social Sciences (IJHSS)	Vol.2, Issue 1	pp 57-64
2.	Kumari, Tanima & Rajni Singh	2013	Historical Representation of Racism in Marilyn Nelson and Elizabeth Alexander's <i>Miss Crandall's School for Young Ladies and Little Misses of Color</i>	Int. Journal of Humanities and Social Sciences (IJHSS)	Vol.2, Issue 4	pp 99- 108
3.	Ray, Swagata & Rajni Singh	2013	Breaking the Silence: A Study of Fay Weldon's <i>The Life and Loves of a She-Devil</i> & Shashi Deshpande's <i>That Long Silence</i>	Int. Journal of Humanities and Social Sciences (IJHSS)	Vol.2, Issue 2	pp 31-38
4.	Mishra, Sneha and M. Mojibur Rahman	July 2013	Factors Responsible for Code-Switching in <i>Gulgulia'</i>	Language in India	Vol. 13:7	pp 379-388
5.	Mishra, Sneha and M. Mojibur Rahman	June 2013	<i>Gulgulia-Hindi-Khorta</i> Code-switching: A Study of Language Contact Phenomenon in Dhanbad, Jharkhand, India	Int. Journal of Scientific and Research Publications	Vol.3, Issue 6	-

6.	Priya Raj Sharma & Aravind, Aju	2014	Depiction of Islamic Revolution of 1979 in Marjane Satrapi's Persepolis	Int. Journal of Research in Humanities, Arts and Literature. ISSN(E):2321-8878	2.1	1-8
7.	Nirban Manna	2014 March	Libertine Enlightenment: Re-Locating Badal Sircar's There's No End in Sartre's Ontological Idiom of Responsibility	Literary Miscellany : An Int. journal of Literary Studies; Bahri Publication; New Delhi	Vol 3-4	15-32

3.13.3.4 Paper Published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	R. K. Singh and Sadaf Jamal	July 2013	Mamang Dai: A Study of Her Poetic Art	Poetcrit	Vol. XXVI, No. 2	pp 3-10
2.	R. K. Singh and Pallavi Kiran	July 2013	Biplab Majumdar: A Poet of Social Consciousness	The Journal of Indian Writing in English	Vol. 41, no. 2	pp 34-40
3.	R. K. Singh and Namrata Prerna Horo	July 2013	Tabish Khair: Quest for Home and Cultural Identity	Poetcrit	Vol. XXVI No. 2,	pp 83-87
4.	R. K. Singh and Shah Al Mamun Sarkar	Jan. and July 2013	Raj Kamal Jha: Relationship in the Blue Bedspread	Reflections	Vol. XI & XII, No. 1&2	pp 99-104

3.13.3.5 Paper Presented in International Seminar/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Ipsita Roy and A K Behura	Revisiting the Relationship between Man and Nature	Intl. Conference, 'Bounds of Ethics in a Globalized World	06-09 January, 2014	Christ University, Bangalore
2.	Pankojini Mulia, A K Behura and Sarita Kar	Corporate Social Responsibility: A Step towards Sustainable Development	Intl. Conference, 'Bounds of Ethics in a Globalized World	06-09 January, 2014	Christ University, Bangalore

3.	Rajni Singh	De-mythologizing Draupadi	Mahabharata: the Epic Tradition in India and South-East Asia organized by Universite Jean Moulin, Lyon, EFEO, Pondicherry & Pondicherry University	10-12 Feb., 2014	Pondicherry University
4.	Seema Ladsaria & Rajni Singh	Reading Barthesian Fashion in James Joyce's Ulysses	Sahitya Akademi & ICSSR Sponsored Intl. seminar on Reading/Understanding Fiction in Contemporary Times	5-6 March 2014	BHU, Varanasi
5.	Akaitab Mukherjee & Rajni Singh	The Creed of Nationalism in the Aftermath of 9/11: A Study of the Cinematic Representation of the Reluctant Fundamentalist	International Seminar on Culture	31 st March-1 st April 2014	Tezpur University
6.	Nirban Manna	The Holy Becomes Profane: Understanding the Discourse of Cultural Politics and Hybridity in Modern Bengali Jatra	ICOSAL - 14 Intl. Conference of South Asian Language and Literature	23 rd - 25 th January, 2014	Varanasi, U.P

3.13.3.6 Paper Presented in National Seminar/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	R. K. Singh	Filling the Empty Internal Spaces: Contemporary Women Poets	Indian English Poetry by Women Poets since 1980s	30-31 January 2014	ISM, Dhanbad
2.	A K Behura	The Concept of Man in Sri Aurobindo's Philosophy	UGC Sponsored National Seminar on 'Man and Nature in Sri Aurobindo's Philosophy'	03-04 May, 2013	Kaptipada College, Mayurbhanj Orissa

3.	A K Behura	Ethics in Professionalism	National Seminar on Ethics and Ethos in Management	27-28 July, 2013	Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan
4.	Pankojini Mulia and A K Behura	Corporate Social Responsibility: A Step towards Sustainable Development	National Seminar on Ethics and Ethos in Management	27-28 July, 2013	Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan
5.	Ipsita Roy and A K Behura	Revisiting the Relationship between Business and Environment	National Seminar on Ethics and Ethos in Management	27-28 July, 2013	Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan
6.	Abhinav Anand and A K Behura	Buddhist Eco-Ethical Notion: A Solution to Modern Environmental Crisis	National Seminar on Ethics and Ethos in Management	27-28 July, 2013	Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan
7.	Col. M K Singh and A K Behura	Ethics in an Unethical Environment in Educational Research	National Seminar on Ethics and Ethos in Management	27-28 July, 2013	Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan
8.	A K Behura	Corruption in Scientific Research	UGC National Seminar on Corruption: Social, Ethical & Cultural Perspectives'	27-28 Sept., 2013	Nilamber-Pitamber University, Medininagar Jharkhand

9.	Pankojini Mulia and A K Behura	An Ethical Analysis of Corporate Corruption	UGC National Seminar on Corruption: Social, Ethical & Cultural Perspectives'	27-28 Sept., 2013	Nilamber-Pitamber University, Medininagar Jharkhand
10.	Abhinav Anand, Naznin and A K Behura	Corruption and Medical Science: An Ethical Study	UGC National Seminar on Corruption: Social, Ethical & Cultural Perspectives'	27-28 Sept., 2013	Nilamber-Pitamber University, Medininagar Jharkhand
11.	A K Behura	Media and Society- An Ethical Analysis	UGC Sponsored National Level seminar on Media and Society Issues, Perspectives and Challenges	28-29 Sept., 2013	SSLNT Mahila Mahavidyalaya, Dhanbad Jharkhand
12.	Abhinav Anand and A K Behura	Media is the Mirror of Society	UGC Sponsored National Level seminar on Media and Society Issues, Perspectives and Challenges	28-29 Sept., 2013	SSLNT Mahila Mahavidyalaya, Dhanbad Jharkhand
13.	A K Behura	Ethics in Scientific Research	88th Session of Indian Philosophical Congress	27-30 Dec. 2013	Deptt. of Philosophy, The Madura College, Madurai, TN
14.	Prof. KPV Raman Kumar & A K Behura	Real and Apparent	88th Session of Indian Philosophical Congress	27-30 Dec. 2013	Deptt. of Philosophy, The Madura College, Madurai, TN
15.	Abhinav Anand & A K Behura	Euthanasia From Buddhist Perspective	88th Session of Indian Philosophical Congress	27-30 Dec. 2013	Deptt. of Philosophy, The Madura College, Madurai, TN
16.	A. Anand A K Behura, Ipsita Roy, Naznin, Pankojini Mulia, and Sarita Kar	The Secular Position of Women in Early Indian Buddhism	ICSSR Sponsored National Level seminar on Indian English Poetry by Women Since 1980s	30-31 January, 2014	ISM, Dhanabad,

17.	A K Behura and Sarita Kar	Ethics for Sustainable Environment: An Analysis with Special Reference to Jharkhand State	Nat. Conference on Inter-Disciplinary Researches in Social Sciences in Eastern India with Special Reference to Jharkhand	27-28 February 2014	Indian Statistical Institute, (Giridih Campus), Giridhi
18.	Pankojini Mulia, Naznin, Sarita Kar and A K Behura	Nature at Stake: An Ethical Study Special Reference to Jharia Coal Mines, Jharkhand	Nat. Conference on Inter-Disciplinary Researches in Social Sciences in Eastern India with Special Reference to Jharkhand	27-28 February 2014	Indian Statistical Institute, (Giridih Campus), Giridhi
19.	Ipsita Roy, Abhinav Anand and A K Behura	Environmentally Destructive Propensities in Man: Community Based Restoration programme as Solution	Nat. Conference on Inter-Disciplinary Researches in Social Sciences in Eastern India with Special Reference to Jharkhand	27-28 February 2014	Indian Statistical Institute, (Giridih Campus), Giridhi
20.	Naznin and A K Behura	Importance of Ethics in Teacher's Education Curricula	National Conference on Present and Future Challenges of Teacher Education	7-8 March, 2014	Chhatrapati Shahu Ji Maharaj University, Kanpur, UP
21.	Abhinav Anand and A K Behura	The Need of Ethics in Medical Education	UGC National Seminar on 'Maulana Abul Kalam Azad and the New Education Policy	30-31 March, 2014	P K Roy Memorial College, Dhanbad, Jharkhand
22.	A K Behura and Sarita Kar	Misconduct in Scientific and Educational Research	UGC National Seminar on 'Maulana Abul Kalam Azad and the New Education Policy	30-31 March, 2014	P K Roy Memorial College, Dhanbad, Jharkhand
23.	Naznin and A K Behura	Reviving Teacher's Education: An analysis from value perspective	UGC National Seminar on 'Maulana Abul Kalam Azad and the New Education Policy	30-31 March, 2014	P K Roy Memorial College, Dhanbad, Jharkhand

24.	Rajni Singh	Breaking the Quandary: A Study of Three Indian English Women Poets	58 th All India English Teachers' Conference	27-29 Dec., 2013	Andhra University, Vizag (A.P.)
25.	Rajni Singh	Current Trends in Recent Indian English Poetry by Women	ICSSR Sponsored National on " Indian English Poetry by Women Since 1980s"	30-31 Jan., 2014	Dept. of HSS, ISM, Dhanbad
26.	Seema Ladsaria & Rajni Singh	Education: A Gateway to Women's Empowerment	UGC National Seminar on 'Maulana Abul Kalam Azad and the New Education Policy	30-31 March, 2014	P K Roy Memorial College, Dhanbad, Jharkhand
27.	Sarita Kar	Role of Ethics in Corporate Social Responsibility	National Seminar on Ethics and Ethos in Management	27-28 July, 2013	Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan
28.	Prativa Kujur and Sarita Kar	Gandhian Concept of Non-Violence and Education	UGC National Seminar on 'Maulana Abul Kalam Azad and the New Education Policy	30-31 March, 2014	P K Roy Memorial College, Dhanbad, Jharkhand
28.	Nirban Manna	The Holy Becomes Profane: Understanding the Discourse of Cultural Politics and Hybridity in Modern Bengali Jatra	ICOSAL - 14 International Conference of South Asian Language and Literature	23-25 January 2014	Varanasi, U.P

3.13.4 MAJOR ACADEMIC CONTRIBUTIONS

R K Singh, Evaluated a Ph. D. thesis entitled 'The Problematics of Human Suffering: A Study of Mulk Raj Anand's Untouchable and Omprakash Valmiki's Joothan, Kamala Markandaya's Nectar in a Sieve and Premchand's Gaban, Gurdial Singh's Marhi da Diva and Chaman Nahal's Azadi' received from Himachal Pradesh University, Shimla, December 2013.

A K Behura, as a recourse person delivered four lectures at UGC Academic Staff College, North Bengal University, 20-21st, December 2013 in the orientation programme.

- Delivered three lectures on 'Ethical Human Conduct', 'Profession & Professionalism' & 'Engineering Profession and Ethics' at GGSIP University, Delhi, "Human Values & Professional Ethics" Teacher Training Programme, 25-31st July 2013.
- Acted as the Chairman of ICSSR Sponsored National Seminar on "Indian English Poetry by Women since 1980s" held from 30th-31st January 2014 at the Dept. of HSS, ISM Dhanbad.

Rajni Singh evaluated five Ph. D theses, one from Lucknow University, two from Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu and two from Lalit Narayan Mithila University, Darbhanga and also acted as examiner for Ph.D Viva- Voce.

- Delivered two Special lectures on 'Treatment of Myths in Tennyson' and 'Feminism and Indian English Women Poets' at UGC-ASC, Pt. Ravishankar University, Raipur (18th July 2013)
- Convener of ICSSR Sponsored National on "Indian English Poetry by Women since 1980s" held from 30th-31st January 2014 at the Dept. of HSS, ISM Dhanbad.

3.13.5 SEMINARS ORGANIZED BY THE DEPARTMENT

ICSSR Sponsored National on "Indian English Poetry by Women Since 1980s"	30-31 January 2014
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3.14 Department of Management Studies

Realizing the need of the combined strength of Engineering and Management in the year 1970s, ISM established Department of Industrial Engineering and Management in 1977. The Department was one of the first few which offered the program of M.Tech Industrial Engineering & Management to cater to the need of imparting both technical and managerial education. Keeping pace with the need of the changing times, the Department of Industrial Engineering and Management (IE&M) was restructured and rechristened as Department of Management Studies in 1997, given its expertise and experience. The Department of Management Studies of Indian School of Mines, Dhanbad became only the second institute in the country to offer M. Tech IEM and MBA from the same department. The Department currently offers M.Tech (Industrial Engineering & Management), MBA (2 year full time) and Executive MBA (3 year Part time) programmes. It also offers Ph.D programme in Industrial Engineering & Management; Ph.D programme in Management is also offered by the Department.

3.14.1 FIELD VISITS/EXCURSION/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
One day Industrial Visit	MBA	CLW, Chittaranjan	August 10, 2013

3.14.2 BRIEF LIST OF ONGOING R&D PROJECTS (PROJECT VALUE RS. 5,00,000/- AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value (lakhs)	Date of Commencement	Date of Completion	Objective	Status	Findings
Developing an accounting system for Small and Micro enterprises of Jharkhand	UGC, New Delhi	Prof. J.K. Pattanayak & Dr. Niladri Das	₹ 5,38,000	01-04-13	31/03/2015	-	Ongoing	data collection pertaining to adoption of accounting system is over
Corporate Entrepreneurship in India: An Exploratory Study	UGC, New Delhi	Prof. Govind Swaroop Pathak & Dr. Mrinalini Pandey	₹ 7,76,700	01-04-13	31/03/2015	-	Ongoing	Data Collection is ongoing
Testing theory in process industry transformation systems using case studies	UGC, New Delhi	Dr.K.S. Thyagaraj	₹ 9,15,800	01-04-13	31/03/2016	-	Ongoing	Data Collection is ongoing
A Framework of Entrepreneurial Success among aspiring Entrepreneurs of Micro-enterprises in Jharkhand Region	UGC, New Delhi	Dr. Niladri Das	₹ 6,57,100	01-04-13	31/03/2015	-	Ongoing	Data Collection is ongoing
Developing an accounting system for Small and Micro Enterprises of Jharkhand	UGC, New Delhi	Dr. Niladri Das	₹ 5,38,600	01-04-13	31/03/2015	-	Ongoing	Data Collection is ongoing
Development of e-Content for managerial and non-managerial personnel	MHRD, New Delhi	Dr. Saumya Singh	₹ 6,30,000	01-04-11	31/03/2014	-	Completed	Developed the website for NMEICT project
System Dynamics based Decision Support System for Indian Microfinance Institutions	UGC, New Delhi	Prof. Chandan Bhar	₹ 6,44,600	01-04-13	31/03/2015	-	Ongoing	Data Collection is ongoing

Consultancy Project

1. Chief Investigator in the Consultancy Project entitled “Survey of Fire and Subsidence Affected Areas of Jharia Coalfield” funded by Jharia Rehabilitation and Development Authority, Dhanbad.
2. Chief Investigator in Consultancy Project entitled “Certificate Course on Project Management for Executives of Coal Industry” funded by Bharat Coking Coal Limited, Dhanbad from September 9 to 20, 2013.

3.14.3 IMPORTANT COLLABORATIVE WORK(S)

Organisation/laboratory	Nature of Interaction
University of Houston/IIM Ranchi	Post Graduate Programme in Energy Management

3.14.4 RESEARCH PUBLICATIONS

3.14.4.1 Books Published

1. Das, N., (2013), 'Key Drivers of Entrepreneurial Success in India- A Study of Jharkhand' LAP Lambert Academic Publishing AG & Co.KG, Germany, 2013, (ISBN 978-3-659-35639-1).
2. 'Reinventing the Society The Search for a paradigm' published by MacMillan edited by Pathak, Pramod, Sharma, Radha R and Singh, Saumya.

3.14.4.2 Book reviews/contribution of chapters in a book

1. M. A. Quaddus and K. Mukherjee, “Hierarchical Framework for evaluating Mine projects for Sustainability: a case from India”, In: Handbook of Sustainable Development Planning, edited by M. A. Quaddus and M. A. B. Siddique, published by Edward Elgar Publishing Limited, Cheltenham, UK, 2013, pp. 161 - 177, 2nd Edition.
2. "Stereotyping Women: An Exploration Of Theory, Research And Practice" Accepted for publication in proceedings of International Conference on the theme “A Turbulent Voyage of Rights for Humanity” held at K.C.College of Engineering and Management Studies and Research On 05th Oct, 2013.
3. "Study of Participative Communication Between Doctors And Patients, And Its Relation With Satisfaction Level of Patients As Consumers" published in proceedings of International Conference on Research in Marketing (ICRM ,2013) held during 21 22, December 2013 organized by IIT, Delhi, Curtin

University and XLRI, Jamshedpur. Co-authored by Sanjay Jerath and Prashant Chhajer.

4. Ghosh, S. and Das, N., (2014) "Cause and Effects of Performance Management in Higher Educational Institutions (HEIs)" Proceedings in the 2nd International Conference on Business and Information Management by NIT, Durgapur from January 9-11, 2014, pp.58-63 (abstracted in IEEE explore, ISSN No.1-4799-3264-1/14/\$31.00 ©2014 IEEE).
5. Daizy and Das, N., (2013) "Mining, Sustainable Development and CSR- A Case Study of Uranium Corporation of India Limited, Jaduguda" Proceedings in the 11th AIMS International Conference organized by AIMS, International at IMT, Ghaziabad from December 21-24, 2013, pp.201-210.
6. Tudu, Preshita N. and Pathak, P., (2014) 'Role of Stress Management in Creating Value- Based Organization: A Conceptual Analysis', Chapter included in 'Business of Being in Business', Excel books: New Delhi.
7. 'Humanity Is His Religion'- Book Of Nizamuddin Aulia, Penguin, The Sunday Pioneer, June 9, 2013.
8. 'Religion for Atheists' - Allen de Botton, Hamish Hamilton, July 19, 2013, The Sunday Pioneer, New Delhi.
9. 'The Difficulty of Being Good' - Gurucharan Das, India Today (Hindi), July 25/2013.
10. 'In Shadow of Master- Osho India and Me', Jack Allanch, The Sunday Pioneer, July 7, 2013.
11. American Veda, Philip Goldberg, Random House, The Sunday Pioneer, September 29, 2013.
12. Situating Sri Aurobindo, Peter Heehs (ed.), Oxford University Press, The Sunday Pioneer, February 16, 2013.

3.14.4.3 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Thyagaraj, K. S., Mehta, P., & Shanker, K.	2014	Integrating operations and marketing decisions using delayed differentiation of products and guaranteed delivery time under stochastic demand	European Journal of Operational Research	237(2)	617-627

2.	Singh, P. and Pandey, M.	Feb. 2014	Augmented Reality Advertising: An Impactful Platform for New Age Consumer Engagement	Journal of Business and Management	16(2)	24-28
3.	Singh, R. and Bhar, C.	2014	Cash Management DSS based on System Dynamics for MFIs	Global Journal of Management and Business Research-GJMBR	4(2)	-
4.	Singh, R., Mahapatra, B., Mukherjee, K. and Bhar, C.	2014	Application of DEA for performance evaluation of Indian Microfinance Institutions	Asian Journal of Management Research	4(3)	597 - 605
5.	Daizy and Das, N.	2014	Sustainable Development for Indian Mining Sector	OIDA Intl. Journal of Sustainable Development, Ontario Intl. Development Agency	6(7)	71-82
6.	Daizy and Das, N.	2014	Sustainability Reporting Framework: Comparative analysis of Global Reporting Initiatives and Dow Jones Sustainability Index	Intl. Journal of Science, Environment and Technology	3(1)	55-66
7.	Rashmi and Das, N.	2014	Analysis of Key Factors of Economic Performance influencing Environmental Management- A Study of Indian Mining Industry	Intl. Journal of Science, Environment and Technology	6(1)	711-718
8.	Kumar, A. Mukherjee, K. and Kumar, N.	2013	Modeling, simulation and analysis of control mechanism of a dynamic supply chain system considering supply-price trade-off using control theory	Business Process Management Journal	19(6)	933-946
9.	Giri, A. and Pandey, M.	May 2013	A Study of Impact of Social Networking Sites & Online Surfaces On Yoga Marketing	Asian Journal of Research in Social Science and Humanities	3(5)	33-43
10.	Sur, S. and Pandey, M.	August 2013	Factors Affecting Consumers' IPTV Adoption Behavior In India	AJRM: Asian Journal for Research in Marketing	2(4)	33-44

11.	Singh,P. and Pandey,M.	August 2013	Augmented Reality in Advertising: Acceptability in the Indian Markets	Buenmafe Research and Review: The Business Journal	1(2)	45-50
12.	Jerath, S. and Pandey,M.	Dec 2013	Study of Relation Between Brand Attitude and Unrealistic Contents In Indian Television Advertisement	Asia Pacific Journal of Marketing & Management Review	2(12)	1-7
13.	Khan, S., Chandra, B., Chouhan, V. & Goswami, S.	2013	Sustainable accounting reporting practices of Indian cement industry: An exploratory study	Growing Science -Uncertain Supply Chain Management, Canada	2(2)	61-114
14.	Kumar, R. , Das, N. and Kumar, N.	2013	Healthcare Data Security: A Challenging Game	Intl. Journal of Engineering and Management Research	3(5)	345-349
15.	Ghosh, S.& Das, N.	2013	New Model of Performance Management and Measurement in Higher Education Sector	International Journal of Scientific Research	2(8)	267-274
16.	Mondal, Sandeep and Srivastava, Nishit Kumar	2013	Development of Predictive Maintenance Model of an Overhead Crane Exercising NHPP Models	Int. Journal of Computer Science & Management Studies	13(3)	71-77
17.	Srivastava, Nishit Kumar and Mondal, Sandeep	2013	Maintenance practices in Indian Manufacturing Industries	Int. Journal of Computer Science & Management Studies	13(3)	32-35
18.	Sah, Bhawesh Mondal, Rajeev Kumar and Mondal, Sandeep	2013	In Plant Logistics a case of turnaround process of trailers in a steel plant	Int. Journal of Computing	3(4)	305-309
19.	Bhatt, S. and Pathak, P.	2013	Organizational Role Stress- A Comparison between Professionals in IT/ITES sectors	South Asian Journal of Management	20	64-84

20.	Pathak, P. and Barnwal ,S.	2013	e-Governance in India- A Critical Appraisal	Journal of Advanced Management Science	1	255-257
21.	Singh, Saumya and Sinha, Priyanka	June 2013	Consumer buying behaviour in e-Commerce - An Indian perspective	Journal of Advanced Management Science	1(2)	250-254
22.	Pathak, Govind Swaroop & Yadav, Ram Balak	June 2013	Environmental sustainability through green banking: A study on private and public sectors bank in India	OIDA Int.l Journal of Sustainable Development	6(8)	37-48

3.14.4.4 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Kumari, P. and Pattanayak, J.K.	2014	The role of board characteristics as a control mechanism of earnings management: A study of selected Indian service sector companies	The IUP Journal of Corporate Governance	XIII	58- 68
2.	Sinha, P. and Singh, S.	Jan 2014	Determinants of Consumers' Perceived Risk in Online Shopping A Study	Indian Journal of Marketing	44(1)	7-12
3.	Das, S., Pattanayak, J.K. and Pathak, P.	2013	An event study analysis of the effect of quarterly earnings announcement during the bull and bear markets -A case with SENSEX	The IIMS Journal of Management Science	4	113-131
4.	Pathak, Govind Swaroop & Yadav, Ram Balak	2013	Green marketing: Initiatives in the Indian context	Indian Journal of Marketing	43(10)	25-32
5.	Pathak, Govind Swaroop & Dokania, Abhishek	2013	Corporate social responsibility and employer branding: A case study of Indian information technology industry	Review of HRM	2(1)	135-143

6.	Goswami, S. and Chandra, B.	2013	Convergence Dynamics of Consumer Innovativeness vis-à-vis Technology Acceptance Propensity- An Empirical Study on Adoption of Mobile Devices	IUP Journal of Marketing Management, IUP Publications	12(3)	63-87
7.	Das, N.	2013	Impact of Globalization on Sustainable Development in Indian Economy	Journal of Intl. Economics, Journal of Institute of Public Enterprise, Hyderabad	4(2)	99-114
8.	Daizy, Sen, M. and Das, N.	2013	Corporate Sustainability Reporting: Review of Initiatives and Trends	IUP Journal of Accounting Research and Audit Practices, Icfai University Press	12(2)	7-18
9.	Das, N. and Pattanayak, J.K.	2013	Effect of Fundamental Factors on Indian Stock Market - A Case Study of Sensex and Nifty	IUP Journal of Applied Finance, Icfai University Press	19(2)	84-99
10.	Tudu, Preshita N. and Pathak, Pramod	2013	Managing Executive Stress in Organisations - A Critical Appraisal	Social Science International	29	1-10
11.	Tudu, Preshita N. and Pathak, Pramod	2013	People Management The emerging dimensions	Adhayan	3	143-161
12.	Kumar, Alok and Pathak, Pramod	2013	The Transmutation In Advertising Appeals: A Theoretical Perspective With India Centric Cases	Management Insight	IX	51-71
13.	Kumar, Alok and Pathak, Pramod	2013	Advertising Appeals And Purchase Intention: An Empirical Study	Adhayan	3	113-131
14.	Sandhu, P. S. , Pathak, Pramod and Pathak, Govind Swaroop	2013	Corporate Social Responsibility in India: A Comparative Study of Professional Students and Executives	Management Insight	IX	24-28

3.14.4.5 Papers presented in International Seminars/Conference

Sl. No.	Author (s)	Year	Title	Seminar/Conference	Venue
1.	Ahmad, Anees and Thyagaraj, K.S.	2014	Applicability of Brand Personality Dimensions across Cultures and Product Categories: A Review	Intl. Conference on "Modern Strategies for Management of Business, Economy, Services vis-a-vis Social Sciences-A Sustainable Approach	Jawaharlal Nehru University, New Delhi
2.	Akhtar, Fatima, Thyagaraj, K.S. and Das, N.	2014	Behavioural Finance: Studying the Behaviour of Investors	4th International Management Convention-2014	Asian School of Business Management Bhubaneswar
3.	Mukherjee, K. and Chakraborty, K.	2014	Extension of useful life of products through Product Recovery Management	Indo-Australian Workshop on Life Cycle Assessment for Mining, Mineral Processing and Metal Extraction	Indian School of Mines, Dhanbad
4.	Pandey, M. and Srivastava, P.	2014	Social Innovation through Social Media: Changing Trends and Emerging Challenges	Intl. Conference on Social Media for Business	Indian Institute of Management, Raipur
5.	Pandey, M.	2014	A Mothers' Perspective of Use of Celebrities in Advertising: A Study	Exploring New Paradigms in Business	Central University, Ranchi
6.	Pandey, M. and Jerath, S.	2014	Emotional Contents In Television Advertisements of Automobile Sector And Its Effect on Indian Consumers and Brand Sustainability	ICSMS	IMT, Nagpur
7.	Ghosh, S. and Das, N.	2014	Cause and Effects of Performance Management in Higher Educational Institutions. (HEIs)	2nd International Conference on Business and Information Management	NIT, Durgapur
8.	Sinha, Priyanka and Singh, Saumya	2014	Understanding Factors Influencing Consumer Adoption of Online Shopping-A study based on TAM and TPB		Jamnalal Bajaj Institute of Management Studies, Uni. of Mumbai

9.	Srivastava, A.R. and Singh, Saumya	2014	Preference factors of Organized Retail: An empirical study of Young Indian Adults		Central University of Jharkhand, Ranchi
10.	Mahapatra, B., Mukherjee, K. and Bhar, C.	2014	A Hybrid model for Operational performance evaluation and vendor selection	4th International Management Convention	ASBM, Bhubaneswar
11.	Kumari, P. and Pattanayak, J.K.	2013	Earnings management and corporate governance practice: a study of Indian banks	Eleventh AIMS International Conference on management	IMT, Ghaziabad
12.	Pathak, Govind Swaroop & Yadav, Ram Balak	2013	Environmental sustainability through green banking: A study on private and public sectors bank in India.	Int. Conference on Sustainable Development	Judicial Academy, Chandigarh
13.	Patro, B. and Pattanayak, J.K.	2013	CSR practices vis-a-vis company performance - a study of a coal mining company	Eleventh AIMS International Conference on management	IMT, Ghaziabad
14.	Thyagaraj, K.S.	2013	Insights into combined Make-to-Stock/Make-to-Order production system: A research agenda	XVII Annual Intl. Conference of the Society of Operations Management	IIT, Madras
15.	Ahmad, Anees and Thyagaraj, K.S.	2013	Brand Personality Dimensions and Cross Cultural Studies: A Review	11th AIMS International Conference by AIMS	IMT, Ghaziabad
16.	Pandey, M. and Anuradha	2013	Issues and Challenges of Work-Life Balance for Women employee	11th AIMS International Conference by AIMS	IMT, Ghaziabad
17.	Pandey, M. and Dubey, A.	2013	Being Political at work: Is it Nasty or Nice	11th AIMS International Conference by AIMS	IMT, Ghaziabad
18.	Daizy and Das, N.	2013	Mining, Sustainable Development and CSR- A Case Study of Uranium Corporation of India Limited, Jaduguda	11th AIMS International Conference by AIMS	IMT, Ghaziabad

19.	Daizy and Das,N.	2013	Sustainable Development for Indian Mining Sector	Sustainable Development by Ontario International Development Agency	Rajiv Gandhi National Uni. of Law, Chandigarh
20.	Mondal, S.	2013	Predictive Maintenance of N-Component Repairable System using System Availability Concept	7th ISDSI & 5th OSCM	IMI, Delhi
21.	Mondal, S.	2013	Development of Predictive Maintenance Model (FMEORA) using FMEA Approach	7th ISDSI & 5th OSCM	IMI, Delhi
22.	Mahapatra, B., Mukherjee,K. and Bhar, C.	2013	Supplier Selection and Evaluation using Analytic Hierarchy Model	11th AIMS International Conference by AIMS	IMT, Ghaziabad
23.	Mahapatra, B., Mukherjee,K. and Bhar, C.	2013	Supply chain performance measurement using DEA/AHP model	Proceeding of the 7th ISDSI & 5th OSCM International Conference	IMI, New Delhi

3.14.4.6 Papers presented in National Seminars/Conference

Sl. No.	Author (s)	Year	Title	Seminar/ Conference	Venue
1.	Mondal, S.	2014	An optimization approach for finding optimal pricing in OEM remanufacturing process in closed loop supply chain	Recent Advancement in Manufacturing and its Management	BIT, Sindri
2.	Srivastava, A.R. and Singh, Saumya	2014	Significance of Services for Organized Retail-An Empirical Study of Jharkhand	Recent Advancement in Manufacturing and its Management	GLA University, Mathura
3.	Anuradha and Pandey, M.	2014	Review of Work-Life Balance Practices in Select Public Sector Organizations in India	UGC National conference on management	JNVU, Jodhpur

4.	Kumari, P. and Pattanayak, J.K.	2013	Role of board characteristics as a control mechanism of earnings management: a study of select Indian service sector companies	Indian Accounting & Finance (IAF) Conference	IIM, Lucknow
5.	Pathak, Govind Swaroop & Chakraborty, Nirupama	2013	Stereotypes against women at the workplace: A Qualitative Study	The XXIIIrd Annual Convention of National Academy of Psychology (NAOP)	NIT Rourkela, Odisha
6.	Pathak, Govind Swaroop Dokania, Abhishek	2013	Corporate social responsibility and employer branding.	3rd Nat. Conference on Human Resource Management	-
7.	Pathak, Govind Swaroop Dokania, Abhishek	2013	The role of CSR in enhancing corporate image.	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
8.	Pathak, Govind Swaroop & Kumar, Chandan	2013	Luxury Goods in India: A case study of Zara.	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
9.	Kumari, P. and Pattanayak, J.K.	2013	A comparative analysis of models used for identifying earnings management practices	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
10.	Pathak, Govind Swaroop & Kumar, Rajesh	2013	Intrapreneurship : A strategic tool for organizational effectiveness	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
11.	Pathak, Govind Swaroop, Sandhu, P.S., & Pathak, Pramod	2013	CSR in India: A Review	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
12.	Pathak, Govind Swaroop & Thakur, Vikas	2013	E-HRM: The missing link between organization HR practices and sustainability	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
13.	Pathak, Govind Swaroop & Yadav, Ram Balak	2013	Green marketing strategy: A study of select IT organizations in India	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad

14.	Ahmad, Anees and Thyagaraj, K.S.	2013	Reverse Innovation: Opportunities and Challenges	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
15.	Akhtar, Fatima Thyagaraj, K.S. and Das, N.	2013	Framework for portfolio selection- Past development and future directions	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
16.	Gokarn, Samir and Thyagaraj, K.S.	2013	An overview of fresh produce supply chain management	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
17.	Pandey, M. & Chatterjee, S.	2013	Olfactory Branding: Scopes & Opportunities in Retail Industry in India	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
18.	Jerath, S. and Pandey, M.	2013	Study of response of children towards emotional contents in television advertisements of automobile sector	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
19.	Dubey, A. and Pandey, M.	2013	Ethics of Organizational Politics: An evaluation	National Seminar on Effectiveness, Ethics and Sustainability	ISM Dhanbad
20.	Singh, Poonam and Pandey, M.	2013	Augmented Reality: Ethics and Challenges	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
21.	Anuradha and Pandey, M.	2013	Attaining Organizational sustainability through Work-Life Balance- A Case Study	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
22.	Chandra, B. Chouhan, V., Goswami, S. & Khan, S.	2013	True Face of Sustainable Reporting: A Case Study of Ambuja and ACC Cement Company	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
23.	Chandra, B. Rajak, T. & Pattanayak, J.K.	2013	Business Excellence - A mean to sustain "In context to Indian Banking Industry	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
24.	Chandra, B. Goswami, S.	2013	ICT for Sustainable Development-Exploring Opportunities for Sustainable Society	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad

25.	Chandra, B. and Kumari, S. & Pattanayak, J.K.	2013	An Exploration of Ethical Investment Behavior of Investors In Indian Stock Market	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
26.	Chadra, B. and Jana, A.	2013	Business Ethics In Hospitality Industry: An Exploratory Study	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
27.	Chadra, B. and Rajak, R.	2013	An Exploratory Investigation on Causal Attribution of Employees' Burnout and Work Engagement- A Study on Higher Educational Institutions in India	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
28.	Chadra, B. and Dasgupta, A.	2013	Exploring Determinants of Consumer Behavior Towards Handicraft and Handloom Products of India: A Qualitative Study	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
29.	Patro, B. and Pattanayak, J.K.	2013	Role of CSR and ethics to account for corporate financial sustainability	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad
30.	Singh ,P.K. and Pattanayak, J.K.	2013	Impact of customer satisfaction on shareholders' value	National Seminar on Effectiveness, Ethics and Sustainability (NSEES)	ISM Dhanbad

3.14.5 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCE ORGANIZED BY THE DEPT/CENTRE

National Seminar on effectiveness, ethics and sustainability: the measure of organizational excellence	December 6 & 7, 2013
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3.14.6 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES

Dr. M. Pandey	International Conference on “Exploring New Paradigms in Business”	February 6-7, 2014	Central Univ. Ranchi
Dr. Sandeep Mondal	Recent Advancement in Manufacturing and its Management (RAMM-14)	February 07-08, 2014	BIT, Sindri
Prof. Govind Swaroop Pathak	XXIII Annual Convention of National Academy of Psychology	December 13-15, 2013	NIT, Rourkela
Dr. K. S. Thyagaraj	XVII Annual International Conference of the Society of Operations Management	December 2013	IIT, Madras
Dr. Sandeep Mondal	7th ISDSI & 5th OSCM International Conference	December 28-30, 2013	IMI, Delhi

3.14.7 VISITS OF FACULTY MEMBERS ABROAD

Prof. Kampan Mukherjee was invited as Visiting Faculty to teach a full course entitled "Contemporary Management Practices in Asian Countries with focus on Production and Logistics" in Masters program on International Management during 20th May, 2013 to 6th July, 2013 in summer semester offered by Faculty of Economics and Management, Otto-von-Guericke University of Magdeburg, Germany.

3.14.8 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Prof P.K. Sinha of IIM Ahmadabad delivered a Lecture on “Online Retailing”.	3 rd Dec, 2013
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3.14.9 MISCELLANEOUS: ANY OTHER RELEVANT INFORMATION

1. Won the Best Research Paper award paper titled “75 Emotional Contents In Television Advertisements Of Automobile Sector And Its Effect On Indian Consumers And Brand Sustainability” at 3rd International Conference on Sustainability and Management Strategy (ICSMS-2014) organized by IMT, Nagpur in association with California State University, San Bernardino, USA & National Environmental Engineering Research Institute [NEERI], Nagpur on 21st and 22nd March, 2014. (Dr. Mrinalini Pandey and Sri Sanjay Jerath)
2. Won the Best Case Award for her case titled "Dilemma: To be or not to be" in Vishleshana, 2013, the case study contest held by P E S Institute of Technology, Bangalore. (Dr. Mrinalini Pandey)

3.15 Department of Mechanical Engineering

The Department of Mechanical Engineering is the offshoot of the original Engineering Department that existed since the time of establishment of the institute. The Department offers B.Tech. programmes, M.Tech. programmes and Ph.D. programmes. The Department strives to maintain a high standard of teaching and research at all the levels.

3.15.1 FIELD VISITS/EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
Visit to Bit Mesra for observing the Research Facilities related to Manufacturing	First Year M.Tech Students in Mechanical Engg. (Specialization: Manufacturing)	Center Research Facility, Production and Chemical Engg. Deptt of BIT Mesra	One full day

3.15.2 INTRODUCTION OF NEW COURSES AND PROGRAMMES, IF ANY (GIVE COURSE OUTLINE).

- New courses on Power Plant Engineering and Non-conventional Engineering Technology have been incorporated in M Tech (Fuel Engineering). The purpose of introducing these courses is to make students acquaint with the coal based power plant technologies and also the development in non-conventional energy technologies.

3.15.3 BRIEF LIST OF ON-GOING R&D PROJECTS (PROJECT VALUE RS. 5,00,000/- AND ABOVE)

Project Title	Sponsoring Agency	Coordinator(s)	Project Value	Date of Commencement Date of Completion	Objective	Status	Findings
Synthesis and Characterization of Dental Polymeric Nanocomposite Materials	DST	Dr. Ashis Mallick	Rs. 54 Lakhs	November, 2013 October, 2017	Develop and characterization of polymeric nano-composite will be used for dental application	Ongoing	-
Wear & Friction study of Nano Composites	UGC, New Delhi	Dr. K. K. Singh	Rs. 6.85 Lakhs	1 st April, 2013	Finding wear and friction of nano Composites	Ongoing	-
Critical Analysis of Heat Distribution in Submerged Arc Welding Process	UGC, New Delhi	Dr. Somnath Chatopadhyaya	Rs. 10.21 Lakhs	April, 2013 / March, 2016	To investigate the temperature distribution in a SAW process	Ongoing	-

3.15.4 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
Joint Research Work at AALTO University Foundation, Helsinki, Finland	Five week long research activities in the domain of Friction Stir Surfacing

3.15.5 IMPORTANT NEW EQUIPMENT ACQUIRED (ABOVE RS.5,00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
Piezoelectric 3 Dimensional Force sensor and its accessories	Measurement of cutting forces in 3 directions on lathe machine	29.10.2013	Rs. 11.97 Lakhs
Viscometer	Develop the Tribology Laboratory	-	Rs. 14 Lakhs
Ferrograph Maker	Develop the Tribology Laboratory	-	Rs. 23 Lakhs

3.15.6 RESEARCH PUBLICATIONS

3.15.6.1 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	A. Mallick and R. Das	2014	Application of Simplex search method for predicting unknown parameters in an annular fin subjected to thermal stresses	J. of Thermal Stresses	37	236 - 251
2.	R. Das, A. Mallick, K.T. Ooi	2013	A fin design employing an inverse approach using simplex search method	J. Heat & Mass . Transfer	49	1029-1038
3.	Amit R. Dixit, Manish Gupta	2013	Current status, enablers & barriers of implementing cellular manufacturing system in Indian industries	Advances in Manufacturing, Springer Publisher	1(4)	346-356
4.	V. B. Ugale, K. K. Singh, N. M. Mishra & Prashant Kumar	2013	Experimental Studies on Thin Sandwich Panels under Impact and Static Loading	J. of Reinforced Plastics & Composites. (www.sagepub.in) Impact Factor-0.902	Vol. 32, Issue 06	420-434

5.	Sandeep Agrawal, Kalyan K Singh & P. K. Sarkar	2014	Impact damage on fibre reinforced polymer (FRP) matrix composite- A Review	Journal of Composite Material, (www.sagepub.in), Impact Factor-0.936	Vol. 48, Issue 03	317-332
6.	Vidhika Tiwari and N.K. Singh	2013	Review of the Development in Process Capability Analysis	Int. Journal of Scientific & Engineering Research	Vol. 4, Issue 7,	2471-2475
7.	NA Daniel, N K Singh and U K Vates	2013	Investigation of LDR in Deep Drawing with the Influence of Artificial Neural Network	Int. Journal of Industrial & Production Engineering & Technology	Vol. 3, No.1	37-42
8.	U.K. Vates and N.K. Singh	2013	Optimization of surface roughness process parameters of electrical discharge machining of EN-31 by Response Surface Methodology	Int. Journal of Advanced Research	Vol. 1 Issue 8	1-7
9.	U.K. Vates and N.K. Singh	2014	Modeling of process parameters on D2 steel using Wire Electrical Discharge Machining with combined approach of RSM and ANN	Int. Journal of Scientific & Engineering Research,	Vol. 5 Issue 1	2026-2035
10.	Rahman, M., Sarkar, S., Najafi, M., and Rai, R.	May 2013	Regional Extreme Rainfall Mapping for Bangladesh Using L-Moment Technique	J. Hydrol. Eng., ASCE	18(5)	603-605
11.	Singh. K. J. and S. Sarkar	June 2013	Development of GIUH for the Catchment Contributing to Loktak Lake, North East India	Journal of the Indian Society of Remote Sensing, Springer	41(2)	447-459
12.	Aniruddha Ghosh, Sergej Hloch, Somnath Chattopadhyaya	2014	Critical analysis of moving heat source shape for arc welding process of high deposition rate	Tehnicki Vjesnik,	Vol. 21, No. 1	95-98
13.	Vineet Negi & Somnath Chattopadhyaya	August 2013	Research Article Critical Assessment of Temperature Distribution in Submerged Arc Welding Process	Advances in Materials Science and Engineering	Vol 2013 (2013)	Article ID 543594, 9 pages

14.	Ayush Jain, Md. Imbesat Hassan Rizvi, Subrata Kr. Ghosh, P. S. Mukherjee	2014	Analysis of Nanofluids as a means of thermal conductivity enhancement in heavy machineries	Industrial Lubrication and Tribology	Vol 66, Issue 2	238-243
15.	S.N. Singh	2013	Flow and heat transfer studies in a double pass counter flow solar air heater	International journal of Heat and Technology	Vol 31 No. 2	37-42

3.15.6.2 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	P. S. Shinde, K. K. Singh, V. K. Tripathi, P. K. Sarkar & Prashant Kumar	2014	Reduction in Stress Intensity Factor of A Compact Tension Specimen By Bonding Symmetrical GFRP patches	Journal of the Institution of Engineers: Series C.	Vol 94, Issue 3	239 - 244

3.15.6.3 Papers presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Md. Ehtesham Hasan, Sanjoy K. Ghoshal and Kabir Dasgupta	System Identification and Model based Performance Analysis of a Hydrostatic Transmission System	Int. conference on Machines and Mechanisms (iNaCoMM 2013)	Dec. 18-20, 2013	IIT-Roorkee
2.	Vikram Sharma, Amit Rai Dixit and Mohd. Asim Qadri	Lean Manufacturing Paradigm for Indian Manufacturing Industry	Int. conference on Manufacturing Excellence, (MANFEX 2013, ISBN 978-93-83083-17-6)	30-31 May 2013	Noida, India
3.	Saurav, Sumit and, A. R. Dixit	Quantitative analysis of incorporating production parameters in cellular layout planning	Int. conference on Industrial Engineering,	20-22 Nov. 2013	Surat, India
4.	A K Das, A. R. Dixit, A Mandal	Tribological Behavior And Characterization of Ni-WS ₂ Composite Coating	Int. Conference on Precision, MESO, MICRO, and Nano Engineering (COPEN-8: 2013)	13 to 15 th Dec., 2013	NIT Calicut, India

5.	Sushil Madheshiy, Ashish Srivasta, Amit Rai Dixit, Sandeep Tiwari	A Review on Fabrication and Characterization of Composite Material and its Buckling Analysis through FEM	Int. Conference on Advance Research and Innovation (ICARI-2014)	1.2.2014	Delhi, India
6.	Md. Sikandar Azam, Vinayak Ranjan	Effect of rigidly and elastically attached discrete mass on natural frequency of circular annular plate	Int. Conference on Smart Technologies for Mechanical Engg (STME-2013)	25-26 October, 2013	DTU Delhi
7.	P. S. Shinde, K. K. Singh, V. K. Tripathi, P. K. Sarkar & Prashant Kumar	Validation of Experimental-Cum-Numerical technique for Critical J-Integral of thin Sheet through begley and landes approach	Int. Conference on Advances in Mechanical Engineering (ICAME-2013)	29-31 May, 2013	COEP, Pune, Maharashtra
8.	V. B. Ugale, K. K. Singh, N. M. Mishra & Prashant Kumar	Comparative study of CFRP and GFRP thin sandwich panels under impact and static loading	17 th international conference on composite structures (ICCS-17)	June 17-21, 2013	Faculty of Engineering of the Univ. of Porto, Portugal
9.	Dr N K Singh	Comparative Assessment of Quality of Cloths Processed in Two Industries by Statistical Methods	Int. Conference on Operations Research, Data Analytic and Decision Analysis	21-23 October, 2013	Srinagar
10.	N. Kumar, S. Sarkar, B. Paul,	Review on Dewatering Pumping Network for Underground Coal Mine	1st Int. and 16th Nat. Conference on Machines and Mechanisms (iNaCoMM2013)	Dec. 18-20, 2013	IIT Roorkee, India
11.	Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya	A review of electro-chemical and electro-discharge micro-drilling	International Team Conference	04-06 Nov., 2013	Presov, Slovakia
12.	Mayukh Sarkar, Subrata Kumar Ghosh, P.S.Mukherjee	Determining the value of Archard's co-efficient on the bottom plate of excavator bucket: an experimental approach	1st International and 16th National Conference on Machines and Mechanisms	Dec 18-20 2013	IIT Roorkee

13.	Mayukh Sarkar, Rakesh Kumar Shaw, Subrata Kumar Ghosh, P.S.Mukherjee	Effect of Particle Angularity on Two Body Abrasive Wear of Steel	International Conference on Advances in Tribology	Feb 21-24, 2014	NIT Calicut
14.	Abhinava Chatterjee, Mayukh Sarkar, Subrata Kumar Ghosh	Analytical Study of The Wear Behavior on The Excavator Bucket	International Conference on Advances in Tribology	Feb 21-24, 2014	NIT Calicut
15.	Ankit Kotia, Subrata Kr. Ghosh	Mathematical Modeling For Viscosity of Nano-fluids Considering Interfacial Nano-Layer	Int. Conference on Structural and Physical Properties of Solids	Nov. 18-20, 2013	ISM Dhanbad
16.	Ankit Kotia, Subrata Kr. Ghosh	Mathematical Heat Transfer Modeling For Nano-fluid Considering Interfacial Nano-Layer	National and 11 th Int. ISHMT-ASME Heat and Mass Transfer Conf.	Dec. 28-31, 2013	IIT Kharagpur

3.15.6.4 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Subrata Samanta and S. K. Ghoshal	Online monitoring of a hydrostatic transmission system undergoing multifault scenario.	Nat. conference on emerging trends in engineering and sciences ETES 2014	30-31 January 2014	Asansol Engineering College
2.	P. Singh, A. Mandal, A.R. Dixit and A. K. Das	Experimental Techniques in Optimizing Process Parameters of WEDM Operation: A review	Nat. conf. on Recent Advancements in Mechanical Engg	8 - 9 Nov. 2013	NERIST, Itanagar, India
3.	P. Singh, A. Mandal, A.R. Dixit and A. K. Das	Experimental Techniques in Optimizing Process Parameters of WEDM Operation: A review	Nat. conference on Recent Advancements in Mechanical Engineering	8 - 9 Nov. 2013	NERIST, Itanagar, India
4.	Satyajit Mahato Amit Rai Dixit Rajeev Agarwal	Achieving Process Excellence In Field Quality Through DMAIC Road Map of Lean Six Sigma	Nat. conference on Effectiveness, Ethics and Sustainability: The Measures of Organisational Excellence (NSEES 2013)	Dec. 6 & 7, 2013	ISM, Dhanbad

5.	Md. Sikandar Azam, Vinayak Ranjan	Effect of elastically attached point mass on eigenvalues of isotropic annular plate clamped at outer edge	N. Conference on Futuristic Trends in Mechanical engineering and Nanotechnology	15-16 Nov. 2013	Rawal Institutions, Faridabad, HR.
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3.15.7 MAJOR ACADEMIC CONTRIBUTIONS

- Dr Somnath Chattopadhyaya received the Second Best paper presentation award in the International Team Conference held during 04-06 November, 2013 at Presov, Slovakia.

3.15.8 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES ETC

Dr A R Dixit	5th Asian Mining Congress	13-15 February 2014	Kolkata
Dr A. Mallick	22nd International Conference on Processing and Fabrication of Advanced Materials (PFAM XXII)	18-20 December, 2014	Singapore
Dr. S.K.Ghoshal	1 st International and 16 th national conference on Machines and Mechanisms (iNaCoMM 2013)	December 18-20, 2013	IIT-Roorkee
Dr. N.K. Singh	International Conference on Operations Research, Data Analytic and Decision Analysis	21-23 October, 2013	Srinagar
Dr. Somnath Chattopadhyaya	Intl Conference TEAM Conference	04-06 November, 2013	Presov, Slovakia

3.15.9 VISITS OF FACULTY MEMBERS ABROAD

Dr. Somnath Chattopadhyaya performed joint Research Work at AALTO University Foundation, Helsinki, Finland in the domain of Friction Stir Surfacing for five weeks. After the completion the joint research work Dr. Somnath Chattopadhyaya delivered a key note address in the International TEAM Conference held at Presov, Slovakia during November, 2013.

3.16 Department of Mining Machinery Engineering

The Department of Mining Machinery Engineering is the offshoot of the original Engineering Department that existed since the time of establishment of the institute. The Department offers B.Tech. programmes, M.Tech. programmes and Ph.D. programmes. The Department strives to maintain a high standard of teaching and research at all the levels.

3.16.1 FIELD VISITS/EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS.

Particulars	Batch of students	Place of visit	Period of visit
To get the exposure of different experimental facilities available at CIMFR, Dhanbad	M.Tech (MME), 2 nd Semester	CIMFR, Dhnabad	One day
Monnet ispat, JSPL, METSO, Tata-Hitachi, BCCL, SCCL, R-Power, NALCO	3 rd year mining machinery for summer training	Open cast/ underground mines, mining machinery industry	19.05.2014 to 28.06.2014
Sinidih workshop	3 rd year mining machinery for winter training	Winter training	02.12.2013- 15.12.2013
Course curriculum of B.Tech 3 rd Year	32 students	Chinakuri Underground mines-2, ECL	1 day

3.16.2 INTRODUCTION OF NEW COURSES AND PROGRAMMES, IF ANY (GIVE COURSE OUTLINE)

Introduction of Labview software in Soft Computing course of Mechanical engineering and Mining Machinery Engineering. Labview software is very useful software to run in real time system as well as simulation.

3.16.3 IMPORTANT NEW EQUIPMENT ACQUISITION (ABOVE RS. RS. 5, 00,000/-)

Name of Equipment	Purpose	Date of Purchase	Value (₹)
Mobile Hydraulic Training system	To provide training u/g and P/G students of Mining Machinery Engg & Mechanical Engg disciplines on Hydraulic Control systems. The setup is also used to provide training to the industrial personnel	31st March, 2014	33.00 lakhs
Labview software, 25 user academic site licence	Software Training For B.Tech Students In Softcomputing Lab	-	6.4 Lakhs

3.16.4 RESEARCH PUBLICATIONS

3.16.4.1 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Ajit Kumar, N. Kumar, K. Dasgupta, J. Das and Raj Kumar	Feb 2014	Analysis of Steady State Performance of an Open Loop Drive of a Hydraulic Motor used in Hydrostatic Transmission System	Int. Journal of Current Engg. and Technology, INPRESSCO, E-ISSN 2277-4106, P-ISSN 2347-5161 Global Impact Factor : 2.552	Special Issue-2 (Feb 2014)	407-412
2.	Ajit Kumar, J. Das, Santosh Kr. Mishra	Dec. 2013	Performance Investigation of a Proportional Valve Controlled Hydraulic Motor used in Hydrostatic Transmission System	Int. Journal of Mechanical and Production Engineering, ISSN: 2320-2092, Impact Factor: 2.56	Vol. 1, Issue 06	39-42
3.	M. K. Barnwal, G. K. Gangwar, N. Kumar, Ajit Kumar, J. Das	Dec. 2013	Steady State Performance Analysis of Hydrostatic Transmission System (HST)	Int. Journal of Mechanical and Production Engineering, ISSN: 2320-2092, Impact Factor: 2.56	Vol. 1, Issue 06	48-51
4.	L. A. Kumara-swamidhas, Muruganandam, Raguraman,	Dec. 2013	Analysis of Functional Parameter on Friction Stir Welding Using Hypergeometric Functions	Advances in Theoretical and Applied Mechanics	6	71-83
5.	R. K.Upadhyay, L.A. Kumara-swamidhas,	2013	Rolling Element Bearing Failure Analysis- A Case Study	Case Studies in Engineering Failure Analysis (Scopus)	1	15-17
6.	R.K.Upadhyay, L.A. Kumara-swamidhas,	2013	Condition Based Monitoring of Ch ₄ 15w40 Engine Oil by FTIR, And Analytical Ferrography	Int. Journal of Mechanical & Production Engg Research and Development (Scopus)	3,(1)	1-8
7.	R.K.Upadhyay, L.A. Kumara-swamidhas,	2013	Friction Behaviour of TiN, CrN Coating on AISI 4320 Steel Substrate	Int. J. Mech. Eng. & Rob. Res	2(1)	107-109

8.	Chandra Prakash Yadav, Sathya Narayan Kumar and L.A. Kumara-swamidhas,	2014	Study on Axial Flow Fan Components and its Failure Affecting the Performance	Int. Journal for Scientific Research & Development	2(1)	29-32
9.	Santosh Sonar Tanmoy Maity	May 2013	Single phase transformerless wide range ac boost voltage regulator based on z-source network	Int. Journal of Electrical Power and Energy Systems (Elsivier)	47	193-197
10.	Santosh Sonar Tanmoy Maity	Aug 2013	Modelling of fuzzy logic controller for variablestep MPPT in photovoltaic system	Research in Engineering and Technology	2(8)	426-432
11.	R. S. Sinha, A.K. Mukhopadhyay	Feb 2013	Reliability centered Maintenance of Cone Crusher : A Case Study	Int. J. of System Assurance Engineering & Management	-	-
12.	B. K. Sarkar, J. Das, R. Saha, S. Mookherjee, and D. Sanyal	Aug 2013	Approaching Servoclass Tracking Performance by a Proportional Valve-Controlled System	Mechatronics Mechatronics, IEEE/ ASME Transactions on	18	1435
13.	Ajit Kumar, N. Kumar, K. Dasgupta, J. Das, Raj Kumar	2014	Analysis of Steady State Performance of a Open Loop Drive of a Hydraulic Motor used in Hydrostatic Transmission System DOI:http://Dx.Doi.Org/10.14741/Ijcet/Spl.2.2014.75 (Global Impact Factor:2.552)	Int. Journal of Current Engineering and Technology	-	407-412
14.	K. Dasgupta, S. K. Ghoshal, N. Kumar	2013	Modelling and Simulation of a Hydrostatic Transmission System using Two Motor Summation Drive DOI: 10.7726/jmsic.2013.1007	Journal of Modelling, Simulation, Identification and Control	Vol.1 No. 3	89-104

3.16.4.2 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Y.S.Dohare T. Maity P.S.Das, P.S. Paul	July Aug 2013	Low power low cost environment monitoring and control through zigbee in underground mines	Journal of Mines, Metals & Fuels,	61 (7&8)	283-286
2.	K. Dasgupta, N. Kumar, R. Kumar	2013	Steady State Performance Analysis of Hydrostatic Transmission Summation Drive System using Two Motor Summation Drive DOI 10.1007/s40032-013-0084-y	J. Inst. Eng. India Sec. C, ISSN 2250-0545	Vol. 94	357-363

3.16.4.3 Papers published in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	Tanweer Alam	Experimental and Numerical Investigation of Heat and Mass Transfer During Cooling of Vegetable	Int. Conference on Smart Technologies for Mechanical Engineering (STME-2013) ISBN: 978-93-83083-35-0	October 25-26, 2013	Dept of Mechanical, Production & Industrial and Automobile Engg, Delhi Technological Uni. New Delhi
2.	Shiv Prakash Singh, Tanweer Alam, Somnath Chattopadhyaya	A Review on the Excavator Tool Bits Wear	1 st International and 16 th National Conference on Machines and Mechanism (iNaCoMM-2013	Dec. 18-20, 2013	Mechanical and Industrial Engineering Department, IIT, Roorkee
3.	Kunal Kumar Singh, Tanweer Alam, Somnath Chattopadhyaya	Analysis of the Cuttability of Coal for Continuous Miner	1 st International and 16 th National Conference on Machines and Mechanism (iNaCoMM-2013	Dec. 18-20, 2013	Mechanical and Industrial Engineering Department, IIT, Roorkee

4.	Ajit Kumar, Alok Vardhan, Ayush Pratap Singh, Rakesh Kumar	Design Methodology and Processes for Dust Control of Underground Coal Mining Machinerics	Int. Conference on Contemporary Issues in Engineering & Technology (ICCIET-2014)	March 19 - 21 2014	Merchant Engineering College and Sardar Patel Institute of Technology, Mehsana, Gujarat
5.	Ajit Kumar, N. Kumar, K. Dasgupta, J. Das and Raj Kumar	Analysis of Steady State Performance of an Open Loop Drive of a Hydraulic Motor used in Hydrostatic Transmission System	Int. Conference on Advances In Mechanical Sciences (ICAMS-2014)	January 9-11, 2014	Vardhaman college of Engineering, Organized by Deptt. of Aeronautical, Civil and Mechanical Engineering, Hyderabad
6.	Ajit Kumar, J. Das, Santosh Kr. Mishra	Performance Investigation of a Proportional Valve Controlled Hydraulic Motor used in Hydrostatic Transmission System	Int. Conference on Electrical, Electronics, Computer Science and Mechanical Engineering (ICEECSME -2013)	Dec. 1 st , 2013	IRAJ, Pune, India
7.	Ajit Kumar	Analysis of Dynamic Characteristics in Ore Crushing Plants	Int. Conference on Future Challenges in Earth Sciences for Energy & Mineral Resources (ESEMR - 2013)	Nov. 14- 16, 2013	Deptt. of Applied Geology, ISM, Dhanbad, India
8.	L. A. Kumara- swamidhas, K.Karthik Selva Kumar	Numerical study on flow induced vibration excitation in an circular cylinder	Int. Conference on Innovative Trends in Science, Engineering and Management (ICITSEM-2014)	12-13 Feb 2014	Dubai
9.	Santosh Sonar Tanmoy Maity	Wind power conversion based on quasi-z source inverter	IEEE International Confe. on Control, Automation, Robotics and Embedded Systems (CARE),	2013	Jabalpur India

10.	D.V.Bhaskar, N.Yagnyaseni, N. Viswanathan T. Maity	Comparison of control methods for high frequency IH cooking applications	Power and Energy Systems Conference: Towards Sustainable Energy, 2014 ,	March 2014	-
11.	H. Prasad, V. K. Singh, T Maity	Transformer Less Voltage Regulator	Int. Conference on Green Computing, Communication and Electrical Energy (ICGCCEE'14)	March 2014	-
12.	Santosh Kumar Mishra, Jayanta Das	Development of Electro-Hydraulic Excavator used in Heavy Duty Applications: A Novel View	Proceedings of 7th ICEECSME-2013, Pune India	1st Dec. 2013	Pune India
13.	Ajit Kumar, J. Das, Santosh Kr. Mishra	Performance Investigation of a Proportional Valve Controlled Hydraulic Motor used in Hydrostatic Transmission System	Proceedings of 7th ICEECSME-2013, Pune India	1st Dec. 2013	Pune India
14.	N. Kumar, K. Dasgupta, F. Ahmad	Analysis of Leakage Flow characteristics in Bent Axis Motors	1st International and 16th National Conference on Machines and Mechanisms (iNaCoMM 2013)	18-20 Dec. 2013	IIT-Roorkee

3.16.4.4 Papers published in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/ Conference	Date	Place
1.	M. Nagendra Babu, Tanweer Alam	Analysis of Stress Variation in Pressure Vessel with the Change in Size and Location of Hole	Indian Conference on Applied Mechanics (INCAM-2013), ISBN: 978-93-5137-273-8	4-6 July, 2013	Department of Applied Mechanics, IIT, Madras
2.	Tanweer Alam, M Nagendra Babu	Simultaneous Heat and Mass Transfer Analysis During Air Blast Pre-cooling of Fruits	3 rd National Conference on Refrigeration and Air Conditioning (NCRAC-2013)	12-14 Dec., 2013	Dept. of Mech. Engg. and Civil Engineering IIT, Madras

3.	Ajit Kumar, Akanksha Sinha	Minimizing the Effect of Pressure Rise on Hydraulic System caused Due to Water Hammer by the use of Hydraulic Accumulator	40 th National Conference on Fluid Mechanics and Fluid Power (FMFP-2013)	Dec. 12-14 2013	Deptt. of Civil Engineering NIT, Hamirpur, India
4.	Ajit Kumar, Anand Satyam, Shashank Ranjan	Impact on Ground Water Quality owing to Open Cast Coal Mining & Reclamation	N. Conference on Recent Approaches to Water Resource Management (RAWRM -2013)	Dec. 9-10 2013	Deptt. of Env. Science and Engg ISM, Dhanbad
5.	H. Prasad, V. K. Singh, T Maity	Stability analysis of Quasi-Z-Source buck-boost switching voltage regulators	N. Conference on Recent trends in Power Engineering NCRTPE-2014, Kolkata	March 2014	34-37
6.	V. K. Singh, H. Prasad, T Maity	Small signal analysis of three phase z-source ac-ac converter	N. Conference on Recent trends in Power Engineering NCRTPE-2014, Kolkata	March 2014	7-10
7.	Ramashankar Paswan, Jayanta Das	Study of Energy Efficient Hydrostatic Systems: An Overview	Proc. of the Fortieth National Conference on Fluid Mechanics and Fluid Power, NIT, Hamirpur	Dec. 12-14, 2013	NIT, Hamirpur
8.	Ramashankar Paswan, Jayanta Das	Study of Energy Efficient Hydrostatic Systems: An Overview	Proc. of the Fortieth National Conference on Fluid Mechanics and Fluid Power, NIT, Hamirpur	Dec. 12-14, 2013	NIT, Hamirpur

3.16.5 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPT/CENTRE

Workshop on “Embedded System Design using MSP430 Microcontroller”	14-15 February, 2014
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3.16.6 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES ETC.

T Maity	“Pedagogy- Enhancing Teacher Effectiveness”	10 - 13 March, 2014	Noida
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3.16.7 MISCELLANEOUS

Approximately 300 engineers of Coal India Limited were trained during the year 2013-14 through 5 weeks intensive training programme

3.17 Department of Mining Engineering

The Department of Mining Engineering was established in 1926 with founding of the School in that year. It enjoys the flagship department status in the institute. It has wide spread activities in both coal and non-coal metalliferous mining sectors.

The Department has been recognized as a QIP Centre for the faculty members of other Mining Engineering Department of the country to pursue higher studies. It has also been accorded the status of 'Centre of Advanced Studies' in Mining Engineering by the University Grants Commission in recognition of its high standard of teaching, research and services to the mining industry.

The Department is currently running one 4-year B.Tech. programme in Mining Engineering, two 5-year Dual Degree programmes, four 2-year M.Tech. programmes and Ph.D. programme.

3.17.1 FIELD VISITS/EXCURSIONS/TRAINING PROGRAMMES UNDERTAKEN BY THE STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
Local Excursion	III Sem. B. Tech (ME) & Dual degree	Sendra Bansjora Colliery, BCCL	02.09.2013; 03.09.2013 and 04.09.2013
Local Excursion	III Sem. B. Tech (ME) & Dual degree	CIMFR (Explosive & Blasting Division)	02.09.2013; 03.09.2013 and 04.09.2013
Local Excursion	V Sem. B. Tech (ME) & Dual degree	Moonidih Project, BCCL	05.09.2013; 06.09.2013 and 09.09.2013
Local Excursion	V Sem. B. Tech (ME) & Dual degree	Sonepur Bazari OCP, ECL	05.09.2013; 06.09.2013 and 09.09.2013
Local Excursion	VII Sem. B. Tech (ME) & Dual degree	Rescue Station, Dhansar, BCCL	29.08.2013; 30.08.2013 and 31.08.2013
Local Excursion	VII Sem. B. Tech (ME) & Dual degree	Sudamdih Colliery, BCCL	29.08.2013; 30.08.2013 and 31.08.2013
Local Excursion	VIII Sem. B. Tech (ME) & Dual degree	Jogta Mine Fire Area, BCCL	02.12.2013 ; 03.12 2013 and 04.12.2013

Local Excursion	VIII Sem. B. Tech (ME) & Dual degree	Bhelatand Coal Washery, TATA STEEL	02.12.2013 ; 03.12.2013 and 04.12.2013
Metal Mining (Singhbhum) Excursion	IV Sem. B. Tech (ME) & Dual Degree	Jaduguda(UCIL), Noamundi (TATA Steel) &Jhinkpani(ACC) Mines	02.12.2013 to 08.12.2013
Annual Mine Surveying Camp	VI Sem. B. Tech (ME) & Dual Degree IInd M.Tech (Geomatics)	Longwall Gallery & ISM Campus	03 .12.2013 to 22 .12.2013

3.17.2 INTRODUCTION OF NEW PROGRAMMES, IF ANY

Mine design Exercise for VI B. Tech and Dual degree students has been introduced with a purpose to make students acquaint with the design and planning aspects of underground and surface mines.

The existing M.Tech. programme on Underground Space Technology started by Department of Mining Engineering from the year 2009-10 has been updated in terms of course curriculum and title. The new name of the programme now is Tunneling and Underground Space Technology. This programme mainly focuses on different engineering aspects of shaft sinking, tunneling, cavern construction etc.

M.Tech programme in Geomatics, started by the Department in the year 2009, has got wide acceptance in the mining industry with better placement opportunity.

3.17.3 BEST PRACTICES OF THE DEPARTMENT

- Most of the teaching in rock excavation engineering, tunneling and underground space technology, underground space applications, planning and design of underground space is backed by practical case examples generated from different R&D and Consultancy Projects undertaken.
- Students are involved in live projects for their B. Tech. (Projects), M. Tech. (Dissertation) and Ph.D.(Thesis).

3.17 4BRIEF LIST OF ONGOING R & D PROJECTS

Project Title	Sponsoring Agency	Coordinator(s)	Project Value	Date of Commencement Date of Completion	Objective	Status	Findings
Development of Self Advancing (Mobile) Goaf Edge Supports (SAGES) for Depillaring Operations in Underground Coal Mines	Ministry of Coal, Govt. of India	Prof. U. K. Singh, Dr. Dheeraj Kumar, Mr. N.V.N. Reddy, JBEPL	Rs. 197.75 Lakhs	September 2010	Design and develop Self Advancing Goaf Edge Support (SAGES) of Medium Duty: 2x200t Load Capacity for depillaring operations in underground coal mines	Ongoing	Six nos. of SAGES have been developed. The developments of the SAGES have been progressive. Initial two numbers of SAGES 1 & 2 were put for the field trial in a depillaring panel IID, seam no 2, Victory pit 2, Bastacola Area, BCCL, Dhanbad. On the basis of the outcome of the field trials, another two supports (SAGES 3 & 4) were developed and deployed in Panel IID, seam no 1, Victory Pit no 1, Bastacola Area. SAGES 3 & 4 are performing as per design. Finally, SAGES 5 & 6 were developed and kept at ISM Dhanbad.
Optimization of stemming column....to reduce collar generated boulders	FRS Scheme ISM	Dr. B. S. Choudhary	Rs. 7.30 Lakhs	27.3.2013	Improvement in collar generated fragments using stemming plug	Ongoing	---
FIST project to strengthen teaching facilities in the areas "Geomatics & Underground Space Technology"	FIST, DST	Prof. V.M.S.R. Murthy Dr. Dheeraj Kumar	257	6.6.2012	Strengthening PG teaching and research facility in the Department of Mining Engineering	Ongoing	All the procurement work are over
Development and validation of coupled Thermo-Hydro-Mechanical (THM) models for radioactive waste repositories in fractured rocks	DST	Dr. A. K. Verma	Rs. 35 Lakhs	5.2.2013- 5.2.2018	Prediction of thermal, mechanical and hydrological effects on jointed rock mass due to heat released by spent nuclear fuel	Ongoing	Literature review done, thermal conductivity equipments purchased.
Innovative method for production of methane from coal seams and disposal of greenhouse gases	FRS	Dr. A. K. Verma	Rs. 6.5 Lakhs	1.8.2013 - 1.8.2016	Characterize Indian coals for adsorption and desorption based on characteristics	Ongoing	Literature review going on.
Development of Underground Coal Gasification Technology in India Project	Council of Scientific and Industrial Research (CSIR).	Prof. D.C.Panigrahi, Prof. Atul K Varma Prof. V. K. Saxena Prof. S. Chaudhury Shri P. K. Behera Prof. R. K. Das Dr. D. P. Mishra	Rs. 91.60 lakhs	20.3.2013- 31.3.2017	Geological and petrographical characterization of coal seams and associated rocks. Study of physico-mechanical, elemental and thermal behavior of coal samples and associated rocks for subsidence and environmental monitoring and modelling.	Ongoing	The experimental facilities are being developed and the research will be carried out after these developments.

3.17.5 IMPORTANT COLLABORATIVE WORKS

Organisation/laboratory	Nature of Interaction
DITAG, Politecnico di Torino(POLITO), Torino, Italy	Development of rock characterization and simulation facilities for dimension stone cutting using diamond wire saw technology in granite.
Central Institute of Mining and Fuel Research, Dhanbad	Execution of the research project on "Development of Underground Coal Gasification Technology in India."

3.17.6 IMPORTANT NEW EQUIPMENT ACQUIRED (ABOVE RS. 500,000/-)

Name of Equipment	Purpose	Value (₹)
S/I of digital level along with all accessories	For PG Programme M.Tech (Geomatics) and practical classes to B.Tech/MSc. Tech students	Rs. 11,19,000
Grim portable aerosol spectrometer	Monitoring of dust in air	Rs. 28,19,088
Gyromat with accessories, electronic total station with accessories fitted on Gyromat.	For PG and UG teaching in surveying including research	Rs. 15,780,000
RTK different global positioning system capable of tracking GPS	For teaching at UG and PG level in mine surveying methods and research.	Rs. 19,78,750
S/I of Drager make model X-am 7000, Multigas detector with internal pump data logger	Measurement of Gas in Mine air samples.	Rs. 11,09,800
Self-advancing goaf edge support (2 nos. of SAGES)	Support systems developed in R&D project for depillaring operation in Mines.	Rs. 43,62,942
Datamine studio software consisting core, data source drivers, 3D visualization wire frame modelling	Mine planning and design software for practical classes at UG and PG level.	Rs. 8,51,812

3.17.7 RESEARCH PUBLICATION

3.17.7.1 Papers published in International Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Raina, A.K., Murthy V.M.S.R and Soni, A.K.	2014	Fly rock in bench blasting: A comprehensive review	Bulletin of Engg. Geology and Environment, ISSN	1435-9529 Springer	-
2.	Lokhande, R.D. Murthy, V.M.S.R & Singh, K.B.	2013	Pot-hole subsidence in underground coal mining - Some Indian experiences	Geotechnical and Geological Engineering,	Vol.31, No.2 Springer	793-799
3.	Prakash Amar, Murthy V.M.S.R and Singh K.B	2013	Rock excavation using surface miners: An overview of some design and operational aspects	Int. Journal of Mining Science and Technology	Vol. 23 Elsevier	33-40
4.	Lokhande, R.D. Murthy, V.M.S.R & Singh, K.B	2013	Predictive models for pot-hole depth in underground coal mining Some Indian experiences	Arabian Journal of Geosciences	1866-7511 Springer	-
5.	Roy, M. P., Singh, P. K, Mishra A K, & Jawed M	2014	Impact of total explosive weight detonated in blasting round on blast induced ground vibration	World of Mining Surface & Underground	Vol. 66, No. 3	2-7
6.	Mishra, A. K, Mishra, Awadh K. & Rout M	2013	Blast-Induced Caving from Surface over Continuous Miner Panel at a 110m Cover in an Indian Mine	Arabian Journal for Science and Engineering	Vol.38 Issue 7 Springer	-
7.	Pandey, J., .Kumar, D, Mishra, R. K., Mohalik, N. K., Khalkho, A. and Singh, V.K.	2013	Application of Thermography Technique for Assessment and Monitoring of Coal Mine Fire: A Special Reference to Jharia Coal Field, Jharkhand, India	Int. Journal of Advanced Remote Sensing and GIS	Vol. 2, Issue 1,	138-147
8.	Choudhary, B.S and Kumar Sonu	2013	Assessment of powder factor in surface bench blasting using Schmidt rebound number of rock mass	Int. Journal of Research in Engineering and Technology	Vol. 2, Issue-12,	132-138

9.	Choudhary, B.S	2013	Firing patterns and its effect on muckpile shape parameters and fragmentation in quarry blasts	Int. Journal of Research in Engineering and Technology	Vol. 2, Issue-09	32-45
10.	Choudhary, B. S and Kumar S	2013	Underground void filling by cemented mill tailing	Int. Jour. of Mining Science and Technology	Vol. 23 (2013)	893-900
11.	Choudhary B. S. and Rai P	2013	Stemming Plug and Its Effect on Fragmentation and Muckpile Shape Parameters	Int. J. of Mining and Mineral Engineering (IJMME)	Vol. 4, No. 4	296-309
12.	V. V. Govind Kumar, K. Venkata Reddy & Deva Pratap	2013	Updation of cadastral maps using high resolution remote sensing Satellite data	Int. Journal of research in engg. and Technology (IJRET)	Vol. 2	50-54
13.	Sahu, P., Mishra, D. P., Panigrahi, D.C. Jha, V.N. and Patnaik, R.L.	2013	Radon emanation from low-grade uranium ore	Journal of Environmental Radioactivity, Elsevier	Vol. 126	104-114
14.	Mishra, D. P., Sugla, M., Singha, P.	2013	Productivity improvement in underground coal mines a case study	Journal of Sustainable Mining	Vol. 12, No. 3	48-53
15.	Mishra, D. P., Sahu, P., Panigrahi, D.C, Jha, V.N. and Patnaik, R. L.	2014	Assessment of ²²² Rn emanation from ore body and backfill tailings in low-grade underground uranium mine	Environmental Science and Pollution Research, Springer	Vol. 21, Issue 3	2305-2312
16.	Paul, P. S.	2013	Investigation of the role of personal factors on work injury in underground mines using structural equation modelling	Int. Journal of Mining Science and Technology, Elsevier	Vol. 23	815-819
17.	Verma, A.K. and Singh, T.N.	2013	Soft Computing and GIS for landslide susceptibility assessment in Tawaghat area, Kumaon Himalaya	Int. Journal of Natural Hazards	Vol. 65(1)	315-330
18.	Panigrahi, D.C., Sinha, S. K., Singh, G. N.	2013	A study into occurrence of fire in opencast workings over developed coal pillars and evolving control parameters for its safe extraction	Archives of Mining Sciences	Vol. (2013)	1145-1162

19.	Sahu, P., Mishra, D. P., Panigrahi, D.C., Jha, V., Patnaik, R. L., and Sethy, N. K	2014	Radon emanation from backfilled mill tailings in underground uranium mine	International Journal of Environmental Radioactivity	Vol.130	15-21
20	Ray, S. K., Panigrahi, D.C., and Varma, A. K	2014	An electro-chemical method for determining the susceptibility of Indian coals to spontaneous heating	International Journal of Coal Geology	Vol.128	68-80
21.	Panigrahi, D.C. and Mishra, D. P	2014	CFD simulations for the selection of an appropriate blade profile for improving energy efficiency in axial flow mine ventilation fans	Journal of Sustainable Mining	Vol. 13	15-21
22.	Alam, Soyeb	2013	Statistical analysis of various sub-systems of panel production system in underground coal mine	Int. Journal of Research in Engineering and Technology (IJRET)	Vol. 02 Issue : 12	1-15

3.17.7.2 Papers published in National Journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	Lokhande, R.D. Murthy V. M. S. R & Singh, K. B.	2013	Predicting the pot-hole depth in case of underground coal mines- An approach	Mine Tech	Vol.34, No.4, October- December	27-36
2.	Lokhande, R.D. Murthy V. M. S. R & Singh, K. B.	2013	Innovative developments in drilling and blasting techniques for rapid excavation of drivages in mines	Journal of Mines, Metals & Fuels,	Vol. 61, No. 7 & 8	194 -201
3.	Panda, M. K, Pingua, BMP, Saw, A. K, Akhtar, S, Mohanty S P, Mishra, A. K	2013	Study on Control Blasting at Metro Rail Project -A Case Study	The Indian Mining & Engineering Journal	Vol. 52, No. 8	11-15
4.	Mishra, A. K.,	2013	Accurate Measurement in Mine Surveying is Key of Successful Blasting	Mining Engineers' Journal	Vol. 14, No. 10	18-21

5.	Pandey J., Mohalik, N. K., Mishra, R. K., Khalkho, A., Kumar, D & Singh, V. K.	2013	Role of Chemical additives in retardation of moderate temperature coal fire in Indian coal mines: A new approach on an old problem	Mine Tech	Vol. 34, No.2	45-52
6.	Choudhary B. S., P. Rai & Sharma S. K	2013	Stemming plugs and its effect on fragmentation and muckpile shape parameters-a case study	Journal of Mines Metals & Fuels	Vol. 61, No. 7 & 8	177-183
7.	Choudhary B. S., and Kumar Pawan	2013	Fragmentation vis-à-vis Excavator Cycle Time -A Case Study	Indian Mining and Engg. Journal	June, 13 Vol. 52, No. 06	1-17
8.	Choudhary, B. S. & Patidar I	2013	Computer Aided Coal-Seam Modelling and Design of a Mine.	Indian Mining and Engg. Journal	52, No.10,	19-23

3.17.7.3 Paper presented in International Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Sen, P.	"Highwall Mining of Coal Seams and Its Current Indian Scenario", pp. 97-106.	Proc. CET AFC 2013 International Conf. on Coal and Energy Technological Advances and Future Challenges	15-17 Dec., 2013	Kolkata
2.	Mishra, A. K. and Sen, P.	"Precise Surveying in Drilling and Blasting Key of Success in Mining Operation", pp. 283-288.	Proc. CET AFC 2013 International Conf. on Coal and Energy Technological Advances and Future Challenges	15-17 Dec., 2013	Kolkata
3.	Kumar, A., Singh, K. B. P., Chouhan, M., Kumar, D.	An illustration of strategic mine planning in a typical open pit using modern mine planning softwares and techniques	Int. Conference on "Innovative surface and underground mining technology for performance enhancement, Journal of Mine Metals & Fuels,	16-18, January 2014	Kolkata

4.	Srivastava,H.S., Mishra,R.S., Sharma,P.K., Kumar, D.	Soil moisture variation as observed by ENVISAT-1 ASAR over parts of Haridwar & Saharanpur during November 2006 To June 2007	9 th Int. Conference on Microwave Antena Propagation and Remote Sensing (ICMARS 2014)	11-14, Dec. 2013	Jodhpur
5.	Mishra, D. P. and Das, S. K.	Structural and physical properties of coal combustion by-products and their effect on mine stowing	Int. Conference on Structural and Physical Properties of Solids (SPPS 2013)	18 - 20 Nov. 2013	Indian School of Mines, Dhanbad
6.	Sahu, P., Mishra, D. P. . and Panigrahi, D. C.	Monitoring of radon gas and its progeny in underground uranium mines	International Symposium on Environmental Management and Current Practices in Mining & Allied Industries	13-15 February 2014	IIT (BHU), Varanasi
7.	Choudhary, B. S.	Excavator selection based on muckpile shape parameters in low height benches	Int. Conf. of Development in best practices in surface and underground mining and innovation in mining machinery, JMM	16-18 January, 2014	Kolkata
8.	Budi G., Soren K. & Sen P	The Influence of Seismic Wave on Open Pit Slope Stability A Numerical Simulation Approach	Proceedings of the "ESEMR 2013: International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources,	14-16 Nov. 2013	ISM, Dhanbad
9.	Budi G., Soren K. & Sen P	Stability Analysis of open Pit Slopes in Jointed Rock A Numerical Modelling Approach	Proceedings of the "ESEMR 2013: International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources	14-16 Nov. 2013	ISM, Dhanbad

10.	Sarkar, K., and Verma, A.K	Static and Dynamic analysis of soil slope-A case study	Proceedings of the "ESEMR 2013: International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources	14-16 Nov. 2013	ISM, Dhanbad
11.	Verma. A. K., Singh, T. N. and Bajpai, R. K	Study of thermo-hydro-mechanical processes at the potential site of an Indian nuclear waste repository,	Rock Mechanics for Resources, Energy and Environment Kwasniewski & Iydzba (eds) (EUROCK-2013)	21-26 Sept. 2013	Poland

3.17.7.4 Papers presented in National Seminars/Conferences

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Soren, K., Budi, G. and Sen, P.	"A Review of Numerical Modelling Techniques Applicable for Stability Analysis of Jointed Rock Slopes", pp. 496-507	Proc. INDOROCK 2013: 4 th Indian Rock Conference	29-31 May, 2013	New Delhi, India
2.	Sen, P.	"Land Acquisition A Challenge to the Surface Mining Industry in India" pp. 215-218	Proc. 25 th National Convention of Mining Engineers & POSTALE 2013	30 Nov & 1 Dec. 2013	Dhanbad
3.	Sen, P., Balamade-swaran, P. and Sreekumar	"Planning of Surface Mine Drainage System- An Approach", pp.91-98.	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.
4.	Mishra, A. K., Sen, P. and Sinha, M.	"Efficient Blasting in Opencast Mines over Developed Coal Seams" pp.169-178	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.

5.	Budi, G., Soren, K., Sen, P. and Kumar, A.	“Numerical Analysis of Open Pit Slope Stability”, pp.297-310	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.
6.	Kumar, Suraj and Murthy V.M.S.R.	Predicting penetration rate for rotary blast hole drills in surface coal mines - an approach	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.
7.	Mishra, A. K., and Sinha, M	Optimisation of cast blasting in an opencast coal mines- a case study	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.
8.	Mishra, A. K., and Sinha, M	Stability Enhancement of Rock Slopes using Controlled Blasting Techniques along Konkan Railway in India - A case study	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.
9.	Mishra, A. K., Nigam, Y. K., and Deepak Kumar	Super controlled blasting in a mine using digital detonators	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.
10.	Mishra, A. K., Mallik, D. K., and Bhatta- charya, R. M	Flyrock related accidents and its mitigation in surface mines	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad.
11.	Mishra, A. K., and Sinha, M	The Economic Impact of Cast Blasting in Opencast Coal Mines	Proc. of National Seminar on Mining Industry: Challenges & Opportunities (MICO'13)	Sept. 28-29, 2013	ISM, Dhanbad.
12.	Mishra, A. K.,	Super Controlled Blasting using electronic initiation system	Workshop on Clean Mining Technologies- Extraction, Beneficiation & Use, IMEJ	03-04 May, 2013	Bhubanes- war
13.	Bhattacharjee, R. M.	Change in philosophy of safety and health management system in Indian Mines need of the hour to achieve Zero Harm	National Seminar on Mining Industry: Challenges and Opportunities	28 & 29 Sept. 2013	ISM, Dhanbad

14.	Bhattacharjee, R. M. Das, A.K., and Paul, P. S.	Changing Philosophy of accident investigation in Indian Mines Need for shifting focus from Human error to System error	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad
15.	Sahu, P., Panigrahi, D.C. and Mishra, D. P.	Radiation hazards in underground uranium mines	National Seminar on Mining Industry: Challenges & Opportunities (MICO'13)	28-29 Sept., 2013	ISM, Dhanbad
16.	Maheshwari, S. Bhardwaj, A. and Mishra, D. P.	Real-time Particulate Exposure Monitoring in Opencast Coal Mines	Proc. 6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad
17.	Kumar, D. and Panigrahi, D. C	Role and Relevance of Geospatial Technology in Mining Sector,	India Geospatial Forum 2014	5-7 February 2014,	Hyderabad
18.	Kumar, D	Mining Mineral and Sustainable Development	National Seminar on Indian Mineral Industries- Challenges and Opportunities	January 17, 2014	Indian Institute of Metals, Khetri
19.	Kumar, D, Rajpurohit,D., Desai, M., Pratyush, and Ranjan, A. K.	Testing height accuracy of digital and precise Levels	Proc. 6 th National Seminar on Surface Mining (NSSM)	10-11 January, 2014	ISM, Dhanbad
20.	Choudhary, B. S., Jena, A.V. and Prasad, S.	Effect of joint condition and its orientation on rock fragmentation	Proc. 6 th National Seminar on Surface Mining (NSSM)	10-11 January, 2014	ISM, Dhanbad
21.	Choudhary, B. S., Rai, P. and Sharma, S.K.	A study to investigate the effect of firing pattern and stemming column adjustments on blast induced fragmentation	Proc. 6 th National Seminar on Surface Mining (NSSM)	10-11 January, 2014	ISM, Dhanbad
22.	Panigrahi, D.C., and Choudhary, B. S	Importance of mining engineering education in socio-economic development	Proc. 6 th National Seminar on Surface Mining (NSSM)	10-11 January, 2014	ISM, Dhanbad

23.	Panigrahi, D.C., and Choudhary, B. S	Fostering Socio-Economic Development through Mining Engineering Education	National Seminar on Policies, Statutes & Legislation in Mines (POSTALE)	Nov. 30, 2013,	CSIR- CIMFR, Dhanbad
24.	Choudhary B.S.,& Gupta Ajey	A comparative study on Fragmentation Measurement Techniques	National Seminar on Explosives and Blasting Techniques for Mining, Quarrying and Infrastructure Industry	Sept 27-28, 2013	NIT Surathkal
25.	V. V. Govind Kumar, Jain, Kamal.	Evaluating Hazard Prone areas in upper Himalayan Region due to Cloudburst: Kedarnath disaster A Case study	National Symposium on Remote Sensing and GIS for Environment with special emphasis on Marine and Coastal Dynamics.	Sept 27-28, 2013	NIT Surathkal
26.	Soren K., Budi G. & Sen P	Stability Analysis of an Open Pit Slope in Jointed Rock by Finite Element Method	Proceedings of the "IGC 2013: Indian Geotechnical Conference	22-24 Dec. 2013	IGS Roorkee Chapter, Roorkee
27.	Verma, A. K., Gautam, P. K. Singh, T. N., and Bajpai, R. K.	Discrete element modelling of deep geological repository for high level nuclear waste disposal,	National Seminar on Innovative Practices in Rock Mechanics	2014	NIRM
28.	Verma A.K. and Singh, T.N	Hybrid Intelligent models for prediction of compressional wave velocity of rocks	N. Seminar on 'Explosives & Blasting Techniqu- es for Mining, Quarrying & Infrastructure Industry' (EBTMQI)	Sept. 27-28, 2013	NIT Karnataka.

3.17.8 MAJOR ACADEMIC CONTRIBUTIONS

Prof. D. C. Panigrahi was conferred SBI Best Researcher Award for the year 2012-2013 during XXXVI Convocation of the Institute on 10.05.2014.

- Conferred ISM Alumni Best Researcher Award for the year 2012-2013 during XXXVI Convocation of the Institute on 10.05.2014.

- Nominated as a member of Governing Body and General Body of National Institute of Rock Mechanics, Kolar Gold Fields, Karnataka.
- Nominated as a member of Governing Council of Association of Indian Universities, New Delhi.
- Nominated as a member of Executive Council of Central University of Jharkhand under Ministry of Human Resource Development, Govt. of India.
- Nominated as an expert member by the Department of Science and Technology, Govt. of India, for reviewing the development of sensor hub at Central Glass and Ceramic Research Institute (a CSIR Lab), Kolkata.
- Invited by the Ministry of Labour and Employment, Govt. of India to be the Chairman of the Sectoral Innovation Council on Occupational Safety and Health under National Innovation Council constituted by the Prime Minister of India.
- For the seventh consecutive year, he has been elected by the Committee of Mining, the Polish Academy of Sciences as a member of the International Advisory Board for the publication of International Journal on Archives of Mining Sciences, for his significant contribution in field of Mine Ventilation Engineering.
- Chairman of International Mine Ventilation Committee for the duration 2009-2014, started all the processes for organization of Tenth International Mine Ventilation Congress in South Africa.
- Nominated as a member of Mentor Council for Mining and Mineral Sector of the country to bridge the burgeoning gap faced by the Indian economy under Ministry of Labour and Employment, Govt. of India.
- Continues as a member of the prestigious Statutory Committee of Govt. of India constituted under Section 12 of Mines Act, 1952. This Committee is chaired by the Secretary / Addl. Secretary to Govt. of India, Ministry of Labour and Employment.
- Nominated as the Honorary Editor for the publication of the Journal of Coal Mining Technology and Management published by Indian Institute of Coal Management, Ranchi.
- Continued as an expert member of Bureau of Indian Standards, Govt. of India for reviewing the standards related to Mines Safety in the country.

Prof. M. Jawed is appointed as a Member, Board of Course Study, Department of Mining Engineering, NIT Jalandhar (w.e.f Feb. 2013)

Prof. U. K. Singh was conferred Distinguished Alumnus Award from IIT BHU.

- Reviewed papers of International Journal of Rock Mechanics and Mining Sciences published by Elsevier.

Dr. A.K.Mishra has been honoured by the Mining Engineering Association of India with MEAI Adheraj Baldota Memorial Gold Medal Award 2012 (Young Mining Engineer of the year 2012) on June 2013.

- Reviewed a paper on Slope stability monitoring by quantification and behavior of microseismic events in an opencast coal mine for Journal of the Geological Society of India.

Dr. Dheeraj Kumar was conferred SBI 2nd Best Researcher Award for the year 2012-2013 during XXXVI Convocation of the Institute on May 10, 2014

- Completed a challenging assignment of gyroscopic alignment of longest road tunnel of the country under construction i.e. Chenani Nasri Tunnel on NH1A

Dr. D. P. Mishra reviewed three papers for the GSTF Journal on Geology and Earth Sciences (JGES), Global Science and Technology Forum (GSTF), Singapore.

- Reviewed a paper titled "Study on the use of geosynthetic materials for ensuring drainage conditions within industrial ash deposits" for the Environmental Engineering and Management Journal.
- Reviewed a paper titled "Air-and-water spraying system efficient method for dust control" for the Journal of Sustainable Mining.
- Reviewed a paper titled "Rare earth roll magnetic separation of silica sand" for the Particulate Science and Technology Journal, Taylor and Francis.
- Reviewed a paper titled "Radon emanation coefficients and environmental impacts from laboratory wastes of different uraniferous rock samples" for the Annals of Nuclear Energy journal, Elsevier.
- **Nominated as** a member of the Program Committee, 3rd Annual International Conference on Geological and Earth Sciences (GEOS - 2014) to be held in Singapore during 22-23 September, 2014.

3.17.9 SEMINARS, SYMPOSIA, WORKSHOPS, CONFERENCES ORGANIZED BY THE DEPT./CENTRE

6 th National Seminar on Surface Mining	10-11 January, 2014
Jointly organized by ISM, Dhanbad and Indian Mines Managers' Association the National Seminar on Mining Industry: Challenges and Opportunities	28 & 29 September 2013
One day workshop on Modern Surveying Techniques in association with Department of Revenue and Land Reforms, GOJ, and AGI, New Delhi	19 October, 2013

3.17.10 PARTICIPATION OF FACULTY IN SEMINARS / WORKSHOPS / CONFERENCES

Prof. P. Sen	CETAFC 2013 International Conf. on Coal and Energy Technological Advances and Future Challenges	15-17 Dec., 2013	Kolkata, India
Prof. P. Sen Prof. V.M.S.R.Murthy Dr. A.K.Mishra Dr. Dheeraj Kumar Dr. R.M. Bhattacharjee Dr. D.P. Mishra Dr. B.S. Choudhury Dr. Hemant Kumar Dr. G. Budi Shri K. Pal Dr. A. K. Verma Dr. S. Alam	6 th National Seminar on Surface Mining	10-11 January, 2014	ISM, Dhanbad India
Prof. P. Sen	National Seminar on Dragline Mining: Prospects & Challenges	6-8 Dec., 2013	NCL, Singrauli
Prof. P. Sen Prof. M. Jawed Dr. A.K.Mishra Dr. Dheeraj Kumar Dr. R. M. Bhattacharjee Dr. D. P. Mishra	National Seminar on Mining Industry: Challenges & Opportunities	28-29 Sept., 2013	ISM, Dhanbad, India
Prof. P. Sen	National Conference on Water and its Sustainability in Mining and Other Environment	28-29 Mach, 2014	ISM, Dhanbad, India
Prof. P. Sen Prof. M. Jawed Dr. Dheeraj Kumar	6 th Indian Mineral Congress & Exhibition "Innovations: Fusion of Management and Technology"	1 st Feb., 2014	ISM, Dhanbad, India

Prof. P. Sen Dr. B. S. Choudhury	National Convention of Mining Engineers & POSTALE 2013	Nov. 30 & Dec. 01, 2013	Dhanbad
Prof. P. Sen	Workshop on Geostatistics for Natural Resource Modelling	Feb. 28, 2014	ISM, Dhanbad
Prof. P. Sen	Workshop on Highwall Mining Technology	2 nd Aug., 2013	DGMS, Dhanbad
Prof. P. Sen	Workshop on Continuous Miner Technology	1 st Aug., 2013	DGMS, Dhanbad
Dr. Dheeraj Kumar	India Geospatial Forum	5-7 February, 2014	HICC Hyderabad
Dr. Dheeraj Kumar	National Seminar on Indian Mineral Industries- Challenges and Opportunities	17 th January, 2014	HCC, Khetri
Prof. M. Jawed Dr. Dheeraj Kumar Dr. G. Budi	International Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources	14-16 November, 2013	ISM Dhanbad
Dr. Dheeraj Kumar	International Conference on Microwave and Photonics (ICMAP -2013)	13 - 15 December, 2013	ISM Dhanbad
Prof. M. Jawed	XI conference on Safety in Mines	4-5 July, 2013	New Delhi
Prof. M. Jawed	National workshop on "Sustainable mining and UNEC 2009"	29-30 October 2013	New Delhi
Dr. R.M. Bhattacharjee	5 th . Asian Mining Congress	13-15 February, 2014	Kolkata
Dr. D. P. Mishra	International Conference on Structural and Physical Properties of Solids (SPPS 2013)	18-20 November, 2013	ISM Dhanbad
Dr. B. S. Choudhury	National Seminar on Explosives and Blasting Techniques for Mining , Quarrying and Infrastructure Industry	27-28 September, 2013	NIT Surathkal
Dr. Hemant Kumar	One day workshop on Intellectual Property Rights	14 th February, 2014	ISM Dhanbad

3.17.11 VISIT OF FACULTY MEMBERS ABROAD

Prof. V. M. S. R. Murthy visited DITAG, Politecnico di Torino (POLITO), Torino, Italy, on 30th September 2013 to 29th September 2013 for an interaction with POLITO on development of rock characterization and simulation facilities for dimension, stone cutting, using diamond wire saw technology in granite.

3.17.12 TESTING SERVICES

a. Mine Ventilation Laboratory

Sl. No.	Description of Testing Services
1.	Evaluation of performance and behaviour of self contained chemical self rescuers (SCSR) as per EN (European Norms) 401 and IS 15803: 2008.
2.	Determination of Crossing Point Temperature, Ignition Point Temperature and Moisture content of one coal sample.
3.	Determination of Thermal Conductivity of coal, coal major rocks and other mineral samples.
4.	Chromatographic analysis of Mine Air Sample and sample collected from sealed off fire areas (For all component gases such as CO, O ₂ , CO ₂ , CH ₄ , H ₂ , C ₂ H ₆ , C ₂ H ₄ , N ₂ and other components), Calculation of different gas ratios, Assessment of combined Explosibility by Coward's diagram and Ellicott Extension of Coward's diagram.
5.	Calibration of Methanometer at four standard gas concentrations.
6.	Calibration of Toximeter at four standard gas concentrations.
7.	Calibration of LMD at four standard gas concentrations.
8.	Calibration of Multigas detector at sixteen different standard concentrations.
9.	Calibration of Oxymeter at four standard concentrations.
10.	'Execution of measures for dust control' as per Regulation 123 A (1A) (a) (i) & (ii) of Coal Mine Regulations, 1957.
11.	Calibration of anemometer by low speed wind-tunnel.
12.	Testing of different parameters of quick setting cement capsules as per DGMS Circular No. 5 dated 27.12.2010.

b. Rock Mechanics

Mine Support

Hydraulic Support

Cyclic and non-cyclic test (Axial load, overload, eccentric load test) of Hydraulic leg used for powered roof supports as per DGMS guidelines. (This is a new facility that has been developed in the Rock Mechanics Laboratory).

Other Supports

- Load - yield characteristics of timber prop, hydraulic prop, friction prop, Steel Cogs etc.

- Anchorage/grouted strength and Cube compressive strength of cement/resin capsules used for rock bolting.
- Testing and Calibration of Anchorage Testing machine.

Rock Properties

- Physico-mechanical properties of coal, coal measure rocks and hard rocks.
- Strength indices determination of rock & coal samples.
- Direct/Residual shear strength determination of rock.
- Crushing strength determination of building materials.
- Abrasivity, hardness, weatherability of rock samples.

Soil Properties

- Direct/Residual shear strength determination of soil.
- Consistency test & Atterberg's limits tests of soil samples.
- Calibration of load cells, hydraulic jacks & probing rings.

c. Rock Excavation

- Compressional wave (p-wave) & Shear wave (s-wave) of the rock samples and the dynamic elastic constants.
- Cerchar Hardness Index for rocks (helps in selecting cutting tools, mechanical excavation systems)
- Cerchar Abrasivity Index for rocks (helps in predicting tool consumption in machine cutting)
- Brittleness Index
- Sievers J Value
- Drilling Rate Index

- Fracture toughness of rock samples.
- Vicker hardness for rocks (helps in determining micro-hardness of minerals for selecting dimension stone cutting systems etc.)

3.17.13 DISTINGUISHED VISITORS TO THE DEPARTMENT/ SCHOOL (INDICATING OCCASION/PURPOSE)

Name of the Vistors	Purpose
Dr. B. Siddique, Deputy commissioner of student affair Prof. Mahe, Prof B. K. Mozumdar.	Visited Dept. of Mining Engg. to see the facilities of the department and interact with the faculty members of the department on 13.05.2013.
Col. J. K. Satpaty, SOF, Chief Engg. DRDO Shri B. K. Singh Addl. CCE, DRDO.	Visited Dept. of Mining Engg. to see the facilities of the department on 03.06.2013
Dr. S. K. Yerra, Principal Consultant, Product & Engg. solutions, Bangalore Shri Kedar Pimplikar, iGate Global Solutions Limited.	Visited Dept. of Mining Engg. to see the facilities of the department and scope for possible academic and research collaboration on 06.09.2013
Dr. M.P.Narayanan, former CMD Neyvelli Lignite Corporation and Coal India Ltd.	Visited Dept. of Mining Engg. to see the facilities of the department on 15.11.2013
Shri Birendra Mohapatra, GM Hindusthan Zinc, Udaipur	Visited Dept. of Mining Engg. to see the facilities of the department on 17.11.2013
Shri B. Ravi, Gen. Manager, Sandvik Asia Pvt. Ltd., Bangalore	Visited Dept. of Mining Engg. to see the facilities of the department on 24.11.2013
Shri B. Ramesh Kumar, DT (Operations),SCCL	Visited Dept. of Mining Engg., interact with faculty members on 13.12.2013.
Dr. Sanjay Basu, Advisor, Sandvik Asia Pvt. Ltd.	Visited Dept. of Mining Engg from 24 to 25.03.2014 for discussing different academic possible joint studies with the faculty members.

3.17.14 SPECIAL LECTURES BY DISTINGUISHED GUESTS

Sri G. Gopinath, Scientist-II,NIRM,KGF delivered lecture on “Metro Tunnelling” .	February 2014
Shri Avinash Paul, Scientist, CIMFR, Dhanbad delivered lecture on “Support design for Underground excavations-some case studies” .	February. 2014
Shri Subhasis Das, Vice President and Country Segment Manger(UGM) Sandvik Mining and Construction, Sandvik Asia Pvt. Ltd. delivered a lecture on “Mechanised Excavation of coal in Underground bord & pillar miningsome recent trends”	November 2013
Dr. A. Srikant, Principal Mining Engineer, AMEC, USA delivered a lecture on “ Block Caving”	October 2013
Shri S. K. Bhowmik, GM,UCIL delivered a lecture on ' Mine Openings relevant to different mining methods”	September 2013
Shri S. K. Bhowmik, GM,UCIL delivered a lecture on ' Uranium ore mining in India”	April 2013

3.17.15 MISCELLANEOUS

1. **Prof. M Jawed** is appointed as technical member of the standing Committee(under clause (a) of sub section 26 of MMDr act,1957) by Ministry of Coal for approval of Mining Plan.(12.03.2013 to 15.01.2014)
2. **Prof. U. K. Singh** is appointed a member of Board of Examination, Directorate General of Mines Safety, DGMS Dhanbad.
3. **Dr. A. K. Mishra** is a member of Selection Committee member for engagement of Project Assistant Level I & II at CIMFR on 09.10.13.
 - Member of Selection Committee member for engagement of Project Assistant Level I at CIMFR on 17.10.13
 - Member of a Selection Committee member for engagement of Project Assistant Level I at CIMFR on 18.10.13.
 - Member of a Selection Committee member for engagement of Project Assistant Level II at CIMFR on 17.07.13.
4. Dr. Dheeraj Kumar delivered several talks at DGMS Dhanbad during 2013-14 on the topics related to slope monitoring, statutory requirements of Plans & Sections and Modern surveying tools and techniques.

5. **Dr. R. M. Bhattacharjee** delivered a talk on the subject of Mining Safety: The Modern Approach as an Invited speaker during the Safety Symposium & Exposition, being held at ITC Sonar, Kolkata on 20 September 2013
- Nominated as a member of Sectoral Mentor Council (SMC) on Mining and Mineral Sector under Union Ministry of Labour and Employment.
 - Nominated as Risk assessment / safety expert for SEAC of Bihar.
6. **Dr. D. P. Mishra** delivered lectures on the topics "Mine fires, mine explosions and mine dusts for the officials of Ministry of Mines, Govt. of Afghanistan" on 22.05.2013.
- Attended a workshop on 'Standards of Resin Capsule' on 28th May, 2013 held at DGMS, Dhanbad as a nominated member from ISM.
 - Served as a member of the sub-committee constituted by DGMS, Dhanbad to review and recommend revisions on some of the standards of resin capsule.
 - Attended a meeting called by DC, Dhanbad on 8th August, 2013 for finding solution to the problems of Bagdigi Colliery, Lodna Area arisen after the occurrence of explosion.
 - Acted as Member, Core Committee of the National Seminar on Mining Industry: Challenges & Opportunities (MICO'2013) organised by Indian Mines Managers' Association during 28-29 September, 2013 at ISM, Dhanbad.
 - Delivered a lecture on 'Disaster control in mines' during the specialised training programme for Mine Managers, Safety Officers and Ventilation Officers at Mine Safety & Health Academy (MSHA), Vikash Bhawan, DGMS, Dhanbad on 21.10.2013.
 - Represented ISM in the 15th Meeting of National Dust Prevention Committee organized by Coal India Ltd. held at Kolkata on 18th December, 2013.

3.18 Department of Petroleum Engineering

The Department of Petroleum Engineering was established in the year 1957 to cater and train the Petroleum Engineers of the country. It was the first Institute of its kind in Asia. Still it is maintaining its quality as the best Petroleum Engineering Department of the country and continuing its global recognition. The alumni of the Department have occupied top positions of industry of E & P business and academia, both in India and abroad.

The Department has very active interaction with hydrocarbon industry and academic institutions. The Department of Petroleum Engineering has developed industry academia interface with a number of E & P companies like ONGC, Cairn India, Schlumberger, Shell India etc.

It has developed rapport with institutes and universities in India and abroad. It has collaborated with universities like Kansas University, USA, Imperial College of Science and Technology, London, Herriot-Watt University, U. K, University of Miskole, Hungary, Technische Universitat Braunschweig, Braunschweig, Germany for various research works.

The Department currently offers one 4-years B. Tech. in Petroleum Engineering, one 5-years Dual Degree B. Tech. in Petroleum Engineering and M. Tech. in Petroleum Engineering and one 2-years M. Tech. in Petroleum Engineering. In addition to these, the Department offers doctoral degree programs. At present, the department has 12 regular faculty members (4 Professors (1 on lien), 4 Associate Professors and 4 Assistant Professors).

There are 14 ongoing R&D projects in the Department worth Rs. 171.048 lakhs sponsored by UGC, CSIR, DST and Oil India Ltd. in the area of reservoir engineering, enhanced oil recovery, formation damage, hydraulic fracture, application of polymer, eco-friendly drilling fluids, coalbed methane and gas hydrates in the year 2013-14. In addition to these, The Department also has been approved Rs. 1.5 crore under FIST project of DST, India. The faculty members of the Department have published 18 technical papers in international journals and have presented 10 research papers in international conferences during the period. Five under-graduate students also presented their papers in national and international conferences during this period. The faculty members of the department have represented various committee of different institutes of the country like board of courses and selection committee.

The students and faculty members of the Department have actively participated in various events organized by the industry and academic institutions. The SPE chapter of ISM received 'Gold Status' by the International body SPE. The Petrotech chapter of ISM was

felicitated with 'the second best Chapter Award and the winner shield was awarded to the students of Petroleum Engineering Department in inter chapter paper presentation of the country. Two faculty members were awarded the merit certificates for their technical papers.

The Department welcomed a number of distinguished visitors in different activities like delivering special lecturers organized by SPE Chapter of ISM, Petrotech Chapter of ISM and Petroleum Engineering Society.

3.18.1 FIELD VISITS/EXCURSION/TRAINING PROGRAMMES UNDERTAKEN BY STUDENTS

Particulars	Batch of students	Place of visit	Period of visit
Summer Training	IV B.Tech PE	ONGC Ahmedabad	20.05.2013 - 19.06.2013
Summer Training	IV B.Tech PE	ONGC Mehsana	20.05.2013 - 19.06.2013
Summer Training	IV B.Tech PE	Uran Processing Plant	20.05.2013 - 19.06.2013
Summer Training	IV B.Tech PE	Hazira Gas Processing Plant	20.05.2013 - 19.06.2013
Summer Training	IV B.Tech PE	Oil India Limited, Duliajan	20.05.2013 - 19.06.2013
Summer Training	VI DD	IRS Ahmedabad	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	IOGPT Panvel	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	GSPC Gandhinagar	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	Essar Oil Ltd	20.05.2013 - 19.06.2013
Summer Training	VIII DD PE	ONGC Delhi	20.05.2013 - 19.06.2013
Summer Training	VIII DD PE	Cairn Energy	20.05.2013 - 19.06.2013
Summer Training	VIII DD PE	Schlumberger	20.05.2013 - 19.06.2013
Summer Training	VIII DD PE	Geologix	20.05.2013 - 19.06.2013
Summer Training	VIII DD PE	Jubilant	20.05.2013 - 19.06.2013
Summer Training	II M.Tech PE	ONGC Ankleshwar	20.05.2013 - 19.06.2013

Summer Training	VI B.Tech PE	Baker & Huges, Andheri East, Mumbai	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	Weatherford	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	Shell Technology, India	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	Halliburton	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	Regional Training Institute, Panvel	20.05.2013 - 19.06.2013
Summer Training	VI B.Tech PE	Well Stimulation Services ONGC Chand Kheda Ahmedabad	20.05.2013 - 19.06.2013
Winter Training	V B.Tech PE	ONGC Ahmedabad	09.12.2013-03.01.2014
Winter Training	V B.Tech PE	ONGC Ankleshwer	09.12.2013-03.01.2014
Winter Training	V B.Tech PE	Oil India Limited	11.12.2013-03.01.2014
Winter Training	V B.Tech PE	IOGPT Mumbai	11.12.2013-10.01.2014
Winter Training	V B.Tech PE	Hazira Gas Processing Plant	09.12.2013-03.01.2014
Winter Training	V B.Tech PE	CBM Bokaro	11.12.2013-03.01.2014
Winter Training	VII Dual Degree	IRS Ahmedabad	09.12.2013-03.01.2014
Winter Training	VII Dual Degree	WSS Ahmedabad	09.12.2013-03.01.2014

3.18.2 BEST PRACTICES OF THE DEPARTMENT OF PETROLEUM ENGINEERING

The Department of Petroleum Engineering has local chapters of Petroleum Engineering Professional Societies for students i.e. SPE, PETROTECH, and Petroleum Engineering Society. All UG & PG students are active members of these Societies and organize a number of events like paper contest, guest lectures, quiz & poster competitions to update the students with latest know-how of the Industry. A few examples of the events organized in the year 2012-13 are:

Date	Name of the event	Description
26th Jul 2013	Intern Talk	There were about 20-25 interns who completed their respective internships from some of the leading brands in the industry including Shell, Schlumberger, Cairn India, Geo-Enpro, Geologix etc. Having done their internships in the previous academic year they talked about the various aspects involved in getting an internship ranging from a good Resume, a successful Group Discussion, and an impressive interview to a dedicated workmanship during the course of the intern. Also there was distinctive emphasis on the importance of being inquisitive during the intern.
14th Aug 2013	Oil Field Familiarization Program	The event was aimed at mainly making the new students of Petroleum Engineering, Geology, Geophysics and Chemical Engineering realise the huge opportunity available for them in the oil industry and how Petrotech plays a vital role.
15th Sep 2013	Group Discussion, JAM, Extempore Competition	The GD was followed by JAM and Extempore Session which boosted the confidence of the Participants to speak creatively and confidently in front of a group of Audience.
21st - 24th Sep 2013	Petrogaia	The 3 day extravaganza comprised of different events comprising Case study competition, Poster competition, Paper Competition and Quiz.
27th Sep 2013	Guest Lecture by Prof R.L Malhotra (Retd. GGM ONGC)	In order to acquaint the students with the technologies of Crude Oil and Gas Storage Tanks, Prof R.L Malhotra (Retd. GGM ONGC) was invited to present a Guest Lecture on Crude Oil Storage Facilities
1st - 30th Aug 2013	Digital Technical Poster Competition	An Online Poster Making Competition with Theme "Future Energy Challenges"
3rd Oct 2013	Guest Lecture by Prof. T. Kumar, Director NIT Durgapur	Guest lecture on the topic "Oil and Gas Field Development". He gave an idea of the field development points to be taken care in Offshore and Onshore fields separately.
10th Oct 2013	Guest Lecture by Mr. Saurabh Shukla, Reservoir Engineer at Schlumberger	A highly interactive lecture on the topic 'Reservoir Modelling'
10th Oct 2013	Workshop on Reservoir Characterisation by Ms. Titas Bhattacharya, Geologist of Schlumberger.	The workshop was organized for the students pursuing Petroleum Engineering, Geology and Geophysics to study the basic concepts of geology involved in finding hydrocarbons beneath the earth.

20th Oct 2013	Guest Lecture by Mr Barun Pandey, Schlumberger	A highly interactive guest Lecture on the topic MWD/LWD Technology and RSS Technology in drilling productive and cost effective wells.
10th Jan 2014	Guest Lecture by Dr. G.C. Thakur, Vice President, Global Advisor of Chevron	A one hour lecture on “Advancements in Reservoir Management”. This event also provided a common platform for both Dr. Thakur and the current students of the department to discuss various issues related to the Oil and Gas industry ranging from Climate concerns to Next generation technology
10th Jan 2014	Cairn India Institute Interaction Program by Mr.Avinash Kumar, Senior Business planning Manager, Cairn India	A one hour lecture to a group of around 150 budding petroleum engineers on the various activities pursued by Cairn India since its inception.
28 th Jan. 2014	ONGC, Tripura by Dr. Arunava Choudhury	Guest Lecture on “Production testing operations in exploration wells”
March 13, 2014	ONGC, IOGPT, Mumbai by Mr. Avinav Kumar	Guest Lecture on “ Design of gas lift using pipesim software”

3.18.3 BRIEF LIST OF ON-GOING R & D PROJECTS

Sl. No.	Name of the PI	Co-PI	Title of the project and duration	Amount sanctioned (Rs. in Lakh)	Funding Agency	Status
1.	Prof. S. Laik Prof. V. P. Sharma	-	Efficient extraction of Hydrocarbon resources (SAP Phase-II)	39.00 + 2 JRF	UGC-SAP Phase-II	2008-2013
2.	Prof. A K Pathak	Dr. C. Guria	Functionalization of Nano Fly Ash for Drilling Fluid Application.	14.512	UGC	2013-2016
3.	Dr. Ajay Mandal	-	Characterization of nano-particle stabilized emulsion and its use in Enhanced Oil Recovery	24.40	Oil India Ltd.	2013-2015
4.	Dr. Ajay Mandal	-	Experimental and Modeling Studies of Chemically Enhanced water alternating gas (CEWAG) process	17.97	CSIR	2013-2017

5.	Dr. Keka Ojha	-	Development of Fracturing Fluid for High Pressure High Temperature (HPHT) Reservoirs with Minimum Formation Damage	14.0	CSIR	2013-2016
6.	Dr. Keka Ojha	-	Development of Nanoparticle Induced Chemicals for Consolidating Loose Formation to Improve Oil Production	13.288	UGC	2013-2016
7.	Dr. Keka Ojha	-	Development of foam based drilling fluid for CBM wells	16.8	DST	2013-2016
8.	Dr. Vikas Mahto	-	Study of Organic Solid Deposition in Petroleum Reservoir Rock	8.58	Oil India Ltd.	2014-2017
9.	Dr. C. Guria	-	Carbon di-oxide sequestration using microalgae in a photo bio-reactor	9.90	FRS-ISM	2011-2013
10.	Dr. C. Guria	Prof. A. K. Pathak	Carbon dioxide sequestration and simultaneous bio-fuel generation using micro algae in a photo bioreactor	14.398	DST	2013-2016
11.	Dr. C. Guria	Prof. A. K. Pathak	Selective Catalytic Oxidation of Karanja oil: An Alternative Source of Petrochemical Products.	14.50	UGC	2013-2016
12.	Dr. T K Naiya		Studies on Multiphase Flow of Oil, Water and Gas in Horizontal and Vertical Pipes	8.50	ISM	2013-2016
13.	Dr. T K Naiya	Dr. Ajay Mandal	Experimental and Modelling of Flow of Paraffinic Crude Oil Through a Complex Flow Loop	13.78	UGC	2013-2016

3.18.4 IMPORTANT COLLABORATIVE WORK

3.18.4.1 Consultancy

Sl. No.	Consultants	Title	Agency	Status
1.	Prof. A. K. Pathak and Dr. C. Guria	Two week PDP on Drilling of Oil and Gas Wells for officials of Ministry of Mines, Govt. of Afghanistan with total value Rs. 31,46,009	Ministry of External Affairs, Govt. of India	June 08-24, 2013
2.	Prof. V. P. Sharma and Dr. Keka Ojha	Two week PDP on Petroleum Reservoir Engineering for officials of Ministry of Mines, Govt. Of Afghanistan with total value Rs.31,46,009	Ministry of External Affairs, Govt. of India	17 th Aug- 2 nd Sep 2013
3.	Prof. S Laik and Prof. V P Sharma	Training program on Slickline and wireline operations for executives of CAIRN INDIA LTD, of total value Rs. 5,73,0361	Cairn India Ltd	7 th Jan 2014- 10 th Jan 2014
4.	Prof. S Laik and Prof. V P Sharma	Slickline and wireline operation for executives of CAIRN INDIA LTD, of total value Rs.6,40,452	Cairn India Ltd	25 th Feb - 28 th Feb 2014
5.	Dr T K Naiya and Prof A K Pathak	Testing of Oil Samples (LDO) form M/S Emtacoal, Asansol , of total value-Rs. 65,000/- CONS/2434/2013-14	M/S Emta Asansol	Dec 2013 Feb 2014

3.18.5 IMPORTANT NEW EQUIPMENT ACQUISITION (ABOVE RS. 5,00,000)

All the instruments are mainly used in R & D work by the M. Tech and Research Scholars and a few B. Tech students working under projects.

Name of Equipment	Purpose	Value Lakh (₹)
Contact angle instrument	Wettability analysis	9.08
SimDis Software	Crude oil analysis in GC	7.5

3.18.6 RESEARCH PUBLICATIONS

3.18.6.1 Papers published in International journals

SL.	Author (s)	Year	Title	Journal	Vol. No.	Page No.
1.	U. S. Yadav and, Vikas Mahto	2013	Investigating the Effect of Several Parameters on the Gelation Behavior of Partially Hydrolyzed Polyacrylamide-Hexamine-Hydroquinone Gels	Industrial and Engineering Chemistry Research,	52	9532-9537
2.	Bera, Achinta, Kumar, T., Ojha, Keka, Mandal, Ajay	2014	Screening of microemulsion properties for application in enhanced oil recovery	Fuel	121	198-207
3.	Yatin Suri, Ankit Dutt and Ajay Mandal	2014	A comparative analysis of offshore and onshore fields using derivative and second derivative plot (without type curves)	Petroleum Science & Technology,	32	535-542
4.	Vikas Mahto	2013	The Prevention of pipe sticking problems caused by water based drilling	Petroleum Science & Technology,	31(21)	2237-2243
5.	Achinta Bera, Keka Ojha, Ajay Mandal,	2013	Synergistic Effect of Mixed Surfactant Systems on Foam Behavior and Surface Tension	J. Surfactant and Detergent,	16	621-630
6.	Thampi, Neetha V., Ojha, Keka, Nair, Udayabhanu G.	2014	Effect of Branched Alcohols on Phase Behavior and Physicochemical Properties of Winsor IV Microemulsions	J. Surfactant and Detergent,	17	371-381
7.	Saurabh Mishra, Achinta Bera and Ajay Mandal	2014	Effect of Polymer Adsorption on Permeability Reduction in Enhanced Oil Recovery	Journal of Petroleum Engineering	Article ID 395857	1-9
8.	Bera, Achinta, Kumar, T., Ojha, Keka, Mandal, Ajay	2013	Adsorption of surfactants on sand surface in enhanced oil recovery: Isotherms, kinetics and thermodynamic studies	Applied Surface Science	284	87-99

9.	Achinta Bera, B. B. Guha and Ajay Mandal	2014	Synergistic Effect of Surfactant and Salt Mixture on Interfacial Tension Reduction between Crude Oil and Water in Enhanced Oil Recovery	J. Chem. Eng. Data	59 (1)	89-96
10.	R. V. Martis, R. Singh, K. Ankita, A. K. Pathak & C. Guria	2013	Solubility of carbon dioxide using aqueous NPK 10:26:26 complex fertilizer culture medium and <i>Spirulina platensis</i> suspension	J Env Chem Eng.	1	1245-1251
11.	K. Rajesh, K. Vineet, D. K. Rajak & C. Guria	2014	An improved estimation of shear rate using rotating coaxial-cylinder Fann viscometer: A rheological study of bentonite and fly ash suspensions	Int J Min Proc	126	18-29
12.	C. Guria, K. K. Goli & A. K. Pathak	2014	Multi-objective Optimization of Oil Well Drilling Using Elitist Non-dominated Sorting Genetic Algorithm,	Pet Sci	11	98-111
13.	Shivanjali Sharma, Vikas Mahto, V P Sharma	2014	Effect of Flow Improvers on Rheological and Microscopic Properties of Indian Waxy Crude Oil	Ind. Eng. Chem. Res	53(12)	4525-4533
14.	Shivanjali Sharma, Vikas Mahto, and V. P Sharma	2013	Emerging technologies to control wax deposition in the oilfields: An Overview	J. of Petroleum Engineering & Technology	3(2)	28-35
15.	B. Sengupta, V. P. Sharma & G. Udayabhanu	2014	In-situ gelation studies of an eco friendly cross-linked polymer system for water shut off at high temperatures	Energy sources Part A	36(13)	1445-1467
16.	R Kumar, S Mohapatra, A Mandal, T K Naiya	2014	Studies on the Effect of Surfactants on Rheology of Synthetic Crude	Journal of Petroleum Science Research (JPSR)	3(2)	90-99

17.	Vikash Kumar Saw, Manoj Kumar Gudala, G. Udayabhanu Ajay Mandal, Sukumar Laik	2014	Kinetics of Methane Hydrate Formation and its Dissociation in Presence of Non-Ionic Surfactant Tergitol.	Journal of Unconventional Oil and Gas Resources	6	54-59
18.	P.K Jha, Vikas Mahto and V.K Saxena	2013	Study the rheological and filtration properties of oil-in-water emulsion for its application in oil and gas well drilling	Journal of Petroleum Engineering and Technology	3(3)	25-30

3.18.6.2 Papers presented in International Seminars/Conferences.

Sl. No.	Author (s)	Title	Seminar/Conference	Date	Place
1.	Shivanjali Sharma, Vikas Mahto, and V. P Sharma	Study of wax inhibition in virgin and treated waxy crude oils by polar microscopy	Int. Conference on Future Challenges in Earth Sciences for Energy and Mineral Resources (ESEMR 2013)	Nov. 14-16, 2013	ISM, Dhanbad
2.	Atrayee Baruah Rajat Garg, Keka Ojha, A.K. Pathak	Rheological Study on Development of an Anionic Viscoelastic-Surfactant (VES) based Fracturing Fluid	'Petrotech 2014'-11 th Int. Oil & Gas Conference and .Exhibition	Jan 12-15, 2014	New Delhi
3.	A. Baruah, K. Ojha and A.K. Pathak	Viscoelastic Surfactant based fluid-A new generation hydraulic fracturing fluid	Energy System Modelling and Optimization Conference (ESMOC)-2013	Dec 9-11, 2013	NIT, Durgapur
4.	Amit Saxena, Vishruth Reddy Keka Ojha, A. K. Pathak	Development of correlation and its Comparison with a designed program using theoretical model for different parameter of foam hydraulics	Energy System Modelling and Optimization Conference (ESMOC)-2013	Dec 9-11, 2013	NIT, Durgapur
5.	Ravindra Kr., S. Mohapatra, Ajay Mandal, T.K Naiya	The study of Rheology of Synthetic Crude for Transportation Through Pipe Line	Int. Conference on Frontiers in Chemical Engineering	Dec, 09-11, 2013. 19-23	NIT, Rourkela, India

6.	Ravindra Kumar, Sambeet Mohapatra, Ajay Mandal, T.K Naiya	Transportation of Synthetic Crude using Cationic Surfactant	Int. Conference on Frontiers in Chemical Engineering	Dec, 09-11, 2013.	NIT, Rourkela, India
7.	Achinta Bera, T. Kumar, Ajay Mandal	Modeling of Surfactant Flooding for Enhanced Oil Recovery Using Stars (CMG) Software	Energy System Modelling and Optimization Conference (ESMOC)-2013	Dec, 09-11, 2013.	NIT, Durgapur
8.	P. K. Jha, Vikas Mahto, V. K. Saxena	Development of emulsion based drilling fluid system for depleted fractured reservoirs	ESEMR-2013	Nov., 14-16, 2013	ISM, Dhanbad
9.	Rajat Jain, Vikas Mahto	Development of non-damaging drilling fluid system for shale gas reservoirs	ESEMR-2013	Nov., 14-16, 2013	ISM, Dhanbad
10.	Vikas Mahto, Navin Kumar, Rajat Jain, Rituraj Singh	Study the effect of nano particles on Oil-in-Water Emulsion	SPPS-2013	Nov., 18-20, 2013	ISM, Dhanbad

3.18.7 MAJOR ACADEMIC CONTRIBUTIONS

Ajay Mandal:

- Reviewed 11 manuscripts from of the following journals:
 - Journal of Surfactants and Detergents
 - Journal of Petroleum Engineering & Technology.
 - Energy & Fuels
 - Journal of Experimental Nanoscience.
 - International Journal of Oil, Gas and Coal Technology (IJOGCT)
 - Colloids and Surfaces A: Physicochemical and Engineering Aspects
 - Journal of the Taiwan Institute of Chemical Engineers
 - Industrial & Engineering Chemistry Research
 - Energy Conversion and Management

Keka Ojha

- Examiner : PhD thesis of UPES Dehradun
- Reviewer:
 - ✓ Chemical Engineering Data-Journal
 - ✓ Advances in Sustainable Petroleum Engineering Science
 - ✓ Separation-purification Technology
- **Award:** Received Faculty Travel grant -2013 from Society of Petroleum Engineers, USA for attending conference in Middle East region.

3.18.8 PARTICIPATION OF FACULTY/OFFICERS/STAFF IN SEMINARS/ CONFERENCES ETC

Name of the faculty	Conference/Seminar	Date	Venue
Prof. S Laik	'Petrotech 2014'-11 th International Oil & Gas Conference and Exhibition	January 12-15, 2014	New Delhi
Prof. V P Sharma	'Petrotech 2014'-11 th International Oil & Gas Conference and Exhibition	January 12-15, 2014	New Delhi
Prof. V P Sharma	IMC-2014	February 1, 2014	ISM Dhanbad
Dr. Keka Ojha	SPE/IADC Middle East Drilling Technology Conference and Exhibition	October 7-9, 2013	Dubai, UAE
Dr. Keka Ojha	IMC-2014	February 1, 2014	ISM Dhanbad
Dr. Vikas Mahto	SPPS-2013	November 18-20, 2013	ISM Dhanbad

3.18.9 VISITS OF FACULTY MEMBERS ABROAD

Dr. Keka Ojha attended SPE/IADC Middle East Drilling Technology Conference and Exhibition during October 7-9, 2013 held in **Dubai, UAE**

3.18.10 TESTING SERVICES (LAB FACILITIES AVAILABLE FOR TESTING IN THE DEPARTMENT)

- **Petroleum Production and Product Testing Lab:** Red Wood Viscosity Saybolt Viscosity, Carbon Residue, Ash Content, Gross Calorific Value, Demulsification Number, Acid Content, Water Content, Copper Strip

Corrosion, Fire Point, Flash Point, Cloud Point, Octane Number, Cetane Number, Smoke Point, Refractive Index.

- **CBM Laboratory:** Canistar desorption testing, Adsorption isotherm testing, gas testing in GC.
- **Drilling Fluid and Cement Laboratory:** Plastic Viscosity, Gel Strength, Filtration Loss, Sand Content, Marsh Funnel Viscosity, Setting Time of Cement, Rheological Properties of Cement Slurry, Consistency Index of Cement Slurry.
- **Reservoir Engineering Laboratory:** Porosity, Gas Permeability, Liquid Permeability, Resistivity of Cores.
- **LCA Laboratory:** Permeability of Long Core samples and EOR studies using chemicals as displacing fluid.
- **Gas Hydrate Laboratory:** Gas Hydrate reactor with photographic attachment for constant visualization, Physica MC1 rheometer for rheological analysis of various fluids with shear and temperature control systems.
- **EOR Laboratory:** Core flooding systems, Brookfield rheometer for rheological analysis, pH meter, Conductivity meter, Interfacial surface tension measuring instruments.

3.18.11 DISTINGUISHED VISITORS TO THE SCHOOL

S.No.	Guest	Purpose
1.	Dr. G. C. Thakur, Vice president-Chevron, USA	To receive ISM-Basant Samman, and interaction with Department
2.	Mr. Avinash Kumar, Senior Business planning Manager, Cairn India	Cairn India Institute Interaction Program
3.	Mr Barun Pandey, Schlumberger	Guest Lecture
4.	Ms. Titas Bhattacharya, Geologist of Schlumberger	Interaction with students
5.	Mr. Saurabh Shukla, Reservoir Engineer at Schlumberger	Interaction with students
6.	Dr. Arunava Choudhury, ONGC-Agartala, Tripura	Delivering guest lecture
7.	Mr. Avinav Kumar, IOGPT-ONGC, Mumbai	Delivering guest lecture

3.18.12 SPECIAL LECTURES BY DISTINGUISHED GUESTS

S.No.	Speaker	Topic	Date
1.	Dr. G. C. Thakur	Advancements in Reservoir Management	January 10, 2014
2.	Mr. Avinash Kumar, Senior Business planning Manager, Cairn India	Activities of Cairn India	January 10, 2014
3.	Mr BarunPandey, Schlumberger	MWD/LWD Technology and RSS Technology in drilling productive and cost effective wells.	October 20, 2013
4.	Mrs. Titas Bhattacharya, Geologist of Schlumberger	Basic concepts of geology involved in finding hydrocarbons beneath the earth.	October 20, 2013
5.	Mr. Saurabh Shukla, Reservoir Engineer at Schlumberger	Reservoir Modelling	October 20, 2013
6.	Dr. Arunava Choudhury, ONGC-Agartala, Tripura	Guest Lecture on “Production testing operations in exploration wells”	January 28, 2014
7.	Mr. Avinav Kumar IOGPT-ONGC, Mumbai	Guest Lecture on “ Design of gas lift using pipesim software”	March 13, 2014

3.18.13 MISCELLANEOUS

Other Information about Faculty Members

Prof. S. Laik :

- Member Executive Board, ISM
- Member Academic Council ISM
- Member, Research Advisory Committee for Gas Hydrate Programme constituted by Dept. of Ocean Development under Ministry of Science and Technology, Govt. of India
- Life Member, Institute of Engineers, India
- Member BOCS of RGIPT Raebareli
- Member BOCS BIT Mesra, Ranchi

Prof. V P Sharma:

- Head, Department of Petroleum Engineering
- Professor of Continuing Education and Professor in-charge Training and Placement ISM
- Member Academic Council ISM
- Member Board of courses & studies for Petroleum Engineering at Rajasthan Technical University, Kota
- Deliver lecture on “Formation Evaluation” in Petroleum Engineering at Rajasthan Technical University, Kota
- Member-Evaluation committee, CIMFR-CSIR, Dhanbad

Dr. A. K. Pathak:

- Member Academic Council, ISM Dhanbad
- Member General Council ISM Dhanbad
- Member Editorial Board of JISM Dhanbad
- Member of Society of Petroleum Engineers
- Life Member of ISTE
- Life Member of Society of Surface Science and Technology
- Life Member of NAsC Allahabad
- Member Board of courses & studies for Petroleum Engineering at BIT Mesra Ranchi
- Technical member of Sub-Committee on POL Depot & Terminals appointed by Petroleum & Natural Gas Regulation Board, GOI from September 2007
- Technical Member of Diamond Core and Water well Drilling Sectorial Committee MED 21, BIS New Delhi
- Member of “Sectoral Innovation Council for Petroleum and Natural Gas” constituted by Government of India

- Editorial member and reviewer of number of SCI Journals

Dr. Vikas Mahto:

- Guided one PhD student
- Editorial member and reviewer of number of SCI Journals
- Faculty member of ISM PE society

Dr. Ajay Mandal:

- Faculty Sponsor of SPE-ISMU Students Chapter
- Member in the Editorial board of International Journal of Petroleum Engineering (IJPE)
- Member, Improvement group, ISM
- Guided one PhD student
- Editorial member and reviewer of number of SCI Journals

Dr. Keka Ojha:

- Recipient, SPE Faculty Travel Grant, 2013
- Assessed Application of National Awards under 'TREMATIC TIFAC'-DST
- Convener, PETROETCH Society, ISM Students Chapter
- Examiner for PhD dissertation of UPES, Dehradun
- Member, SPE-USA
- Life Member, MGMI-India
- Member Organizing Committee, IMC 2014, ISM
- Member, Central Library Committee
- Guided one PhD student
- Reviewer of a number of SCI journals

Dr. C Guria

- Member, ACS, USA

Students' Achievement:

- SPE student Chapter won the “Gold Standard” award for its activity by SPE-USA
- Petrotech Students chapter received 2nd best chapter award in 2014
- Student team received Best presentation award

Sl. No.	Date	Title/Topic	Meeting Type	Name	Comments: Describe the participation of student members in planning, organizing or speaking at the meeting
1.	April, 2013	Managed Pressure drilling in sub-sea operations	International Petroleum Technology Conference (IPTC), 2013, Beijing ,China	Mr Shailesh Prakash	Presented paper
2.	March 2014	INDIA as a Global R&D Destination...	Petrotech Annual Convention 2014, UPES-Dehradun	Mr. R. D. Barman and team	Presented paper and Won 1 st prize
3.	Jan 12-15, 2014	Harnessing energy through highways	'Petrotech 2014' 11 th Int. Oil & Gas Conference and Exhibition	Rajat Garg	Presented paper
4.	16 th Feb, 2014	Design of jet . pump based artificial lift system	SPE-Subcontinent Paper Meet, MIT, PUNE	Vikram Sai	Presented paper and Won 2 ND Prize
5.	16 th Feb, 2014	Extraction of CBM from deep coal-seam	SPE-Subcontinent Paper Meet, MIT, PUNE	Shubham Damke	Presented paper

4.0 STUDENTS' ACTIVITIES

CULTURAL SCIENTIFIC LITERARY SOCIETY (CSLS) ACTIVITIES

Cultural Scientific Literary Society (CSLS) has been an active student's society of Indian School of Mines, Dhanbad. This society consist of 04 active clubs namely *Abhay*, Dramatics Club, Dance Club, Literary Club and *Dhruva* Club. The society conducted many activities starting with a Hindi drama *Ansh*. The play was performed on 26th August 2013 by *Abhay* Dramatic Club and it was appreciated by the ISM crowd. Moving ahead, an **Inter-year Debate and Writing Competition** was organised by the Literary Club of CSLS in September 2013. Another wonderful English Play *What Happened to Jones* was performed the *Abhay* Dramatics Club on 10th September 2013 which was applauded by the students and faculties.

To encourage the newly admitted students for their active participation in extra co-curricular activities, CSLS has organised **Mr. and Ms. Fresher, 2013** on 17th November 2013. Members of Dramatic club went to Allahabad on 16th-17th November 2013 to perform Hindi drama and English drama at **Allahabad Nataya Sangh**. First prize was received by the members of Dramatic club for their best performance in Hindi drama at Allahabad Nataya Sangh.

In the starting of Winter Semester, the students of *Abhay* Dramatics Club and Dance Club went to IIT Kharagpur to participate in cultural fest "**Spring Fest**" during 23th-25th January 2014. *Dhruva* Club of CSLS has conducted a series of seminars on "**The Art of Harnessing Mind Power**" during 13th - 18th January, 2014 and a workshop on "**Leading Meaningful Lives**" was organised on 25th January 2014. It was aimed at reducing mental stress and teaching time management techniques to the students. Another play *Abhi to Mein Jawan Chuu* was performed by *Abhay* Dramatics Club on 23rd March, 2014.

Besides all of these above events, regular meetings are being conducted by different clubs of CSLS in the Student Activity Centre (SAC) rooms to motivate & enhance the skill of students.

CYBER SOICELTY ACTIVITIES

The **Cyber Society and Robotics Club** of 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 2013-2014. 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 the senior students. This helped in forming a strongly connected network among the students for knowledge exchange and discussions.

A brief summary of the workshops and events held is given below

(i) Workshops

- **Introduction to Robotics**
 - Robotics
 - Need
 - Recent Developments
 - Existing Technologies

- **Manual Robotics**
 - Basic parts of a robot controller, actuators, power supply, etc.
 - Introduction to materials
 - Introduction to robot dynamics

- **Autonomous Robotics**
 - Need
 - Basic electronic components
 - Microcontrollers
 - Sensors
 - Programming AVR series microcontrollers
 - Programming the Arduino

- **Programming in C**
 - Introduction
 - Syntax
 - Decision statements

- **Control Loops on Interactive Session on Communication**
 - Introduction
 - Types of Communication
 - Uses of communication system Data exchange and Navigation
 - Discussion on GPS
 - Use of communication in robotics Swarm Robotics

The above workshops were organised by members of Robotics Club.

(ii) Events

Line following Robot: Autonomous robotics competitions were organised by Robotics Club during Concetto'13. A Line following competition was based on a problem statement to test the coding skills and practice the learnings of robotics club.

RoboExpo 13: Cyber society and robotics club successfully organized “**RoboExpo'13**” from 28th September to 30th September 2013 in the Student Activity Centre. Total 12 projects, including 40 participants and many components were exhibited at the event. There were about 700 visitors in the exhibition, including professors and students. The participants presented some very innovative ideas and models. The events published in five paper media.

Cyber Quiz: Cyber Society, ISM Dhanbad organised the Cyber Quiz on Sunday 9th February, 2014 at 3pm in the Cyber Society Room of Student Activity Center.

CHAYANIKA SANGH ACTIVITIES

- A new Secretary of *Chayanika Sangh*, Akshyanand Jha, was selected and assumed charge. A three day cultural festival **Dhanbad Utsav** was organized during September 2013 under the aegis of *Chayanika Sangh* in collaboration with a cultural and literary organization, India Telling, in which a number of leading personalities from literary, film and cultural world participated. The students learnt about various aspects of literary, film and cultural activities. The prominent personalities amongst those present were noted authors Prof. Sharat Kumar (Founder, Director, IMT, Gaziabad), Ms. Mahua Maji (Present Chairperson, State Women Commission), Ms. Sarita Sharma (Minister for HRD and Culture, State of

Jharkhand), Ms. Geetashree Oraon (Minister for Animal Husbandry and Disaster Management), Shri Manan Malik, and Shri Harivansh (Chief Editor, Prabhat Khabar), graced the occasion.

- The **Hindi Pakhwada** was organized in the month of September with active participation of *Chayanika Sangh* in which many events such as debate competition, essay writing competition, a Hindi skit and a Nukkad Natak etc were conducted. The Hindi Pakhwada was a huge success with many participants. On the closing ceremony of Hindi Pakhwada the annual issue of “**Ankur**”, the magazine of *Chayanika Sangh* was released which carried many articles from students and faculties of ISM.
- In March a Nukkad Natak was organised during **Srijan 2k13** under the banner of *Chayanika Sangh*. It witnessed a huge participation of teams from ISM as well as of teams from other colleges.
- Group discussion and debate competition was organised by *Chainika Sangh* for all the students in the month of January 2014 in Room No. - 10, Student Activity centre. Pre- promotion of the events was done through posters; social networking sites and the events marked the presence of around 50 students.

PHOTOGRAPHIC SOCIETY

The Photographic Society in the period organized two events

1. **The Fotofreaks:** This online event was organized on the eve of Valentine Day. The students were asked to submit a photo depicting love of human, animals, nature etc. on the occasion of the Valentine Day
2. **Snappers:** This event was conducted during **SRIJAN 2014**, where the students had to submit snapshots on particular themes as decided for the week. Top five candidates then have to describe the picture literal meaning which they have taken of ISM during SRIJAN 2014. It was a milestone of the photographic Society this year in which the participation from various Institutes was seen.

CONCETTO 2013

The annual technical festival of ISM, **CONCETTO'13** was organized by Indian School of Mines, Dhanbad from 25-27 October, 2013. The techfest was attended by more than 200 students from leading engineering and management institutes like IIT Khargpur, IIT

Patna, IIT Bhubaneswar, NIT Durgapur, NIT Jamshedpur, NIT Rourkela, BIT Mesra, BIT Sindri, PDPG Gandhinagar, VSUIT Bangalore, Bansal Institute of Science and Technology, Bhopal among others. The function was inaugurated by the chief guest Shri Sunil Kumar, Deputy Commissioner, on October 24, 2013 at GJLT. The other eminent personalities present on the occasion were Prof. R. Venugopal, Director (Officiating), ISM, Dhanbad, Prof. Chandan Bhar, Dean, Students Welfare along with Prof. Pradip Kumar Sadhu, Coordinator, CONCETTO-2013. There were numerous technical events and workshops organized for the students during the techfest from 25-27 October, 2013. With an overall theme of 8-bit gaming, there were a total of 65 events providing a platform to shoot the “technical me” of everyone. Apart from the various Robotics and Coding events, this time Concetto also presented some industrial interaction via the case studies and panel discussions which were organized by companies such as TATA STEEL, DGMS, and ONGC.

To develop the technical skills among the students, workshops on Ethical Hacking, Web Development, were also organized on the occasion. There were also the various guest lectures delivered on the occasion. The eminent personalities involved were Prof. D. Das, Professor, Department of Electrical Engineering, IIT Kharagpur, Mr. Amit Raj, Mr. Harsh Snehanshu, Mohd. Akram Feroz, Dr. B. L. Sahoo, Chief Engineer (Safety), Oil India Ltd and Prof. Malayendu Saha, Professor, Management Studies, University of Calcutta.

The Congress ended with a valedictory function cum prize distribution ceremony on October 27, 2013. It was attended by Shri Sanjay kumar Singh, General Manager, Tata Steel, who was the chief guest for the function. Dr. B. L. Sahoo and Prof. Malayendu Saha were the Guest of Honour. The overall championship trophy was handed to IIT Patna by the chief guest. The function ended with a Multi color laser show.

SRIJAN 2014

SRIJAN call it the 'Passion for Creation' or a 'Celebration of Creativity'; It's all about setting our wildest dreams and passions into motion. SRIJAN 2014 did not leave any page unturned so as to prove what SRIJAN defines itself to be. The festival not only turned out to be a panorama of events to test the cultural and artistic skills of the youth from all over the country, but it also brought together eminent artists as well as celebrities to bestow a memorable and spell binding experience.

SRIJAN 2014 showcased an imitable world teeming with boundless merriment, talent and skill as the whole college plunged into the ocean of entertainment, at this three day youth extravaganza. This edition of SRIJAN 2014, under the theme of “The Idiot Box”, covered an extensive range of events from Competitions, Proshows, Workshops, Performing arts, Concerts, Model United Nations, Social events for the especially abled, Star Night, Street Shows and many more.

To begin with, SRIJAN 2014 was blessed to have so many sponsors which reflect the growing popularity of this extravaganza. SRIJAN was proud to have AGRANI HOMES CONSTRUCTION LTD. as its platinum sponsor. Sponsorships came from banking firms, online websites, Safe Express, Industries and many more. Apart from that we thank all the local sponsors who provided all their valuable support and money without which this festival would not have been complete.

NSS, ISM Dhanbad in association with SRIJAN 2014 derived immense pleasure in introducing **UDAAN** for the first time and it turned out to be face of the festival. UDAAN cultivated out talent from a section of society who are each unique in their own aspect. It had three competitions under its banner namely Painting competition, Exhibition and Talent show. Prof. K. N. Chatterjee, a well-known socialist, graced the occasion and acknowledged the initiative taken by the ISM fraternity. The event turned out to be a huge success. For the first time a dance talent company, of the stature of international exposure, graced the dancing arena with their esteemed presence as the judge and the prime sponsorer of Hustle Herd, the group dance competition. Hustle Herd witnessed one of the best exhibitions as this event was a direct ticket to Las Vegas where the countries would compete for the coveted title of "Hip Hop World Championship". The top three groups of the event have been given direct entry to the preliminary round which would be held in Mumbai, where the team representing the country would be selected.

The events which were successfully conducted have been listed below:

1. Dramatics:

- Rangmanch: One act play
- Off the Cuff: Impromptu Event
- Halla Bol: Nukkad Natak
- Khamoshi: Mime

2. Vocals:

- Sursangram: Solo Singing
- Unplugged: Acoustic Jam

3. Avalanche: Rock Band Competition

4. Quiz:

- General Quiz

- Biz Quiz
- MELA Quiz

5. Model United Nations

6. Literary Events:

- Resolved 2.0
- Literary Olympiad
- Hasya Kavi Sammelan

7. Dance:

- Footloose: Solo Dance
- Hustle Herd: Group Dance

8. Paridhan: Fashion Show

9. Snappers: Online Photography Competition

10. Mr & Miss Srijan

The most awaited moments in any SRIJAN is the star night and this year SRIJAN provided two such mesmerising evenings. Shilpa Rao and Neeraj Shridhar electrified the atmosphere of the college and the team received praise from the whole ISM fraternity.

Avalanche had been the highlight of this year and head banging itself was a clear picture to how many the students enjoyed it. Moreover the performance of Mid Night Garden factor added extra spark to the evening.

NATIONAL SERVICE SCHEME

Faculty Co-ordinator:

Dr. Vikas Mahto, Associate Professor, Dept. of Petroleum Engineering

Student Secretary:

Rohan Kumar

Events Organized:

- 1. Cleanliness Drive:** The event was organised on 7th of April '2013 at 9:00 AM. More than 100 members of NSS Unit, ISM dhanbad, took a step forward of cleaning the campus and inspired the young as well as old ones to maintain the heritage of nature. The drive undertook its way from Penman Quadrangle, through the Canteen, to the Ruby Hostel and the teacher's colony, the main building and various other areas in the campus. The students were quite enthusiastic about the event and zeal reflected as around five to six sacks of garbage were collected. Yes, it made everyone realize that if we litter, it makes the world bitter. The students also carried various posters which hilariously and beautifully shaped the event.
- 2. Tree Plantation:** On 10th of April 2013, the NSS members added another feather to the cap of society when they took the responsibility of sowing seedlings so that they can mature into a big tree. The event took place in front of the New Petroleum Engineering Department at around 8:00 am. It was led by Dr. Vikas Mahto who began the noble work by planting the first seedling. This was followed by the students who undertook the same steps. The uniqueness of the event was that each and every student was at least able to plant a seedling each. The students also applied a bit of their knowledge so that each young seedling could get the most proper ambience. The past two events definitely brought about a new mind frame which asked us not to be a litterbag and give tree a hug!!
- 3. PAHAL:** PAHAL, The youth conscience awakens..... , was organized on Ambedkar Jayanti, 14th April, 2013, in association with Bloodline, and Kartavya, an NGO run by the students of ISM to "Awaken Indians to India". The event witnessed a large turnout of more than 200 students who participated in Quiz, Debate and Extempore on Social Issues of India. A documentary on India The gateway to the world was also screened on the occasion. Pahal is an initiative to create awareness and bring acknowledgement to youth that we need to stand strong not only against our personal issues but also for our society, which is captured in the hands of

several social evils (women exploitation, corruption, biasing based on religion/ caste/ place/ sex, foul implementation of Govt. policies, education policies, and so on ...) which are hampering the sustainability of our motherland.

4. **Article and Essay Writing Competition:** As per the instructions from UGC, the Article and Essay Writing Competition was conducted on 28th April, 2013 on the Topic "Smoking is Injurious to Health". Nowadays smoking among youths has become a common concern to the society. A very large number of youths are becoming addict to the smoking in early age. To aware the students about the harms of smoking, NSS Unit of ISM Dhanbad had organized an Online Article Writing Competition. Students were asked to write their views on smoking ; why smoking has become a fashion for youths ; why do students smoke even after knowing the harms of smoking ; what steps should be taken by the society to aware the youths about the harms of smoking. The event saw a large participation from ISM students. They gave their innovative solutions to the problems. Dr.Vikas Mahto, faculty Co-ordinator, NSS Unit, ISM Dhanbad, judged the articles on the basis of their innovation and writing skills.
5. **Uttarakhand Flood Relief-fund Collection:** The month of June, 2013 was probably the most sorrowful period for the people of India as they witnessed the biggest catastrophe of the decade which saw India lose its social, cultural, and geographical and most importantly its religious assets. One such initiative was taken by the National Service Scheme, ISM Dhanbad Unit to support the people suffering from emotional and economic trauma in the areas of Kedarnath, Badrinath, Harsil and Pithoragarh. Under the guidance of Dr.Vikas Mahto and the leadership of Shailesh Prakash, NSS ISM Unit members went to different hostels and collected funds from students who aided the volunteers with a smile and possible economic help. As per the report, around lakh and a few thousand rupees have been funded by the students and would now be sent to PM relief fund.
6. **General Body Meeting:** The meeting was organized on 1st October, 2013 in the New PET III of Petroleum Engineering Department. The meeting started with the welcoming of New Office Bearers and Core Team Members. After that the agenda of the upcoming session was presented before the members and the report of last year's activities were discussed. New and innovative events were welcomed. Another main Focus during the meeting was how to portray the social issues in an attractive and eye-catching way as well as to encourage the members for actively participating in the events of NSS.

7. **Debate Competition:** This event was conducted on 2nd October 2013 and was primarily aimed to test the awareness of the students towards the recent burning topics like, “should betting in cricket be legalized in India” and “should corruption eliminated from the system.” The event saw huge participation from ISM students. . The winners were awarded prizes and certificates by Shailesh Prakash, President, NSS Dhanbad Unit.
8. **Installation of Sign Boards:** This has been one of the biggest achievements of NSS in the session where a large number of banners were installed at strategic locations in ISM. This was done to fulfill one of the missions of NSS which is to aware the people (students) about the today's social and environmental problems like alcoholism, water scarcity, Deforestation etc. To support this NSS is going to organize Tree Plantation in the coming days.
9. **Poster Making Competition:** The event was organized on 19th January 2014 with the primary aim to test how well students can portray the social issues in an attractive and eye-catching way. This event was judged by Dr. Vikas Mahto, Faculty Coordinator, NSS Dhanbad Unit. Top 10 posters were selected for display at the NSS Stall during Basant.
10. **Model Parliament:** This was one of the unique events of NSS related to Politics which was conducted on the eve of Republic Day. In this event a virtual Parliament was formed consisting of speaker, Prime Minister and the Cabinet, Opposition and MP's from different States. Communal Bill and Food Security Bill which are the recent hot topics of the country were discussed. The session concluded at a general conclusion with the support of more than 2/3 of the members. At the end all participants were awarded with the Certificates and Prize was given to the Best Speaker.
11. **Basant Stall:** During Basant, the Annual Alumni Reunion, National Service Scheme had put up its stall to promote its objectives and working ethics to the Alumni of ISM. On 2nd February, 2014, NSS Stall was setup in the Lower Ground of ISM. A large number of Alumni visited the stalls and asked about the current works and future preparations. They also dropped their cards and gave valuable suggestions for making the society more effective.
12. **NCC Members Induction:** This event was conducted on 25th of March 2014 to welcome the NCC members who recently had been transferred from NCC to NSS. The event started with the introduction of the society and its functioning followed by the different types of events conducted till date and future planning. At last, a short video was played to show them the glimpses of the event and the way they were conducted.

13. **UDAAN:** It was conducted on 28th of March 2014 for the physically disabled students of Dhanbad district. The chief guest of the event was Dr. K. N. Chatterjee, renowned social activist and reformer. Under this three events were conducted namely *Pradarshani* (an Exhibition Event), *Paribhasha* (a drawing competition) and *Pratibha* (a Talent Hunt). In exhibition the enthusiasm of students were in the artcrafts, Science models etc. During *Paribhasha* it felt like that they are pouring their dreams in the paintings and sketches. It was *Pratibha* where they astonished the audience with their reciting poems, songs, dance and comedy. This event witnessed a large participation from different schools of Dhanbad district.

5.0 PLACEMENT OF STUDENTS

The Training & Placement Cell maintains active association and excellent contacts with the industry and corporate sector. The students are properly trained and assisted in securing job through in-campus and off-campus interviews. A Comparative Statement of the students selected during last five years is stated below:

4-Years B.Tech Programme					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	363	311	357	501	637
Campus Placement	339	289	321	407	404
Placement after the course completion	05	05	17	7	NA
No Information	19	17	19	87	NA
% of selected students	94.77	94.53	94.68	82.63	63.42

5-Years Dual Degree Programmes					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	NA	37	35	43	48
Campus Placement	NA	30	34	34	37
Placement after the course completion	NA	4	0	3	NA
No Information	NA	3	1	6	NA
% of selected students	NA	91.89	97.14	86.05	77.08

5-Years Integrated M.Sc. Programmes					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	NA	12	15	16	17
Campus Placement	NA	9	11	06	4
Placement after the course completion	NA	2	3	4	NA
No Information	NA	1	1	6	NA
% of selected students	NA	91.67	93.33	62.50	23.53

5-Years Integrated M.Sc. Tech Programmes					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	NA	10	21	24	21
Campus Placement	NA	5	19	11	17
Placement after the course completion	NA	5	0	2	NA
No Information	NA	0	2	11	NA
% of selected students	NA	100.00	90.48	54.17	80.95

5-years Integrated M.Tech Programme					
Session	2009-10	2010-11	2011-12	2012-13	20013-14
Total Registered Students	NA	NA	NA	10	9
Campus Placement	NA	NA	NA	6	5
Placement after the course completion	NA	NA	NA	3	NA
No Information	NA	NA	NA	1	NA
% of selected students	NA	NA	NA	90.00	55.56

3-Years M.Sc.Tech Programmes					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	39	71	82	102	90
Campus Placement	30	44	36	30	25
Placement after the course completion	8	15	38	1	NA
No Information	1	12	8	71	NA
% of selected students	97.44	83.10	90.24	30.39	27.78

2-Years M.Sc. Programmes					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	60	80	81	99	99
Campus Placement	7	10	9	1	6
Placement after the course completion	33	20	42	44	NA
No Information	20	50	30	54	NA
% of selected students	66.67	37.50	62.96	45.45	6.06

2-Years M.Tech Programmes					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	99	157	130	157	226
Campus Placement	24	56	84	29	38
Placement after the course completion	47	25	16	38	NA
No Information	28	76	30	90	NA
% of selected students	71.72	51.59	76.92	42.68	16.81

2-Years MBA Programme					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	36	41	59	55	50
Campus Placement	15	20	40	13	20
Placement after the course completion	0	5	1	10	2
No Information	21	16	18	32	NA
% of selected students	41.67	60.98	69.49	41.82	44.00

1-Year M.Phil Programme					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	25	26	10	30	42
Campus Placement	1	0	0	0	0
Placement after the course completion	0	0	NA	NA	NA
No Information	0	0	NA	NA	NA
% of selected students	4.00	0	0	0	0

GRAND TOTAL					
Session	2009-10	2010-11	2011-12	2012-13	2013-14
Total Registered Students	622	745	790	1037	1239
No. of selected students	509	544	671	649	557
% of selected students	81.83	73.02	84.94	62.58	44.96

Salary (2013-14)	UG (Lakhs P.A)	PG (Lakhs P.A)
Maximum	21	21
Minimum	3.18	2.8
Average	7.06	7.24

6.0 INSTITUTE-INDUSTRY INTERACTION

6.1 CONSULTANCY SERVICES

The institute offers its consultancy services to the industry practically in all subject areas of geological and geophysical prospecting engineering geology, petroleum engineering, surface mining and its problems, underground mining its problems, mine surveying blasting vibration and blast design, mine fires, detailed mine planning, mine ventilation and mine environment engineering, design of mine supports, mine transport system, problems of corrosion, mineral beneficiation studies, and system design of electronic instrumentation, software development etc. Problems of system optimization industrial engineering and operations research information system design etc. relating to pollution are carried out and computer models for various operations developed. Detailed Project Reports of mine projects, coke and mineral beneficiation plants etc. are prepared and assistance in problems of manpower development and training are rendered.

Major clients for whom consultancy projects carried out include Furgo Nexterra Geophysics Ptd. Ltd., Kolkata, Chennai Metro Rail Project, Brinckerhoff, Hutti Gold Mines Co. Ltd, Raichur, CIMFR World Bank Project Ministry of Mines, Kabul, Afganistan, DVC Bokaro CCL, TISCO, SCCL, BCCL, MCL, WCL, SECL, NCL, ECL, UCIL Jadugoda Mines, 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, MEKON International, Jharkhand Government Monnet Ispat. The value of Consultancy projects undertaken during the year amounted to **Rs.594.64**/- lakhs.

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
1	Cons/2119/2013-14	Review /Restructuring of Coal Controller Organisation	Prof. P. Pathak, CI Prof. M. Jawed, CO-CI	Ministry of Coal
2	Cons/2121/2013-14	Beneficiation Test of low grade Iron Ore	Prof. T. Sharma, CI Dr. G. C. Nayak, CO-CI	SPJ Steel at Mineral Ltd. Bhopal
3	Cons/2123/2013-14	Stage I Forest Clearance for MOEF at Brahamani Coal Block of Pursh Steel & Mining (P) Ltd.	Prof. Gurrdeep Singh, CI	Pursh Steels & Mining (P) Ltd.
4	Cons/2125/2013-14	Field Investigations, Modelling and Simulation Studies for designing Ventilation System of Rajpura Dariba Mines, HZL	Prof. D. C. Panigrahi, CI	Rajpura Dariba Mines, HZL
5	Cons/2126/2013-14	Evaluation of Performamce and Behavior of Safety Instruments Sijua colliery, tata steel Ltd.	Prof. D. C. Panigrahi, CI	Sijua Colliery, Tata steel Ltd.
6	Cons/2127/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Dharam Inelient, SECL	Prof. D. C. Panigrahi, CI	Dharam Inclient SECL
7	Cons/2128/2013-14	Evaluation of Performance and Behavior of Safety Instruments and Analysis of air Samples of Lodhna Colliery, BCCL	Prof. D. C. Panigrahi, CI	Lodhna Colliery, BCCL
8	Cons/2129/2013-14	Evaluationof Performance and Behavior of Safety Instruments of Rescue Room, Chirimiri Area, SECL	Prof. D. C. Panigrahi, CI	Chirimiri Area SECL
9	Cons/2130/2013-14	Evaluation of Performance and Behavior of Safety Instruments Jhanjra Project and Dhemomain Colliery, ECL	Prof. D. C. Panigrahi, CI	Jhanjra Project & Dhemomain Colliery, ECL
10	Cons/2131/2013-14	Evaluation of Performance and Behavior of Safety Instruments Beheraband Colliery, SECL	Prof. D. C. Panigrahi, CI	Bheraband Colliery, SECL

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
11	Cons/2132/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments Palkimara incline, SECL	Prof. D. C. Panigrahi, CI	Palkimara Incline SECL
12	Cons/2133/ 2013-14	Sub-Sieve Size Analysis using Cyclosizer	Mr. Anand Anupam, CI	CDE Asia Ltd.
13	Cons/2134/ 2013-14	Sampling Analysis and gradation of Tailings	Prof. N. R. Mandre, CI Mr. Sharvan Kumar, CO-CI	BCCL Koyla Bhawan
14	Cons/2135/ 2013-14	To Assess the Impact of Gev-green Blanket in Soil & Water avality Bodies	Prof. Gurrdeep Singh, CI	Sri Venkateshwara Fibre Udyog, Bangalore
15	Cons/2136/ 2013-14	Determiration of Cerchar Hardness and Abrasivity Indexd of Some rock Samples	Prof. VMSR Murthy, CI	CIMFR, Dhanbad
16	Cons/2137/ 2013-14	Determiration of cerchar Hardness and Abrasivity Index of Some rock samples	Prof. VMSR Murthy, CI	CIMFR, Dhanbad
17	Cons/2138/ 2013-14	Determiration of Cerchar Hardness and Abrasivity Index of Some rock samples	Prof. VMSR Murthy, CI	CIMFR, Dhanbad
18	Cons/2139/ 2013-14	Determiration of Cerchar Hardness and Abrasivity Index of Some Rock Samples	Prof. VMSR Murthy, CI	CIMFR, Dhanbad
19	Cons/2140/ 2013-14	Determiration of some Physical and Chemical Properties of quick Setting Cement Capsules of Jhagrkhand Colliery, SECL	Prof. D. C. Panigrahi, CI	Jhagrakhand Colliery, SECL
20	Cons/2141/ 2013-14	Determiration of Compressive and Anchorage Strength of quick Setting Cement Capsules of Jhagrakhand Colliery, SECL	Shri P. K. Behera, CI	Jhagrakhand Colliery, SECL
21	Cons/2142/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Kenda Area ECL	Prof. D. C. Panigrahi, CI	Kenda Area, ECL
22	Cons/2143/ 2013-14	Functional Ability test of Self Rescuers of Moonidih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Moonidih Colliery, BCCL

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23	Cons/2144/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Kumardhubi Colliery, ECL	Prof. D. C. Panigrahi, CI	Kumardhubi Colliery, ECL
24	Cons/2145/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of AWC Dhanbad	Prof. D. C. Panigrahi, CI	Advabce Welding Corporation, Dhanbad
25	Cons/2146/ 2013-14	Analysis and Intorpretation of Mine Air Samples of Sendra Bansjora Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bansjora Colliery, BCCL
26	Cons/2147/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Mekon International, Dhanbad	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad
27	Cons/2148/ 2013-14	Evaluation of Peroformance and Behavior of Ventilation and Safety Instruments of Katras Chautudih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Katras Chaududih Colliery, BCCL
28	Cons/2149/ 2013-14	Evaluation of Performance and Behaviour of Ventilation and Safety Instruments of Baikunthapur Area, SECL	Prof. D. C. Panigrahi, CI	Baikunthapur Area, SECL
29	Cons/2150/ 2013-14	Evaluation of Performance and Behaviour of Ventilation and Safety Instruments of Chirimiri, Area, SECL	Prof. D. C. Panigrahi, CI	Chirimiri Area, SECL
30	Cons/2151/ 2013-14	Evaluation of Performance and Behaviour of Ventilation and Safety Instruments and analysis of air Samples of Jarangdih U/G Colliery, CCL	Prof. D. C. Panigrahi, CI	Jarangdih U/G Colliery, CCL
31	Cons/2152/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments Ray Bachra Colliery, CCL	Prof. D. C. Panigrahi, CI	Ray Bachra Colliery, CCL
32	Cons/2158/ 2013-14	Preliminary Investigation for Benefication of Low grade Iron Ore	Prof. T. Sharma, CI Dr. G. C. Nayak, CO-CI	Vikram Pvt. Ltd., Sundargarh

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33	Cons/2159/ 2013-14	Analysis and Interpretation of air Samples of Anjan Hills and Kurasia Collieries, SECL	Prof. D. C. Panigrahi, CI	Anjan Hills and Kurasia Collieries, SECL
34	Cons/2160/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Bartunga Colliery, SECL	Prof. D. C. Panigrahi, CI	Bartunga Colliery, SECL
35	Cons/2161/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Mekon International	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad
36	Cons/2162/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments Jhanjra Project Colliery	Prof. D. C. Panigrahi, CI	Jhanjra Project & Colliery, ECL
37	Cons/2163/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Mekon International	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad
38	Cons/2164/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Bijuri and Samna Collieries, SECL	Prof. D. C. Panigrahi, CI	Bijuri and Somna Collieries, SECL
39	Cons/2165/ 2013-14	Solid Waste Management Plan & Activity for 3 years Jan, 2013 to Dec. 2015.	Prof. S.K. Maiti, CI Dr. B. Paul, CO-CI	Nalwa Steel and Power Limited, Raigarh
40	Cons/2166/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Jhiria UG Mine SECL	Prof. D. C. Panigrahi, CI	Jhiria Underground Mines, SECL
41	Cons/2167/ 2013-14	analysis and Interpretation of Mine air Samples of Bagdigi Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bagdigi Colliery, BCCL
42	Cons/2170/ 2013-14	Proximate Analysis and GCV Determination	Prof. S. Bhattacharya, CI Prof. V. K. Saxena & Mr. Shravan kumar, CO-CI	BCCL, Koyla Bhawan
43	Cons/2171/ 2013-14	Functional Ability test of Self Rescuers of Tata Steel Ltd. Jharia Division	Prof. D. C. Panigrahi, CI	Tata Steel, Jharia Division

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44	Cons/2172/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of lakhimata Colliery, ECL	Prof. D. C. Panigrahi, CI	lakhimata Colliery, ECL
45	Cons/2173/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Analysis of air samples of Sendra Bansjora Col., BCCL	Prof. D. C. Panigrahi, CI	Sendra Bansjora Colliery, BCCL
46	Cons/2174/2013-14	Sub-Sieve Analysis of Iron Ore	Mr. Shravan Kumar, CI	SGS India Pvt. Ltd., Kolkata
47	Cons/2179/2013-14	Testing of Uranium Ore Sample	Prof. S. Bhattacharya, CI Dr. Anand Anupam, CO-CI	Menally Sayaji Engineering Ltd.
48	Cons/2180/2013-14	Astudy into Present Atmospheric Condition including the conditions of fire areas for improving safety in Sijua Colliery Tata Steel Ltd.	Prof. D. C. Panigrahi, CI	Sijua Colliery, Tata steel Ltd.
49	Cons/2181/2013-14	Evaluation of Performance and Behavior of Safety Instruments air-borne respirable dust sampling noise Measurement gas sampling and analysis of Chasnala Colliery ISP SAIL	Prof. D. C. Panigrahi, CI	Chasnalla Colliery ISP-SAIL
50	Cons/2182/2013-14	Field Investigations Modelling and Simulation Studies for Redesigning the Ventilation System of all UCIL Mines	Prof. D. C. Panigrahi, CI	UCIL
51	Cons/2183/2013-14	Field Investigations Modelling and Simulation Studies for Redesigning and Reorganizing the Ventilation System of Digwadih Colliery, Jharia Collieries Tata Steel Ltd.	Prof. D. C. Panigrahi, CI	Digwadih Colliery Steel Ltd.
52	Cons/2184/2013-14	Analysis and Interpretation of air Samples of Hariazam Colliery ECL	Prof. D. C. Panigrahi, CI	Hariazam Colliery ECL

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53	Cons/2185/2013-14	Analysis and Interpretation of air Samples of Karo Spl. Project Ph-II CCL	Prof. D. C. Panigrahi, CI	Karo Special Project Ph-II CCL
54	Cons/2186/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Khothadih Colliery Pandewasar Area, ECL	Prof. D. C. Panigrahi, CI	Khothadih Colliery, ECL
55	Cons/2187/2013-14	Evaluation of Performance and Behavior of Safety instrument of Dobari Colliery Bastacola Area BCCL	Prof. D. C. Panigrahi, CI	Dobari Colliery Bastacola Area BCCL
56	Cons/2188/2013-14	Evaluation of Performance and behavior of Safety instruments and air sample analysis of Amalgamatod Angarapathara Coll., BCCL	Prof. D. C. Panigrahi, CI	Angarapathara Colliery, BCCL
57	Cons/2189/2013-14	Evaluation of Performance and Behavior of Safety Instruments Mudidih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Mudidih Colliery BCCL
58	Cons.2190/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Chinakuri Mine 1, ECL	Prof. D. C. Panigrahi, CI	Chinakuri Mine No.1 ECL:
59	Cons/2191/2013-14	Evaluation of Performance and Behavior of Safety Instruments of MRS - Dhansar, BCCL	Prof. D. C. Panigrahi, CI	MRS Dhansar BCCL
60	Cons/2192/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Hurriladih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Hurriladih Colliery, BCCL
61	Cons/2193/2013-14	Evaluation of Performance and Behavior of Safety Instruments and air Sample Analysis of Badgna Colliery ECL	Prof. D. C. Panigrahi, CI	Badgna Colliery, BCCL
62	Cons/2194/2013-14	Evaluation of Performance and Behavior of gas detectors of Silewar Sub Area, WCL	Prof. D. C. Panigrahi, CI	WCL, Silewara Sub Area

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63	Cons/2195/2013-14	Analysis and Interpretation of air Samples of Mudidih Colliery	Prof. D. C. Panigrahi, CI	Mudidih Colliery BCCL
64	Cons/2195/2013-14	Off-campus course on Environmental Impact Assessment and Auditing to MCL Executives	Prof. Gurrdeep Singh, CI	MCL
65	Cons/2199/2013-14	Evaluation of Performance and Behavior of Narsamund Colliery, ECL	Prof. D. C. Panigrahi, CI	ECL
66	Cons/2200/2013-14	Analysis and Interpretation of Mine Air Samples of Bararee Colliery, BCCL	Prof. D. C. Panigrahi, CI	BCCL
67	Cons/2201/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Sodepur Colliery	Prof. D. C. Panigrahi, CI	ECL
68	Cons/2202/2013-14	Evaluation of Performance of Six number of dust collectors deployed alongwith their drilling machine	Prof. D. C. Panigrahi, CI Dr. D.P. Mishra, CO-CI	M/s Revathi Equipment Ltd. Coimbatore
69	Cons/2203/2013-14	Evaluation of performance and Behavior of gas detectors of Mines Rescue Station, Dhansar	Prof. D. C. Panigrahi, CI	Mines Rescue Station Dhansar, BCCL
70	Cons/2204/2013-14	Evaluation of Performance and Behaviour of gas detectors and anemometers of Rik Sates Asansol	Prof. D. C. Panigrahi, CI	M/s Rik Sales Asansol
71	Cons/2205/2013-14	Testing of Heavy Metals Trall Metals of Water Samples	Mr. B. K. Mishra, CI	Aditi R & D Services, Sindri
72	Cons/2206/2013-14	Water Sample Testing of Rajrappa Area	Mr. B. K. Mishra, CI Dr. S. K. Gupta, CO-CI	Hindalco Industries Ltd. Ranchi
73	Cons/2207/2013-14	Scientific study to suggest blast design for controlling blast Induced vibration plying fragments and blasting in the Vicinity of inhabited at Mahespur Colliery Govindpur Area BCCL	Dr. A. K. Mishra, CI Dr. B. S. Choudhary, CO-IC	Mahespur Colliery, BCCL

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74	Cons/2208/2013-14	Scientific Study for Stability Analysis & Design of Slopes and Coal rib and Suggesting a suitable design for dragline operation at Bharatpur OCP of MCL	Prof. Phalguni Sen, CI Shri P.K. Behera, CO-CI Dr. a.S. Venkatesh, CO-CI	MCL N.S. Nagar Angul
75	Cons/2209/2013-14	DGPS Survey of Demarked boundary Pillars of Tubed Coal Block of TCML	Dr. Dheeraj Kumar, CI	Tubed Coal Mines, Ltd., Ranchi
76	Con/2210/2013-14	Rapid EIA/EMP for Sand Lease of Tata Steel, Kunji	Dr. Biswajit Paul, CI	Tatasteel Ltd. Jamadoba
77	Cons/2211/2013-14	Rapid EIA/EMP for Sand Lease of Tata Steel - Dungri & Bhowrah	Dr. Biswajit Paul, CI	Tatasteel Ltd. Jamadoba
78	Cons/2212/2013-14	Rapid EIA/EMP for Sand Lease of Tata Steel - Mohulbani & Gourkhuti	Dr. Biswajit Paul, CI	Tatasteel Ltd. Jamadoba
79	Cons/2213/2013-14	Rapid EIA/EMP for Preamsinghdih Sand Lease of Tata Steel	Dr. Biswajit Paul, CI	Tatasteel Ltd. Jamadoba
80	Cons/2214/2013-14	Statutory Environmental Audit at jindal Stainless Ltd.	Prof. Gurrdeep Singh, CI	Jindal Stainless Steel Jajpur
81	Cons/2215/2013-14	Analysis and interpretation of air Samples of Sandra Bansjora Colliery, BCCL	Prof. D. C. Panigrahi, CI	Sendra Bansjora Colliery, BCCL
82	Cons/2216/2013-14	Evaluation of Performance and Behavior of gas detectors of Baikunthapur Area and kapildhara Colliery, SECL	Prof. D. C. Panigrahi, CI	Baikunthapur Area SECL Kapildhara Colliery
83	Cons/2217/2013-14	Evaluation of performance and Behavior of gas detectors of Chhtrapur Mine No.1, WCL	Prof. D. C. Panigrahi, CI	Chhtrapur Mine No.1, WCL
84	Cons/2218/2013-14	Evaluation of performance and Behavior of gas detectors of Sodpur Colliery, ECL	Prof. D. C. Panigrahi, CI	Sodepur Colliery, ECL
85	Cons/2219/2013-14	Evaluation of performance and Behavior of gas detectors of Tawa Mine II, Patherkhera Area	Prof. D. C. Panigrahi, CI	Tawa Mine-II Patherkhera Area, WCL

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86	Cons/2220/2013-14	Environmental (Chemical & Leachability Study A Fly Ash for JPL	Prof. Gurrdeep Singh, CI	Jindal Power Ltd.
87	Cons/2221/2013-14	Off - Campus Course on Technology Applications in Mining and Innovative Trends in Mining Industry	Dr. A. K. Mishra, CI	Hyderabad, Mumbai
88	Cons/2222/2013-14	Determination of Some Physical and Chemical Properties of quick setting cement capsule of Kargil U/G Mine, B & K Area CCL	Prof. D. C. Panigrahi, CI	Kargil U/G Mine B&K Area, CCL
89	Cons/2223/2013-14	Determination of Compressive and Anchorage Strength of quick setting cement capsules of kargil U/G Mine, B & K Area, CCL	Shri P. K. Behera, CI	Kargil UG Mine, B&K Area, CCL
90	Cons/2224/2013-14	Analysis and Interpretation of Mine air samples of CIMFR, Dhanbad	Prof. D. C. Panigrahi, CI	CIMFR, Dhanbad
91	Cons/2225/2013-14	Testing of Dust Sup Chemical (Dust Track)	Prof. Gurrdeep Singh, CI	GE India Industrial Pvt. Ltd.
92	Cons/2226/2013-14	To study effect of Excavation of Panel No.32 on Surface Murulidih 20/21 pits Colliery	Prof. U. K. Singh, CI	Murulidih 20/21 Pits Colliery, BCCL
93	Cons/2227/2013-14	Coal Sample Analysis work for CHNS	Prof. V. K. Saxena, CI	SGS India Pvt. Ltd., Dhanbad
94	Cons/2228/2013-14	Coal Stock analysis Work for GCV	Prof. V. K. Saxena, CI	Sodepur Area, ECL
95	Cons/2229/2013-14	Off-Campus Course on Safe and Efficient Blasting Practices for Improved Productivity in Mines, For HZL Managers	Dr. A. K. Mishra, CI	Hindustan Zinc Ltd., Rajpura Dariba Mines
96	Cons/2230/2013-14	Training need Analysis in Mining Domain	Prof. VMSR. Murthy, CI Dr. Dheeraj Kumar, CO-CI	Infosys Limited, Pune
97	Cons/2231/2013-14	Monitoring of Environmental Parameters in respect of ambient air stock Monitoring Noise level and effluent discharged of BTPS	Dr. Alok Singh, CI Dr. S. K. Gupta, CO-CI	DVC, BTPS

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98	Cons/2232/ 2013-14	Evaluation of Performance and Behaviors of gas detectors and Analysis and Interpretation of air Samples of Bagdigi Colliery Lodna Area 6 & 7 Pits Collieries	Prof. D. C. Panigrahi, CI	Bagdigi Colliery, Lodna Area and 6 & 7 Pits, Tata Steel Ltd.
99	Cons/2233/ 2013-14	Abrasivity and Grindability Test of Coal	Prof. S. Bhattacharya, CI Dr. Anand Anupam, CO-CI	CESE Limited Kolkata
100	Cons/2234/ 2013-14	Analysis of dry Solids from ESP Discharge	Prof. S. Bhattacharya, CI Dr. Anand Anupam, CO-CI	Prakash Industries Ltd., Janjgit Champa (CG)
101	Cons/2235/ 2013-14	Testing of Water (Damodar River)	Mr. B. K. Mishra, CI Dr. S. K. Gupta, CO-CI	Rites Ltd.
102	Cons/2236/ 2013-14	Analysis and Interpretation of Mine Air Samples of Hingir Rampur Colliery, MCL	Prof. D. C. Panigrahi, CI	Hingir Rampur Colliery, MCL
103	Cons/2237/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Mekon International	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad
104	Cons/2238/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments, Analysis of Air Samples of Madhabpur Colliery, ECL	Prof. D. C. Panigrahi, CI	Madhabpur Colliery, ECL
105	Cons/2239/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Gopalichuk, BCCL	Prof. D. C. Panigrahi, CI	Gopalichuck, BCCL
106	Cons/2240/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of MRS Ramgarh, CCL	Prof. D. C. Panigrahi, CI	MRS Ramgarh CCL
107	Cons/2241/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Palkimara and West Jhagarkhand Collieries, SECL	Prof. D. C. Panigrahi, CI	palkimara and West Jhagarkhand Collieries, SECL

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108	Cons/2242/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Malga Colliery, SECL	Prof. D. C. Panigrahi, CI	Malga Colliery, S ECL
109	Cons/2243/2013-14	Davis tube test for 5 samples	Dr. Pankaj Kr. Jain, CI	
110	Cons/2248/2013-14	Determination of Cerchar Hardness and Cerchar Abrasivity Index of Some Coal Samples	Prof. V.M.S.R. Murthy, CI	CIMFR, Dhanbad
111	Cons/2249/2013-14	Determination of Cerchar Hardness and Cerchar Abrasivity Index of Some Coal Measure rock Samples	Prof. V.M.S.R. Murthy, CI	CIMFR, Dhanbad
112	Cons/2250/2013-14	Evaluation of Performance and Behavior of gas detectors of Advance welding Corporation	Prof. D. C. Panigrahi, CI	M/s Advance Welding Corporation, Dhanbad
113	Cons/2251/2013-14	Evaluation of Performance and Behavior of gas detectors and Analysis and Interpretation of air Samples of Lodna Colliery	Prof. D. C. Panigrahi, CI	Lodna Colliery, BCCL
114	Cons/2252/2013-14	Evaluation of Performance and Behavior of gas detectors of Rescue room Chirimiri Area	Prof. D. C. Panigrahi, CI	Chirimiri Area Rescue Room, WCL
115	Cons/2253/2013-14	Evaluation of Performance and Behavior of gas detectors of Hariajam Colliery, ECL	Prof. D. C. Panigrahi, CI	Hariajam Colliery ECL
116	Cons/2254/2013-14	Analysis and Interpretation of air Samples of Jayram Colliery, BCCL	Prof. D. C. Panigrahi, CI	Jayrampur Colliery, BCCL
117	Cons/2255/2013-14	analysis and Interpretation of air samples of Bagdigi Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bagdigi Colliery, BCCL
118	Cons/2256/2013-14	Evaluation of Performance and Behavior of gas detectors of MRs Ramgarh, CCL	Prof. D. C. Panigrahi, CI	MRS Ramgarh, CCL

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119	Cons/2257/ 2013-14	Evaluation of Performance of two numbers of dust collectors Models (C850E) M/s Revathi Equipment Ltd. Coimbatore deployed Along with their drilling Machines at different Mines of NCL Singrauli	Prof. D. C. Panigrahi, CI	M/s Revathi Equipment Ltd. Coimbatore
120	Cons/2258/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments of Patherdih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Patherdih Colliery, BCCL
121	Cons/2259/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments Analysis and Interpretation air Samples of Barraree Colliery, BCCL	Prof. D. C. Panigrahi, CI	Barraree Colliery, BCCL
122	Cons/2260/ 2013-14	Analysis and Interpretation of air sample of Kumardhubi Colliery, ECL	Prof. D. C. Panigrahi, CI	Kumardhubi Colliery, ECL
123	Cons/2261/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments Analyusis and Interpretation of air Samples of Ghusik ® Colliery, ECL	Prof. D. C. Panigrahi, CI	Ghusik ® Colliery, ECL
124	Cons/2262/ 2013-14	Analysis and Interpretation of air samples of Shaft Mine Sudamdih, BCCL	Prof. D. C. Panigrahi, CI	Shaft Mine Sudamdih, BCCL
125	Cons/2263/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments of Sudamdih Incline Mine, BCCL	Prof. D. C. Panigrahi, CI	Sudamdih Incline Mine, BCCL
126	Cons/2264/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments of Bhowrah South Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bhowrah South Colliery, BCCL
127	Cons/2265/ 2013-14	Proximate analysis of Washed Coal Samples	Prof. S. Bhattacharya, CI Mr. Anand Anupam, CO-CI	Moonidih, BCCL, Dhanbad
128	Cons/2266/ 2013-14	Analysis of Coal Sample of Washed Coal (Power) of Mohuda Coal Washery	Prof. V. K. Saxena, CI	Mohuda Coal Washery, BCCL

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129	Cons/2267/2013-14	Analysis and Interpretation of air Samples of Joyrampur Colliery, BCCL	Prof. D. C. Panigrahi, CI	Jayrampur Colliery, BCCL
130	Cons/2268/2013-14	Analysis and Interpretation of air Samples of Lodna Colliery, BCCL	Prof. D. C. Panigrahi, CI	Lodna Colliery, BCCL
131	Cons/2269/2013-14	Analysis and Interpretation of air Samples of Bagdigi Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bagdigi Colliery, BCCL
132	Cons/2270/2013-14	Evaluation of performance and Behavior of gas detectors of PBP Colliery, BCCL	Prof. D. C. Panigrahi, CI	P.B.P. Colliery, BCCL
133	Cons/2271/2013-14	Analysis and Interpretation of air Samples of Joyrampur Colliery, BCCL	Prof. D. C. Panigrahi, CI	Joyrampur Colliery, BCCL
134	Cons/2272/2013-14	Testing of Washed Coal and Power Coal of Madhuban Coal Washery under Block II area BCCL	Prof. V. K. Saxena, CI Mr. Anand Anupam, CO-CI	Madhuban Coal Washery Block II Area BCCL
135	Cons/2274/2013-14	Testing of LDO for SAIL, IISCO Steel Plant	Dr. T. K. Naiya, CI Prof. A. K. Pathak, CO-CI Dr. Ajay Mandal, CO-CI	ISP SAIL Burnpur
136	Cons/2275/2013-14	Subsidence Study of Khetri Copper Mine & Kolihan Copper Mine of Khetri Copper Complex Rajasthan	Dr. Dheeraj Kumar, CI Dr. B.S. Choudhary, CO-CI	Khetri Copper Mine and Kolihan Copper Mine Khetri
137	Cons/2276/2013-14	Analysis of Three Coal Samples of Jhama Coal	Prof. V. K. Saxena, CI Prof. N.R Mandre, Co-CI	Quality Control Deptt. Kolkata
138	Cons/2277/2013-14	Evaluation of Performance and Behavior of Ventilation and safety Instruments of Sudamdih Shaft Mine, BCCL	Prof. D. C. Panigrahi, CI	Sudamdih Shaft Mine BCCL
139	Cons/2278/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of K.B. Colliery, BCCL	Prof. D. C. Panigrahi, CI	K.B. Colliery, BCCL
140	Cons/2279/2013-14	Analysis and Interpretation of Mine air Samples of Tetulmari Colliery, BCCL	Prof. D. C. Panigrahi, CI	Tetulmari Colliery, BCCL

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141	Cons/2280/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of basantimata Colliery, BCCL	Prof. D. C. Panigrahi, CI	Basantimata Colliery, BCCL
142	Cons/2281/2013-14	Developing and Delivering Online Course on International Business Management	Dr. Niladri Das, CI Prof. J. K. Pattanayak	Author Gen Technologies Pvt. Ltd., Mohali
143	Cons/2283/2013-14	Analysis and Interpretation of air Samples of Lodna Colliery, BCCL	Prof. D. C. Panigrahi, CI	Lodna Colliery, BCCL
144	Cons/2284/2013-14	Evaluation of Performance and Behavior of Safety Instruments and Analysis and Interpretation of Bhagabandh Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bhagabandh Colliery, BCCL
145	Cons/2285/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Rajnagar R. O. Colliery, SECL	Prof. D. C. Panigrahi, CI	Rajnagar R.O. Colliery, SECL
146	Cons/2286/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Jayrampur Colliery, BCCL	Prof. D. C. Panigrahi, CI	Joyrampur Colliery, BCCL
147	Cons/2287/2013-14	Analysis and Interpretation of Air Samples of Bagdigi Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bagdigi Colliery, BCCL
148	Cons/2288/2013-14	Analysis and Interpretation of Air Samples of Jarangdih Colliery, CCL	Prof. D. C. Panigrahi, CI	Janangdih Colliery, CCL
149	Cons/2289/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Burragarh Colliery, BCCL	Prof. D. C. Panigrahi, CI	Burragarh, Colliery, BCCL
150	Cons/2290/2013-14	Evaluation of Performance and Behavior of Safety Instruments of Roy Bachra Colliery, CCL	Prof. D. C. Panigrahi, CI	Ray Bachra Colliery, CCL
151	Cons/2291/2013-14	Crossing and Ignition Point Temperature of Coal Samples of CIMFR	Prof. D. C. Panigrahi, CI	CIMFR, Dhanbad

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152	Cons/2292/ 2013-14	Sampling and gradation of Rejects	Prof. S. Bhattacharya, CI Prof. V. K. Saxena, CO-CI	Koyla Nagar, BCCL
153	Cons/2293/ 2013-14	Learning from Each other Workshop on reduction of fines Generation through Advanced blasting Techniques in Iron Ore Mines	Prof. VMSR Murthy, CI Dr. B. S. Choudhary, CO-CI	SAIL
154	Cons/2294/ 2013-14	Development of an Under Water drilling and Controlled Blasting Methodology and Monitoring for dismantling a Concrete Berth at Port of Vishakhapatnam	Prof. VMSR Murthy, CI	Adani Vizag Coal Terminal Pvt. Ltd. Ahmedabad
155	Cons/2295/ 2013-14	Elective Course Logistics and Supply Chain Management	Prof. K. Mukherjee, CI	XLRI Jaqmshedpur
156	Cons/2296/ 2013-14	EIA Study on the Impact of Leaching due to storage of fly ash on the Surface and mine voids of the dumping Area of Rajarappa Site	Mr. B. K. Mishra, CI Dr. S. K. Gupta, CO-CI	Hindalco Industries Ltd., Ranchi
157	Cons/2297/ 2013-14	Evaluation of Performance and Behavior of gas detectors of Dabor Colliery ECL	Prof. D. C. Panigrahi, CI	Dabor Colliery, ECL
158	Cons/2298/ 2013-14	Field Investigations Modeling and Design of Ventilation System for Mochia, Balaria, Baroi, and Zawarmala Mines (Zawar Group of Mines) HZL and Association of ISM for 3 years to Implement the Recommended Ventilation System for increasing the Production of the Mines from 1.2 Million tonnes per Annum (MTpa) to 5.0 Million tonnes per Annum (Mtpa)	Prof. D. C. Panigrahi, CI	HZL, Udaipur
159	Cons/2299/ 2013-14	Evaluation o Performance and Behavior of gas detectors of Baheraband Colliery Hasdeo Area SECL	Prof. D. C. Panigrahi, CI	Baheraband Colliery, Hasdeo Area, SECL

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160	Cons/2300/2013-14	Evaluation of Performance and Behavior of gas detectors of Janjra Project Colliery ECL	Prof. D. C. Panigrahi, CI	Jhanjra Project Colliery, ECL
161	Cons/2301/2013-14	Evaluation of Performance and Behavior of gas detectors of Chinakuri Mine No.1, ECL	Prof. D. C. Panigrahi, CI	Chinakuri Mine No. 1
162	Cons/2302/2013-14	Evaluation of Performance and Behavior of gas detectors of Jhiria UG Mine and Malga Colliery Hasdeo Area SECL	Prof. D. C. Panigrahi, CI	Jiria UG Mine and Malga Colliery Hasdeo Area SECL
163	Cons/2303/2013-14	Evaluation of Performance and Behavior of gas detectors of B. K. Enterprises, Dhanbad	Prof. D. C. Panigrahi, CI	B. K. Enterprises, Dhanbad
164	Cons/2304/2013-14	Analysis and Interpretation of air Samples of North Tisra Colliery, BCCL	Prof. D. C. Panigrahi, CI	North Tisra Colliery, BCCL
165	Cons/2305/2013-14	Analysis and Interpretation of air Samples of Lodna Colliery, BCCL	Prof. D. C. Panigrahi, CI	Lodna Colliery, BCCL
166	Cons/2306/2013-14	Sampling and Proximate Analysis	Shri shravan Kumar, CI Shri P.K. Jain, CO-CI	BCCL Koyla Nagar, Dhanbad
167	Cons/2307/2013-14	Proximate Analysis and Gradation of Coal Sample	Prof. N.R. Mandre, CI Mr. Shravan Kumar, Co-CI	M/s Bimal Kr. Choudhary, Nirsa Dhanbad
168	Cons/2308/2013-14	Evaluation of Performance and Behavior of gas detectors Jhanjra Project Colliery, ECL	Prof. D. C. Panigrahi, CI	Jhanjra Project Colliery, ECL
169	Cons/2309/13-14	Evaluation o Performance and Behavior of gas detectors of Bagdigi Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bagdigi, BCCL
170	Cons/2310/13-14	Evaluation of Performance and Behavior of gas detectors and Analysis and Interpretation of air Samples of Bararee Col.	Prof. D. C. Panigrahi, CI	Bararee Colliery, BCCL
171	Cons/2311/13-14	Evaluation of Performance and Behavior of gas detectors MRS Dhansar Dhanbad	Prof. D. C. Panigrahi, CI	MRS Dhansar BCCL
172	Cons/2312/13-14	Eval. of Perfor. and Behavior of gas detectors and Analysis and Interpretation of air Samples of Joyrampur Col.	Prof. D. C. Panigrahi, CI	Joyrampur Colliery, BCCL

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173	Cons/2313/ 13-14	Analysis and Interpretation of air Samples of Hingiri Rampur Colliery, MCL	Prof. D. C. Panigrahi, CI	Hingiri Rampur Colliery, MCL
174	Cons/2315/ 13-14	Preparation of Environmental Management Report for DVC Mines.	Dr. Biswajit Paul, CI	DVC Bermo Mines, Bokaro
175	Cons/2316/ 13-14	Analysis of dry Solids from ESP Discharge	Prof. S. Bhattacharya, CI Mr. Pankaj Kr. Jain, CO-CI	Prakash Industries Ltd. Champa
176	Cons/2318/ 2013-14	Effluent Analysis as per EPA 1986 PIS 2296	Mr. B. K. Mishra, CI Dr. Alok Sinha, CO-CI	Tata Steel Ltd.
177	Cons/2319/ 2013-14	Evaluation of performance and Behavior of Ventilation and Safety Instrument of SSI Colliery ECL	Prof. D. C. Panigrahi, CI	SSI Colliery, ECL
178	Cons/2320/ 2013-14	Evaluation of performance and Behavior of Ventilation and Safety instruments and Analysis of air Samples of Swang Colliery	Prof. D. C. Panigrahi, CI	Swang Colliery, CCL
179	Cons/2321/ 2013-14	Evaluation of performance and Behavior of Ventilation and Safety instruments of Chapapur Colliery	Prof. D. C. Panigrahi, CI	Chapapur Colliery, ECL
180	Cons/2322/ 2013-14	Evaluation of performance and Behavior of Ventilation and Safety instruments of RIK Sales	Prof. D. C. Panigrahi, CI	Rik Sales Dhanbad
181	Cons/2323/ 2013-14	Analysis and Interpretation of Mine air samples of CIMFR, Dhanbad	Prof. D. C. Panigrahi, CI	CIMFR, Dhanbad
182	Cons/2324/ 2013-14	Evaluation of performance and Behavior of Ventilation and Safety instruments and analysis of air samples of Lodna Colliery, BCCL	Prof. D. C. Panigrahi, CI	Lodna Colliery, BCCL
183	Cons/2325/ 2013-14	Evaluation of performance and Behavior of Ventilation and Safety instruments of Mekon International	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad

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184	Cons/2326/2013-14	Evaluation of performance and Behavior of Safety instruments of Chhatrapur Coliery WCL	Prof. D. C. Panigrahi, CI	Chhatrapur Colliry, WCL
185	Cons/2327/2013-14	Evaluation of performance and Behavior of Safety instruments of Sobhapur Coliery WCL	Prof. D. C. Panigrahi, CI	Sobhapur Colliry, WCL
186	Cons/2328/2013-14	Determination of GCV of Coal ample from PTP Plant	Dr. Shalini Goutam, CI	Parichha Thermal Power Project parichha, Jhansi
187	Cons/2329/2013-14	Petrography of are Samples from M/s Vimla Labs.	Prof. A. S. Venkatesh, CI Prof. Atul Kr. Verma, CO-CI Dr. P. R. Sahoo, CO-CI	IDA Phase II Cherlapally Vimla Labs, Hyderabad
188	Cons/2330/2013-14	DGPS Survey of Demarked Boundary Pillars of Sub Block IV/4 & IV/8 of Ushaa Coal mine of M/s Jayaswal Neco Industries Ltd.	Dr. Dheeraj Kumar, CI	M/s Jayaswal Neco Industries Ltd. Milupara, Rajgarh
189	Cons/2331/2013-14	Testing of Mine Water Effluent from Bararee Colliery	Mr. B. K. Mishra, CI Dr. S. K. Gupta, CO-CI	Bararee Colliery, BCCL
190	Cons/2332/2013-14	Testing of Industrial Effluent Mine, Pitwater (1 No.)	Mr. B. K. Mishra, CI Dr. S. K. Gupta, CO-CI	Kusunda Colliery, BCCL
191	Cons/2333/2013-14	Testing of Mine Pit Water and Filtur Water (2 No.)	Mr. B. K. Mishra, CI Dr. S. K. Gupta, CO-CI	Godhar Colliery, BCCL
192	Cons/2335/2013-14	Evaluation of Performance and Behavior of gas detectors of Shyampur B Colliery, ECL	Prof. D. C. Panigrahi, CI	Shyampur B Colliery, ECL
193	Cons/2336/2013-14	Field Investigations, modelling and Simulation Studies for Redesigning and Reorganizing the Ventilation System for Improving the Workplace Environment in Jitpur Colliery ISP SAIL (Phase-1)	Prof. D. C. Panigrahi, CI	SAIL Jitpur Colliery, ISP
194	Cons/2337/2013-14	Evaluation of Performance and Behavior of gas detectors of Parbelia Colliery, ECL	Prof. D. C. Panigrahi, CI	Parbelia Colliery, ECL

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195	Cons/2338/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments of Godhar Colliery, BCCL	Prof. D. C. Panigrahi, CI	Godhar Colliery, BCCL
196	Cons/2339/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments of Rescue Room, Surakachha-Balgi Sub Area, WCL	Prof. D. C. Panigrahi, CI	Surakachhar Balgi Subarea WCL
197	Cons/2340/ 2013-14	Conducting Workshop on Role & Responsibility of HR Personnel in Coal Industry	Dr. Saumoya Singh, CI Prof. Pramod Pathak, CO-CI	GM (HRD) Northern Coalfield Ltd., Singrauli
198	Cons/2344/ 2013-14	Design of Mechanised System of stoping for Ukwa Mine of MOIL	Prof. U. K. Singh, CI	MOIL Ltd., Nagpur
199	Cons/2345/ 2013-14	Determination of Bonds Work Index of Chromite Sample	Prof. N. Suresh, CI	SGS Indian (P) Ltd. Kolkata
200	Cons/2347/ 2013-14	Offering a 2 days Management Development programme on Mine Ventilation and Safety for the Practicing Officers of HZL	Prof. D. C. Panigrahi, CI	Hindustan Zinc Ltd
201	Cons/2348/ 2013-14	Evaluation of Performance and Behavior of open Circuit Breathing apparatus as per IS 10245 (part-2) 1994	Prof. D. C. Panigrahi, CI	Joseph Leslie Dynamiks Mfg. Pvt. Ltd. Mumbai
202	Cons/2349/ 2013-14	Field Investigations Modelling and Design of Ventilation system of Kayad Mine, HZ Ltd. Phase III	Prof. D. C. Panigrahi, CI	Koyad Mine HZL
203	Cons/2350/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Kumardhubi Colliery, ECL	Prof. D. C. Panigrahi, CI	Kumardhubi Colliery, ECL
204	Cons/2351/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Ghusik ® Colliery	Prof. D. C. Panigrahi, CI	Ghusik ® Colliery, ECL

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205	Cons/2352/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Sodepur Colliery	Prof. D. C. Panigrahi, CI	Sodepur Colliery, ECL
206	Cons/2353/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Simlabahal Colliery	Prof. D. C. Panigrahi, CI	Simlabahal Colliery, BCCL
207	Cons/2354/2013-14	Field Investigations Modelling and design of Ventilation System to Improve for Rampura Aqucha Lead Zinc Mine HZL Ltd. Part-IV	Prof. D. C. Panigrahi, CI	Rampura Aqucha Lead Zinc Mine, HZL Part (IV)
208	Cons/2355/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments and Analysis and Interpretation of air Samples Measurement of Noise and Air Borne dust Sampling of Jitpur Colliery, ISP, SAIL	Prof. D. C. Panigrahi, CI	Jitpur Colliery, ISP, SAIL
209	Cons/2356/2013-14	Evaluation of Sustainable Development Project of ECL under MOU 2013-13 (First Phase)	Dr. P. K. Singh, CI Dr. M. K. Jain, CO-CI	ECL Sitarampur Burdwan
210	Cons/2358/2013-14	Independent Evaluation and Assessment of Major Central Sector Scheme for continuation in XII Plan Conservation and Safety in Coalfields	Prof. S. Choudhuri, CI Prof. D. C. Panigrahi, CO-CI	Govt. of India, Ministry of Coal, New Delhi
211	Cons/2359/2013-14	Independent Evaluation and Assessment of Major Central Sector Scheme for Continuation in XII Plan Development of Transportation infrastructure in Coalfield	Prof. S. Choudhuri, CI Prof. D. C. Panigrahi, CO-CI	Govt. of India, Ministry of Coal, New Delhi
212	Cons/2360/2013-14	Independent Evaluation and Assessment of Major Central Sector Scheme for Continuation in XII Plan EMSC Scheme	Prof. S. Choudhuri, CI Prof. D. C. Panigrahi, CO-CI	Govt. of India, Ministry of Coal, New Delhi

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213	Cons/2361/ 2013-14	Evaluation of Performance and Behaviour and Safety Instruments of Malga Colliery and Jharia Colliery SECL	Prof. D. C. Panigrahi, CI	Malga Colliery and Jhairia Colliery, SECL
214	Cons/2362/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Baheraband Colliery, SECL	Prof. D. C. Panigrahi, CI	Baheraband Colliery, SECL
215	Cons/2363/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of MRS Ramgarh, CCL	Prof. D. C. Panigrahi, CI	MRS Ramgarh, CCL
216	Cons/2366/ 2013-14	Evaluation of Performance and Behaviour of Ventilation and Safety Instruments, and analysis and interpretation of air samples, measurement of noise and air borne dust sampling of Jitpur Colliery, ISP, SAIL	Prof. D. C. Panigrahi, CI	ISP SAIL , Jitpur Colliery
217	Cons/2367/ 2013-14	Efluent Analysis as Per EP Act 1986	Dr. S. K. Gupta, CI Mr. B. K. Mishra, Co-CI	Tata Steel Ltd., Jamadoba
218	Cons/2368/ 2013-14	Join Development Activities Between ISM and BASF India Ltd. Mumbai for Introduction of Chemical Technology in Ventilation/ Water/Gas Seepage/Fire Isolation in Mines	Prof. D. C. Panigrahi, CI Prof. S. Choudhuri, CO-CI	Business Development Mining BASF India Ltd.
219	Cons/2369/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety equipments, and Analysis and Interpretation of Air Samples of Sendra Bvansjora Colliry, BCCL	Prof. D. C. Panigrahi, CI	Sendra Bansjora Colliery, BCCL
220	Cons/2370/ 2013-14	Determination of Cerchar Hardness and Cerchar Abrasivity Index of Some rock Samples	Prof. V. M. S. R. Murthy, CI	CIMFR, Dhanbad
221	Cons/2371/ 2013-14	Environmental Monitoring by Third Party	Dr. S. K, Gupta, CI Dr. Alok Singh, CO-CI	NTPC, Ltd.

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222	Cons/2372/2013-14	Functional Ability tests of Self Rescuers of Baikunthapur Area Bilaspur, SECL	Prof. D. C. Panigrahi, CI	Baikunthapur Area, SECL
223	Cons/2373/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Bijuri Colliery, Handeo Area SECL	Prof. D. C. Panigrahi, CI	Bijuri Colliery Handeo Area SECL
224	Cons/2374/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Somna Colliery, Hansdeo Area SECL	Prof. D. C. Panigrahi, CI	Somna Colliery Hansdeo Area SECL
225	Cons/2375/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Kuya Colliery	Prof. D. C. Panigrahi, CI	Kuya Colliery, BCCL
226	Cons/2376/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Salanpur Colliery BCCL	Prof. D. C. Panigrahi, CI	Salanpur Colliery, BCCL
227	Cons/2377/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Saoner Sub-area WCL	Prof. D. C. Panigrahi, CI	Saoner Sub Area WCL
228	Cons/2378/2013-14	Sub-Sieve Size Analysis using Cyclosizer	Mr. Anand Anupam, CI Prof. N. R. Mandre, CO-CI	ADE Asia, Ltd.
229	cons/2379/2013-14	DGPS Check Survey of Demarked Boundary Pillars of Forest Land of Ganeshpur Coal Projuct Latehar for Authenticating the forest land Area	Dr. Dheeraj Kumar, CI	Ganeshpur Coal Project Tata Steel, Jamshadpur
230	Cons/2380/2013-14	Evaluation of Performance and Behavior of Self rescuers of CSE Corporation Submitted by New Techsal, Bangalore	Prof. D. C. Panigrahi, CI	New Techsol, Bangalore

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231	Cons/2381/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Mudidih Colliery BCCL and Narwapahar Mine UCIL	Prof. D. C. Panigrahi, CI	Mudidih Colliery, BCCL
232	Cons/2382/13-14	Consultancy for Web based Application development in LAMP Platform	Shri Dipankar Roy, CI	Pursuit Software Development (P) Ltd.
233	Cons/2383/2013-14	Geological and Geophysical Surveys in and Around the Proposed Atleged Gold Treasure Sites in UP	Prof. Atul Kr. Verma, CI Prof. D. C. Panigrahi, CO-CI; Prof. Shalivahan, CO-CI; Prof. A.S. Venkatesh, CO-CI; Dr. U.K. Singh, CO-CI; Dr.S. Singh, CO-CI; Dr. S.K. Pal, CO-CI; Dr. P.R. Shahoo,CO-CI	Private Secretary of Ministry of State, Ministry of Agriculture and Ministry of Food Processing Industries, New Delhi-110001
234	Cons/2384/2013-14	Testing of Kiln Waste Char	Prof. V. K. Saxena, CI	Jay Shree Shyam Enterprise, Chirkunda, Dhanbad
235	Cons/2387/2013-14	Sub Sieve Size Analysis Using Cyclosizer	Mr. Anand Anupam, CI Dr. Pankaj Kr. Jain	CDE Asia Ltd. Kolkata
236	Cons/2388/2013-14	Determination of some Physical and Chemical properties of quick setting Cement Capsule (Two Sample) of Baikunthapur area SECL	Prof. D. C. Panigrahi, CI Dr. D. P. Mishra, CO-CI	Baikunthapur Area, SECL
237	Cons/2389/2013-14	Determination of Compressive and Anchorage Strength of quick setting cement capsules of Baikunthapur Area, SECO	Shri P. K. Behera, CI	Baikunthapur Area, SECL
238	Cons/2390/13-14	Offering off-campus course one day on Technology Applications in Mining and Mine Automation	Dr. A. K. Mishram CI	Accenture India Pvt. Ltd., Hyderabad

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239	Cons/2391/13-14	Calibration of Force Measuring Device of Pre-Stressed udyog 100 kN & 200 kN Capacity	Shri P. K. Behera, CI	Pre-Stressed Udyog (India) Pvt. Ltd., Dhansar, Dhanbad
240	Cons/2392/13-14	Disaster management Plan for Coking Coal Washery	Dr. Biswajit Paul, CI	Project Head (Coal Beneficiation S&T Mining Co. Pvt. Ltd., SAIL - Tata Steel JV
241	Cons/2393/13-14	Off-Campus Course on Best Blasting Practices for Improved Productivity and Safety in Coal Mine for IBP & ECL executives	Dr. A. K. Mishra, CI	IBP & ECL
242	Cons/2394/13-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Haldibari Colliery Hansdeo Area SECL	Prof. D. C. Panigrahi, CI	Haldibari Colliery Hasdeo Area SECL
243	Cons/2395/13-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Kumardhubi Colliery, ECL	Prof. D. C. Panigrahi, CI	Kumardhubi Colliery, ECL
244	Cons/2396/2013-14	Scientific Studies of roof fall and Supports of Galleries in Girimint Incline Colliery (KDI)	Prof. U. K. Singh, CI Shri P. K. Behera, CO-CI	Sripur Area ECL
245	Cons/2397/2013-14	A study of performance and behavior of Dust Ioniser of Calcutta Mining Seelants Pvt. Ltd.	Prof. D. C. Panigrahi, CI	Calcutta mining Sealants Pvt. Ltd.
246	Cons/2398/2013-14	A study of performance and Behavior of Dust Ioniser of PVT Inshield Bituminous Pvt. Ltd.	Prof. D. C. Panigrahi, CI	PVR Inshield Bituminous Pvt. Ltd.
247	Cons/2399/2013-14	Field study and Evaluation of Performance of NVE dust collector Models in IDM30 and IDM70 blast hole drill Machines of Atlas Copco (India) Ltd. Operating in different mines of NCL	Prof. D. C. Panigrahi, CI	Atlas Copco (India) Ltd. Nasik - 7

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248	Cons/2400/ 2013-14	Conducting Scientific Study for Safe & Suitable Blasting Pattern for Determining Maximum Charge for Delay Per Round of Blast spacing Burden and Diameter of hole som as to control ground vibration and control of flying Fragments within 10m of place firing in a patch opencast of 6/15 patch of Kenduadih opencast of PB Area of BCCL	Prof. VMSR Murthy, CI Dr. B. S. Choudhary, CO-CI	BCCL Kenduadih Coalliery, PB Area
249	Cons/2401/ 2013-14	Determination of Some Physical and Chemical Properties of quick setting cement capsules of BSI Kargali UG B&K Area CCL	Prof. D.C. Panigrahi, CI	BSI Kargali UG B&K Area CCL
250	Cons/2402/ 2013-14	Determination of Compressive and Anchorage Strength of quick setting cement capsules of BSI Kargali UG Mine B&K Area CCL	Shri P. K. Behera, CI	BSI Kargali UG Mine B&K Area CCL
251	Cons/2404/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments West Jhagorakhand Colliery Hasdeo Area SECL	Prof. D. C. Panigrahi, CI	West Jhagrakhand Colliery Hasdeo Area, SECL
252	Cons/2405/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments Pench Area WCL	Prof. D. C. Panigrahi, CI	Pench Area WCL
253	Cons/2406/ 2013-14	Evaluation of Performance and Behavior of Safety Instruments MRS Dhansar BCCL	Prof. D. C. Panigrahi, CI	MRS Dhansar BCCL
254	Cons/2407/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments Murlidih 20/21 pits Colliery, BCCL	Prof. D. C. Panigrahi, CI	Murulidih 20/21 Pits Colliery, BCCL

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255	Cons/2408/2013-14	Analysis and Interpretation of gas Samples of Kunustoria Colliery, ECL	Prof. D. C. Panigrahi, CI	Kunustoria Colliery, ECL
256	Cons/2409/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety instruments of MRS CCL	Prof. D. C. Panigrahi, CI	MRS, CCL
257	Cons/2410/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Patherkhera Area, WCL	Prof. D. C. Panigrahi, CI	Patherkhera Area WCL
258	Cons/2411/2013-14	Field Investigations Modelling and design of Ventilation system for operating 03 Production distries in XVIII Top Seam of Parbetpur Coal Mine of Electrosteel Castings Ltd.	Prof. D. C. Panigrahi, CI	Parbatpur Coal Mine of Electrosteel Castings Ltd.
259	Cons/2412/2013-14	Studyt of Leaching of Heavy Metals	Dr. S.K. Gupta, CI Dr. Alok Sinha, CO-CI	Tata Steel Ltd. Jamadoba
260	Cons/2414/2013-14	Analysis and Interpretation of air Samples of Premier Explosives Ltd.	Prof. D. C. Panigrahi, CI	Premier Explosives Ltd. Secunderabad.
261	Cons/2415/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Govindpur Area, BCCL	Prof. D. C. Panigrahi, CI	Govindpur Area BCCL
262	Cons2416/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Kapildhara Colliery SECL	Prof. D. C. Panigrahi, CI	Kapildhara Colliery, SECL
263	Cons/2417/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Bussereya Colliery, BCCL	Prof. D. C. Panigrahi, CI	Bussereya Colliery, BCCL
264	Cons/2418/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Mekon International, Dhanbad	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
265	Cons/2419/2013-14	Evaluation of Performance and behavior of Ventilation and Safety Instruments of Rescue Room Patherkhera Area	Prof. D. C. Panigrahi, CI	Rescue Room, Patherkhera Area
266	Cons/2422/2013-14	Evaluation of Performance and Behavior of Bitumen based fire Retardant and Sealant brand name coal shield of PVR Inshield Bituminous Pvt. Ltd.	Prof. D. C. Panigrahi, CI	PVR Inshield Bituminous Pvt. Ltd., Burdwan
267	Cons/2423/2013-14	Evaluation of Performance and Behavior of Bitumen based fire Retardant and Sealant broand name fire Shield of Calcutta Mining Sealants Pvt. Ltd.	Prof. D. C. Panigrahi, CI	Calcutta Mining Sealants Pvt. Ltd., Burdwan
268	Cons/2424/2013-14	Scientific Study to Suggest Method of Extraction of No.4 Seam under 3 seam Goaved out BG Panels at GDK II Incline	Prof. U. K. Singh, CI	SCCL Kothagudum
269	Cons/2425/2013-14	Sieve Analysis of Bottom Ash of CTPS	Dr. Anshumali, CI	BCCL Loyla Bhawan
270	Cons/2426/2013-14	Testing of Coal samples	Shri Shravan Kumar, CI Prof. N. R. Mandre, CO-CI	BCCL Loyla Bhawan
271	Cons/2427/2013-14	Testing of Coal samples	Prof. N. R. Mandre, CI, Shri Shravan Kumar	BCCL Koyla Bhawan
272	Cons/2432/2013-14	Analysis of one air Sample at the Surface of the mine & One Water Sample from the Main discharge of Mine Water	Mr. B. K. Mishra, CI Dr. S. K. Gupta, CO-CI	BCCL Loodna Area
273	Cons/2433/2013-14	Testing of Coal samples	Shri Shravan Kumar, CI Prof. N. R. Mandre, CO-CI	ECL Mugma Area
274	Cons/2434/2013-14	Testing of Coal samples	Dt. T. K. Naiya, CI Dr. A. K. Pathak, CO-CI	Emta Coal Ltd. Asansol

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
275	Cons/2436/2013-14	Determination of same physical and Chemical properties of quick setting cement capsule of Katras Area, BCCL	Prof. D. C. Panigrahi, CI Dr. D. P. Mishra, CO-CI	Katras Area, BCCL
276	Cons/2437/2013-14	Analysis and interpretation of mine Air samples of Jarangdih Colliery , CCL	Prof. D. C. Panigrahi, CI	Jarangdih Colliery, CCL
277	Cons/2438/2013-14	Evaluation of performance and behavior of Ventilation and safety instruments of Argada Colliery, CCL	Prof. D. C. Panigrahi, CI	Argada Colliery, CCL
278	Cons/2439/2013-14	Determination of compressive and anchorage strength of quick setting cement capsules of Katras Area, BCCL	Shri P. K. Behera, CI	Katras Area, BCCL
279	Cons/2440/2013-14	Facilitating the process of conducting Risk Assessment in underground workings of Parbalpur Mine under Electrosteel Casting Ltd.	Dr. R. M. Bhattacharjee, CI Dr. A. K. Mishra, CO-CI	Parbalpur Mine under Electrosteel Casting Ltd.
280	Cons/2441/2013-14	Setting up suitable Municipal solid waste management Technique	Dr. S.R. Samaddar, CI Prof. S. K. Maiti, CO-CI	NMDC Ltd.
281	Cons/2442/2013-14	Off-Campus Course for GATE Executives on Minerals Processing Aspects for Mining and Mineral Industry at Pune	Prof. N.R. Mandre, CI Prof. R. Venugopal, CO-CI	I.GATE
282	Cons/2443/2013-14	Off-Campus Course for GATE Executives on Minerals Processing Aspects for Mining and Mineral Industry at Pune	Prof. VMSR Murthy, CI Prof. P. Sen, CO-CI	I.GATE
283	Cons/2444/2013-14	Off-Campus Course for GATE Executives on Minerals Processing Aspects for Mining and Mineral Industry at Pune	Prof. AS Venkatesh, CI Dr. Sahendra Singh, CO-CI	I.GATE
284	Cons/2445/2013-14	Determination of Bond's Work Index of Chromite Sample	Prof. N. Suresh, CI	SGS India Ltd. Kolkata-1

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
285	Cons/2447/ 2013-14	Evaluation of Performance and behavior of ventilation and safety Instruments of ADI Colliery BCCL	Prof. D. C. Panigrahi, CI	ADI Colliery, BCCL
286	Cons/2448/ 2013-14	Evaluation of Performance and behavior of ventilation and safety instruments of Burragarh Colliery, PB Area, BCCL	Prof. D. C. Panigrahi, CI	Burragarh Colliery, PB Area, BCCL
287	Cons/2449/ 2013-14	Evaluation of Performance and behavior of ventilation and safety instruments of Mekon International, Dhanbad	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad
288	Cons/2450/ 2013-14	Evaluation of Performance and behavior of ventilation and Safety Instruments of Mekon International, Dhanbad	Prof. D. C. Panigrahi, CI	Mekon International, Dhanbad
289	Cons/2451/ 2013-14	Evaluation of Performance and behavior of ventilation and safety instruments of MRS Sitarampur, ECL	Prof. D. C. Panigrahi, CI	MRS Sitarampur, ECL
290	Cons/2452/ 2013-14	Evaluation of performance and behavior of ventilation and safety instruments of Jhanjra Colliery, ECL	Prof. D. C. Panigrahi, CI	Jhanjra Colliery, ECL
291	Cons/2453/ 2013-14	Conducting Scientific Study for Blast Induced ground vibration near surface feature for Development of 'C' seam of somna Colliery, SECL	Dr. B. S. Choudhuri, CI Prof. V.M.S.R. Murthy, CO-CI	SECL, Anuppur
292	Cons/2455/ 2013-14	Conducting Annual Comprehensive Environment Audit at O.P. Jindal Super Thermal Power Plant Tammar Raigarh	Prof. Gurrdeep Singh, CI	Jindal Power Ltd.
293	Cons/2456/ 2013-14	DPR Preparation for proposed college of Engineering at Singrauli, MP	Dr. A. K. Mishra, CI Prof. D. C. Panigrahi, CO-CI	Singrauli, MP
294	Cons/2457/ 2013-14	Sampling and Analysis of 4500MT Slurry at Mohuda Coal Washery	Mr. Anand Anupam, CI Dr. V. K. Saxena, CO-CI	BCCL, Koyla Nagar, Dhanbad

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
295	Cons/2458/ 2013-14	Analysis of Coal sample of KDH Project North Karanpura Area, CCL	Dr. Salini Goutam, CI Prof. N. R. Mandre, CO-CI	KDH Project North Karanpura Area, CCL
296	Cons/2459/ 2013-14	Proximate Analysis and GCV estimation of Damoda Colliery Coal Sample	Dr. N. Suresh, CI	Damoda Colliery, BCCL
297	Cons/2460/ 2013-14	Evaluation of Behavior and Performance and Safety Instruments of Rescue Room Chirimiri Area, SECL	Prof. D. C. Panigrahi, CI	Chirimiri Area SECL
298	Cons/2461/ 2013-14	Analysis and Interpretation of air samples of Mandman Colliery ECL	Prof. D. C. Panigrahi, CI	Mandman Colliery, ECL
299	Cons/2462/ 2013-14	Evaluation of Behavior and Performance Ventilation and Safety Instruments of Tawa Mine Pathekhera Area WCL	Prof. D. C. Panigrahi, CI	Tawa Mine Patherkhera Area WCL
300	Cons/2463/ 2013-14	Evaluation of Behavior and Performance Ventilation and Safety Instruments of Chhatrapur Colliery, Pathekhera Area WCL	Prof. D. C. Panigrahi, CI	Chhatrapur Colliery Pathekhera Area, WCL
301	Cons/2464/ 2013-14	Analysis of Interpretation of air Samples of Parbatpur Colliery Electrosteel Castings Ltd.	Prof. D. C. Panigrahi, CI	Parbatpur Colliery Electrosteel Castings Ltd.
302	Cons/2465/ 2013-14	Learning from Each other Workshop 21-23 Jan, 2014	Prof. R. Venugopal, CI Prof. N. R. Mandre, CO-CI	SAIL, MTI, Ranchi
303	Cons/2466/ 2013-14	Proximate analysis and GCV Estimation of Damuda Colliery Coal Sample	Prof. N. Suresh, CI	Damuda Colliery, BCCL
304	Cons/2467/ 2013-14	Gyroscopic Survey of Alignment Survey in the Tunnel Using Gyromat 3000	Dr. Dheeraj Kumar, CI	Leighton Welspun Contractors Pvt. Ltd. Gurgaon - 2
305	Cons/2469/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Khoodia Colliery	Prof. D. C. Panigrahi, CI	Khoodia Colliery, ECL

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
306	Cons/2470/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of murpur Sub-Area Umrer Area WCL	Prof. D. C. Panigrahi, CI	Murpur Sub Area, Umrer Area WCL
307	Cons/2471/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Chinakuri Mine III ECL	Prof. D. C. Panigrahi, CI	Chinakuri Mine III ECL
308	Cons/2472/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Sudamdih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Sudamdih Colliery, BCCL
309	Cons/2473/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Amalgamated Keshalpur West Mudidih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Mudidih Colliery, BCCL
310	Cons/2474/ 2013-14	Field Investigations Modelling and Simulation Studies for designing Ventilation System of Noonudih-Jitpur Coliery Phase - II	Prof. D. C. Panigrahi, CI	Noonudih Jitput Coliery Phase - II
311	Cons/2475/ 2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Amal S.P. Incline, BCCL	Prof. D. C. Panigrahi, CI	Amal S.P. Incline, BCCL
312	Cons/2476/ 2013-14	Estimation of GCV of Samples	Prof. V. K. Saxena, CI	ECL Sripur Area
313	Cons/2477/ 2013-14	Evaluation of Mining Method Options of Bikram Coal Block Prepared by IIT, BHU	Prof. U. K. Singh, CI	Birla Corporation Ltd. Satna
314	Cons/2479/ 2013-14	Determination of Cerchar Hardness and Cerchar Abrasivity Index of Some rock Samples.	Prof. V. M. S. R. Murthy, CI	CIMFR, Barwa Road, Dhanbad

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
315	Cons/2480/2013-14	Technical Feasibility study on Recovery of Uranium Bearing Mineral from tailing of Mosaboni Copper Corporation	Prof. S. Bhattacharya, CI Mr. Anand Anupam, CO-CI Mr. Pankaj Kr. Jain, CO-CI	UCIL Jaduguda
316	Cons/2481/2013-14	Calibration of Force Measuring device of Pre-stressed Udyog (I) Pvt. Ltd.	Dr. A. K. Mishra, CI	Pre-Stressed Udyog (I) Pvt. Ltd., Dhanbad
317	Cons/2482/2013-14	Evaluation of Behavior and Performance Ventilation and Safety Instruments of Kanhan Area WCL	Prof. D. C. Panigrahi, CI	WCL Kanhan Area
318	Cons/2483/2013-14	Evaluation of Behavior and Performance Ventilation and Safety Instruments of Saoner Sub-Area, WCL	Prof. D. C. Panigrahi, CI	WCL Saohar Sub Area
319	Cons/2484/2013-14	Water Table Study of Sarabh Automobile Plant	Dr. S. K. Gupta, CI Dr. R. K. Dubey, CO-CI	Sorabh Automobiles Dhanbad
320	Cons/2485/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Rajnagar Colliery, SECL	Prof. D. C. Panigrahi, CI	SECL, Rajnagar Colliery
321	Cons/2486/2013-14	Analysis and Interpretation of Coal Samples for the determination of Moisture and Volatile Matter of Amadand Sub Area SECL	Prof. D. C. Panigrahi, CI	SECL, Bartarai Colliery
322	Cons/2487/2013-14	Evaluation of Performance and Behavior of Ventilation and Safety Instruments of Mudidih Colliery, BCCL	Prof. D. C. Panigrahi, CI	Mudidih Colliery, BCCL
323	Cons/2488/2013-14	Teting of Coal Samples	Mr. Shravan Kumar, CI Prof. N. R. Mandre, CO-CI	Satgram Area ECL
324	Cons/2489/2013-14	Teting of Coal Samples	Prof. N. R. Mandre, CI Mr. Sharvan Kumar, CO-CI	Amalgamated Sudamdih Patherdih Colliery, BCCL

Sl. No	Consultancy Number	Title of the Project	Coordinator & Team Members	Client
325	Cons/2490/ 2013-14	Teting of Coal Samples	Prof. N. R. Mandre, CI Mr. Sharvan Kumar, CO-CI	CV Area BCCL
326	Cons/2491/ 2013-14	Size Analysis Using Cyclosizer	Mr. Anand Anupam, CI	CDE Asia Ltd. Kolkata
327	Cons/2492/ 2013-14	Environmental Evaluation for Opencast and Underground Feasibility for Parso Block, CSPGL, AEL	Dr. Biswajit Paul, CI	Parsa Collieries Ltd. Chhattisgarh
328	Cons/2495/ 2013-14	Compressive strength of Paver Block of Hindustan Petroleum Corporation Ltd., Ranchi	Dr. A. K. Mishra, CI	Hindustan Petroleum Corporation Ltd., Ranchi
329	Cons/2496/ 2013-14	Analysis of Coal Sample	Prof. V.K. Saxena, CI	CIMFR, Dhanbad

6.2 PROFESSIONAL DEVELOPMENT PROGRAMME HELD DURING APRIL 2013 TO MARCH 2014

The Continuing Education Wing of Executive Development Centre organized a wide range of activities for meeting the specific objectives of continuing education. During the year **2013-14** Professional Development Programmes (including 04 off-campus courses) have been conducted for executives of various Government, Public Sector and Private Sector companies. Number of Executives trained was **890 (2463 participant-weeks)** and the value of these training programmes was about **Rs. 888.60/- Lakhs**. As per the revised Consultancy Rules the Professional Development Programmes are also treated as consultancy projects.

SI No.	Course Number	Titale of the Courses	Coordinator's & Team Members	No. of partici pants	weeks
1	Cons/2122/ 2013-14	Geological Exploration and Resource Evaluation. From 14 - 28 Aoril, 2013	Prof. B. C. Sarkar, CI Dr. M. K. Mukherjee, CO-CI	13	2 weeks
2	Cons/2153/ 2013-14	Petroleum Exploration for Officials of Ministry of Mines, Govt. of Afghanistan form 28-04-2013 to 12-05-2013	Prof. S. Mohanty, CI Dr. A. K. Bhowmik, CO-CI	14	2 weeks
3	Cons/2124/ 2013-14	Soft Skill Training to the officials of Jharkhand Postal Circle, from 1 - 3 May, 2013 (Phase - I), from 6 - 8 May, 2013 (Phase - II)	Prof. J. K. Pattanayak, CI Prof. P. Pathak, CO-CI	49	3 days
4	Cons/2154/ 2013-14	Coal Mining Technology for Officials of Ministry of Mines, Govt. of Afghanistan. From 12 - 26 May, 2013	Prof. M. Jawed, CI Dr. A. K. Mishra, CO-CI	15	2 weeks
5	Cons/2168/ 2013-14	Underground Metal Mining Technology for officials of Ministry of Mine Govt. of Afghanistan. From 26.05.2013 to 09.06.2013	Prof. U. K. Singh, CI Dr. Dheeraj Kumar, CO-CI	15	2 weeks

6	Cons/2175/ 2013-14	Geotechnical Engineering and Soil Mechanics. From 3 - 6-2013 to 12-06-2013	Prof. S. Mohanty, CI Mr. P. K. Behera, CO-CI Dr. M. K. Mukherjee, CO-CI	15	2 weeks
7	Cons/2169/ 2013-14	Drilling of Oil and Gas Wells for officials of Ministry of Mines Govt. of Afghanistan. From 08 - 24 June, 2013	Prof. A. K. Pathak, CI Dr. Chandan Guria, CO-CI	15	2 weeks
8	Cons/2196/ 2013-14	Condition Based Maintenance of Mining Equipment. From 17.06.2013 to 21.06.2013	Prof. A. K. Mukhopadhyay, CI Dr. S. K. Ghosh, CI	21	1 weeks
9	Cons/2176/ 2013-14	Matlab and Simulink for Engineering Applications. During 24 - 29 June, 2013	Dr. K. Jhattacharjee, CI Prof. S. Pan, CO-CI	41	1 week
10	Cons/2198/ 2013-14	Safety Engineering and Management in Coal Mines. From 24th June to 28th June, 2013	Prof. S. Choudhuri, CI Dr. P.S. Paul, CI	22	5 days
11	Cons/2197/ 2013-14	Environment Impact Assessment & Auditing Off-Campus Course. From 27 - 29 June, 2013	Prof. Gurdeep Singh, CI	20	3 days
12	Cons/2342/ 2013-14	Intensive Training Programme for Management Trainees (E & M Cadre) from CIL from 01-07-2013 to 02-08-2013	Prof. A. K. Mukhopadhyay, CI Prof. K. Dasgupta, CI	24	5 weeks
13	Cons/2343/ 2013-14	Intensive Training Programme for Management Trainees (Excavation Cadre) from CIL from 01-07-2013-4 to 02-08-2013	Prof. K. Dasgupta, CI Prof. A.K. Mukhopadhyay, CI	25	5 weeks
14	Cons/2244/ 2013-14	Petroleum Reservoir Engineering for Officials of Ministry of Mines, Govt. of Afghanistan. From 17.08.2013 to 02.09.2013	Prof. V. P. Sharma, CI Dr. Keka Ojha, CO-CI	14	2 weeks

15	Cons/2364/ 2013-14	Management Trainees for (Excavation) Intensive Training Course from 5th Aug., 2013 to 6th Sept. 2013	Prof. K. Dasgupta, CI Prof. A. K. Mukhopadhyay, CI Prof. P. S. Mukherjee, CI	22	5 weeks
16	Cons/2365/ 2013-14	Management Trainees for (E & M) Intensive Training Course from 5th Aug., 2013 to 6th Sept. 2013	Prof. K. Dasgupta, CI Prof. A.K. Mukhopadhyay, CI, Prof. T. K. Chatterjee, CI	26	5 weeks
17	Cons/2245/ 2013-14	Elements of Mining Equipment for Official of Ministry of Mines, Govt. of Afghanistan. From 24 Aug - 09 Sept., 2013	Prof. K. Dasgupta, CI Dr. A. R. Dixit, CO-CI	11	2 weeks
18	Cons/2317/ 13-14	3 days Off-Campus course on EIA & Auditing for NTPC Executives from 21 - 23 Aug, 2013	Prof. Gurdeep Singh, CI	14	1 weeks
19	Cons/2273/ 2013-14	Hands on Training of CMPDIL Personnel from 2 - 7th Sept., 2013	Prof. S. K. Maiti, CI	5	1 week
20	Cons/2246/ 2013-14	Maintenance of Mining Equipment for Official of Ministry of Mines, Govt. of Afghanistan. From 8th Sept. - 23rd Sept., 2013	Prof. A. K. Mukhopadhyay, CI Dr. S. Chattopadhyay, CO-CI	14	2 week
21	Cons/2357/ 2013-14	Management for Executives of Coal Industry Organized for BCCL Executives, from 9.9.2013 to 29.9.2013	Prof. Chandan Bhar, CI Prof. J. K. Pattanayak, CO-CI	30	2 week
22	Cons/2282/ 2013-14	A Primer on Geostatistics from 16 - 27 Sept., 2013	Prof. B. C. Sarkar, CI Dr. M. K. Mukherjee, CO-CI	12	2 weeks
23	Cons/2247/ 2013-14	Clean of Coal Technology for Official of Ministry of Mines, Govt. of Afghanistan. From 21st Sept. - 07th Oct. 2013	Prof. S. Bhattacharya, CI Prof. V. K. Saxena, CO-CI	15	2 weeks

24	Cons/2421/ 12013-14	Project Management for Executives of Coal Companies from 23 Sept. - 4 Oct., 2013	Prof. K. Mukherjee, CI Dr. Sandeep Mondal, CO-CI	21	2 weeks
25	Cons/2385/ 2013-14	Management Trainees (E & M) of CIL from 09.09.2013 to 11.10.2013	Prof. A. K. Mukhopadhyay, CI Prof. K. Dasgupta, CI, Prof. T. K. Chatterjee, CI	14	5 weeks
26	Cons/2386/ 2013-14	Management Trainees (Excavation) of CIL from 09.09.2013 to 11.10.2013	Prof. K. Dasgupta, CI Prof. AK. Mukhopadhyay, CI Prof. P. S. Mukherjee, CI	13	5 weeks
27	Cons/2314/ 2013-14	Programmable Logic Controller (PLC) Programming, Applications & Troubleshooting During 4 - 9 Oct., 2013	Dr. Sanjay Mondal, CI Dr. Tanmoy Maiti, CI	30	1 week
28	Cons/2420/ 2013-14	Executive on Project Management for Executives of Coal Companies. During 21.10.2013 to 1.11.2013	Prof. J. K. Pattanayak, CI	26	2 weeks
29	Cons/2334/ 2013-14	5 days off-campus Course on "Geostatistics for Reservoir Modelling and Characterization for Executives of Oil India Ltd. From 28.10.2013 to 01.11.2013 at OIL Duliajan, Assam	Prof. B. C. Sarkar, CI	12	1 week
30	Cons/2346/ 2013-14	Power Hydraulics in HEMM. From 11-11-2013 to 15.11.2013	Prof. K. Dasgupta, CI Dr. A. R. Dixit, CO-CI	12	1 week
31	Cons/2341/ 2013-14	6 weeks Intensive Course on advances in Mine Surveying Technology. During 21.10.2013 to 29.11.2013	Dr. Dheeraj Kumar, CI	24	6 weeks
32	Cons/2430/ 2013-14	Management Trainees for (Excavation) Intensive Training Course from 11.11.2013 to 13.12.2013	Prof. A. K. Mukhopadhyay, CI Prof. K. Dasgupta, CI Prof. P. S. Mukherjee, CI	29	5 weeks

33	Cons/2431/ 2013-14	Management Trainees for (E & M) Intensive Training Course from 11.11.2013 to 13.12.2013	Prof. A. K. Mukhopadhyay, CI Prof. K. Dasgupta, CI	33	5 weeks
34	Cons/2428/ 2013-14	Slickline and Wireline Operations from 07.01.2014 to 10.01.2014	Prof. S. Laik, CI Prof. V. P. Sharma, CI	17	1 weeks
35	Cons/2429/ 2013-14	Management for Executives of Coal Companies. From 09 - 20, Dec. 2013	Prof. Pramod Pathak, CI Dr. Saumaya Singh, CO-CI	30	2 weeks
36	Cons/2403/ 2013-14	Advance Power Electronics and Drives. From 30.12.2013 to 5.01.2014	Prof. P. K. Sadhu, CI Dr. Nitai Pal, CO-CI	32	1 week
37	Cons/2413/ 2013-14	Current Mode Analog Circuitsies. From 13 - 17, Jan., 2014	Prof. S. K. Paul, CI Mr. Rajeev Kumar, CO-CI	10	1 week
38	Cons/2435/ 2013-14	Mining Equipmt & Electricals From 20 - 24, January, 2014	Prof. A. K. Mukhopadhyay, CI Dr. Tanmoy Maiti, CI	16	1 week
39	Cons/2454/ 2013-14	Rock Mechanics in Hard Rock Mining-Basic Rock Mechanics-some Field Applications 6th Jan. 2014 to 28th March, 2014	Prof. VMSR Murthy, CI Prof. D.C. Panigrahi, CI Shri P. K. Behera, CI	15	12 weeks
40	Cons/2468/ 2013-14	Energy Management for Oil Executives 3rd March, 2014 to 7th March, 2014	Dr. Saumya Singh, CI Dr. Niladri Das, CO-CI	18	1 week
41	Cons/2493/ 2013-14	Management Trainees for (Excavation) Intensive Training Course from 16.12.2013 to 17.01.2014	Prof. A. K. Mukhopadhyay, CI Prof. K. Dasgupta, CI Prof. P. S. Mukherjee, CI	34	5 weeks
42	Cons/2494/ 2013-14	Management Trainees for (E & M) Intensive Training Course from 16.12.2013 to 17.02.2014	Prof. A. K. Mukhopadhyay, CI Prof. K. Dasgupta, CI	33	5 weeks
43	Cons/2478/ 2013-114	Slickline and Wireline Operations from 25.02.2014 to 28.02.2014	Prof. S. Laik, CI Prof. V. P. Sharma, CI	19	1 weeks

Three Certificate Course were conducted in the financial Years 2013-14

The Continuing Education Wing of Executive Development Centre organized a wide range of activities for meeting the specific objectives of continuing education. During the year 2013-14 Certificate Course have been conducted for executives of various Government, Public Sector and Private Sector companies. Number of Executives trained was 95 (95 participant-weeks) and the value of these training programmes was about Rs. 2.04/- Lakhs. As per the revised Consultancy Rules the Professional Development Programmes are also treated as consultancy projects.

Sl. No	PROGRAMME	COORDINATOR (S)	No. of Participants	Weeks
1	MATLAB and Simulink for Engineering Applications, 26th - 31st Aug., 2013	Dr. Kalyan Chatterjee, CI Prof. S. Pan, CO-CI	37	1 week
2	Dynamic Web development using LAMP, 09th to 13th Sept., 2013	Shri Dipankar Ray, CI	12	1 week
3	Advance Analog Signal Processing and Generating Circuits, 24 - 28 March, 2014	Prof. S. K. Paul, CI	12	1 week
4	Skill Development programme on Linux Environment	Prof. S. Mukhopadhyay, CI Mr. S. Pal, CO-CI	34	1 week

One Special in-campus courses were conducted. The details is given below

1	DST/10/MS/2013-14	FDP for Entrepreneurship Awareness and Development	Dr. Niladri Das, CI Prof. J. K. Pattanayak, CO-CI	15	1 week
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7.0 INFRASTRUCTURE FACILITIES

7.1 CENTRAL LIBRARY

The Central Library is part and parcel of Indian School of Mines providing direct academic support to all departments. Surrounded with greenery the library provides a silent environment for study. Enhanced with wi-fi connections, the library serves the users for reference purpose, semester exam preparations, project writing and research. There are different sections of the library associated with its different goals and activities:

- Circulation Desk cum Central Reading Area
- Reference cum SRB Section
- Newspaper - magazine Section
- Journal Section
- Book Acquisition Section
- Technical Processing Section
- Photocopy Section
- Open Reading Hall

During the academic year 2013-14, the library served about 500 users a day. Generally, the library opens for seven days a week except for closed holidays. The library follows a convenient working time which is from 9 am to 9 pm on weekdays, and 9 am to 8 pm on Saturdays and Sundays. The Open Reading Hall is kept open from 9 am to 11 pm except in summer vacation. The library remains open from Monday to Saturday during the summer vacation.

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 109,796 books, 36,589 bound volumes of journals, 366 current journals, 10,203 theses and dissertations. 7,303 books has been added to the library holding. The CD/DVD collections comprise of books, abstracts, journals, teaching aids and so on. The library continued to paste bar-code labels on new and old documents. In addition, Central Library continued attaching magnetic tapes and RFID tags to library books to put in place which enhances document security, faster circulation of books and records management.

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). 'Browse', 'Search', and many more facilities in the OPAC module of

LIBSYS Library Management Software enables the users to find out records on their own, thereby saving their time. The library maintains its electronic databases of its printed sources -- books, reference books, and journals- loose issues cum bound volumes, theses, dissertations, NCD, conference proceedings, standards and journal articles. The speed of searching enhances reference service delivery. The library has its own official website that facilitates information search from the library's bibliographic and book transaction records for the library users through web based online public access catalogue (WEBOPAC) on campus wide LAN.

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. are labeled with system-generated barcodes, spine slips and book cards. The library enrolls new members -- students as well as faculty-- handing out new bar-coded membership cards. The Central Library ensures error-free barcode based circulation system, quick posting of library dues and fast settlement of no-dues to the outgoing students.

All documentation jobs including data entry of old journal bound volumes through 'Accessioning' and processes of journal subscription at the Journal Section proceeds also through Libsys Library Management Software. The section renders reference services out of current and old print journals and online journals. The library provides online access to journals with full text-image articles to the faculty members, students and research scholars. The library website has been linked to 15 online journal database links namely IEL Online, Springer Link, Science Direct, ACM Digital Library, AIP (Journal of Applied Physics) APS Journals, ACS, One Petro, JCCC-INDEST, ASME, ASCE, EBSCO Business Source Premier cum LISTA, and Scopus to facilitate academic and research activities. In addition, the library also subscribes to Springer e-Books 2013 in the fields of Chemistry & Materials Science, Computer Science, Earth & Environment Sciences, Mathematics & Statistics, Physics & Astronomy, Engineering and Business & Management. Covering almost all subjects, it continues to facilitate research and academic activities of ISM. Inter-library loan service through JCCC@INDEST link remains as popular as ever among the users. This link enables the users to download articles at ISM as well as to register their requests for hardcopies to IITs, IISc Bangalore and IIMs. Reference helps provided from the Journal Desk and Circulation Desk facilitates the study and academic activities of the school. The Central Library also continues book circulation services on Saturday and Sunday for two hours (5 PM-7 PM) for the Executive MBA students.

The Central Library organized a Publishers Book Exhibition in the library for the ISM students, faculty members and research scholars during January 21-23, 2014. The exhibition displayed books published by different reputed publishers and distributors of India.

As the library allows its readers, an open access to the documents and it regularly organizes its printed resources on racks and shelves for better access. The library staffs secure the library documents from theft and pilferage. Finally, the library tries to maintain a clean and convenient study and work environment despite space and seating capacity crunch and inadequate library staff.

7.2 COMPUTER CENTRE

The Computer Centre was established in the year 1987. The Centre is a central facility and caters to the computing needs of the ISM community. It provides mainly two types of services namely network services and lab services.

The centre provides intranet and internet services 24 hours a day, 365 days a year. It supports campus wide fiber optic LAN comprising of 5000 nodes that connects all the Academic Departments and Centres, Central Library, Senior Academic Hostel (SAH), Executive Development Centre (EDC), Administrative Sections, Hostels, Residence of Faculty Members and Officers. The centre is equipped with UTM, Managed Gigabit Switches and number of state of the art blade servers and rack mount servers. Various network services like DHCP, HTTP, DNS, SNMP (for NMS) are being run and monitored by the Centre. Departments and hostels are connected to Computer Centre through Gigabit switches, whereas residential connectivity is provided through ADSL. Internet access is provided to all the users through links provided by BSNL under the project NMEICT of Govt. of India and a dedicated 500 Mbps (1:1) internet bandwidth provided by Bharti Airtel Ltd. Two video-conferencing units one each at conference hall of Admin. Block and new EDC were installed and being supported by Computer Centre.

The Centre has Linux and Windows labs. Computer practical classes of undergraduates and postgraduates are being conducted here. The Centre conducts computer training programmes for ISM staff members from time to time. Online tests for placement of students are also arranged here. Institutional jobs like semester examination result processing, ISM Website maintenance, Student Feedback System, Attendance Monitoring, ISM Campus Network maintenance and monitoring are done here.

7.3 CENTRAL WORKSHOP

The Workshop of the School 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 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 AGV (Automatic Guided Vehicle) and Automatic Storage and Retrieval System (ASRS)}. 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. All these laboratories/facilities are housed in new workshop building. There are Electrical Discharge Machine (EDM) laboratory and Electrochemical Machine (ECM) Laboratory for nontraditional/advanced machining.

Every year around 1000 first year undergraduate students are imparted hands-on training on basic manufacturing facilities, around 140 students of pre-final year Mechanical and Mining Machinery and 21 students of M Tech first year are imparted hands-on training on advanced manufacturing and dimensional measuring facilities. Each year a 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 equipments and components for their research work.

Many students fabricate various equipments e.g. vehicles, robots, air tunnels etc. for national level competitions. Sometimes short-term training courses related to manufacturing process/ workshop technology for engineers/ officers/ executives are also conducted on demand. The consultancy is also provided by the faculty to industries according to their needs.

Various types of furniture, fixtures and components (of machines and equipment) of different departments of the School are also repaired and manufactured in the workshop on demand.

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 have been procured. The procurement for various manufacturing facilities like Coordinate Measuring Machine (CMM), Rapid prototyping machine(3-D Printer), CNC Turn-Mill Centre, Abrasive Cut-off machine, CNC Controlled Plasma Cutting machine, Die-Sinking EDM, Non-contact type Profilometer, Extrusion Die casting machine and high precision 400 Watt Fibre Laser Welding machine etc. has been started.

7.4 ISM Health Centre

ISM Health Centre provides medical care to students, teachers, officers and staff including their dependant family members. From 2000 onwards, retired employees with their

spouses have also been included for medical treatment. In addition to the SMO and LMO, following Specialists visit the ISM Health Centre periodically: two Homoeopaths, a Dental Surgeon, an Eye Specialist, a Gynaecologist, an Orthopaedic Surgeon, an ENT Specialist, a Cardiologist, a Psychiatrist, two Pathologists, a Physiotherapist and Dr. J. Kumar for both morning & evening shifts. From this year Health Centre, ISM is taking care of 50 nos. of Afghanistan Students for their treatment purpose.

◆ Inclusion of Local Hospitals **at Dhanbad**

1. Jalan Hospital, Dhanbad
2. JIMS Hospital, Dhanbad
3. Pragati Hospital, Dhanbad
4. Asarfi Hospital, Dhanbad
5. Patliputra Nursing Home, Dhanbad time to time patients are being referred for their treatment in above hospitals.

◆ Inclusion of other Hospitals **at Ranchi:**

1. Dr. Alam Hospital & Research Centre, Ranchi (for General Treatment)
2. Apollo Hospital, Ranchi (for General Treatment)
3. Kashyap Eye Hospital, Ranchi - for Ophthalmological treatment

◆ Inclusion of other Hospitals **at New Delhi:**

1. Centre of Sight (for Ophthalmological treatment)
2. Delhi Heart & Lung Institute (for Cardiological/Pulmonary treatment.
3. Max Devki Devi & other Hospital chain in Max Hospital at Delhi - for treatment of Cardiological Problems and other general diseases.
4. Mohinder Hospital - for General treatment.
5. Sukhmani Hospital, New Delhi - for specialized treatment.
6. Sir Ganga Ram Hospital, New Delhi - for specialized treatment.

◆ Inclusion of Hospitals at Kolkata:

1. Peerless Hospital, Kolkata - for general purpose.
2. Disha Eye Hospital, Barrackpore, Kolkata - for Eye treatment only.
3. Ruby General Hospital, Kolkata - for general purpose.
4. CMRI, Kolkata - for general purpose.
5. RTIICS Hospital, Kolkata - for general purpose.

◆ Inclusion of Hospital at Durgapur:

1. The Mission Hospital, Durgapur.

On an average 200-250 patients including Afghanistan students visit ISM Health Centre daily. Medicines are dispensed from the Health Centre. For medicines, that are not available in the Health Centre, reimbursement is made to Teachers, Officers & Staffs. Reimbursement of students is made in DSW Office through Insurance scheme. Investigations required for the patients are carried out at reputed centres from the list of approved panel. During the year patients were referred to the different Centres for specialized treatment as mentioned above.

In situations where a second opinion is necessary, the cases are referred either to Central Hospital (BCCL) or PMCH, Dhanbad for Indoor/ Outdoor treatment. For patients who prefer Ayurvedic treatment, they are referred to Ayurvedic Dispensary (BCCL), Dhanbad. Complicated cases are referred to CMCH, Vellore, Sankara Nethralaya, Chennai, AIIMS, New Delhi, SGPGIMS, Lucknow, BGH Bokaro, Govt. Hospital Kolkata viz. Bangur Institute of Neurology & SSKM, Kolkata, RMCH, Ranchi, IGIMS, Patna and CIP, Ranchi PGI Chandigarh etc. on advice of CHD/ Specialists and as per decision of the Medical Board. This is applicable also to all retired Employees. Narayana Hrudayala, Bangaluru & Ruby Hall Clinic, Pune are also under process for inclusion in ISM panel for treatment of ISM employees.

7.5 Sports and Physical Education Centre

As usual Sports and Physical Education Centre organised all its internal tournaments like Inter year Football Tournament, Inter year Volleyball Tournaments, Basketball Tournaments, Badminton Tournaments, Tennis Tournaments, Handball Tournaments, Annual Gym Competition and Annual Squash Competition etc.

85th Annual Sports Meet was inaugurated on 17th January'14 by Hon'ble Director Prof. D. C.

Panigrahi and Ms. Arunima Sinha, 1st female amputee to climb Mount Everest in presence of Prof. Chandan Bhar, DSW, Col (Retd.) M. K. Singh, Registrar, Prof. B. C. Sarkar and many other distinguished faculties. The whole programme was witnessed by about five thousand students and other spectators.

In all the two-day sports meet witnessed 19 Olympic events and 07 Non-Olympic events.

In the closing ceremony on 18th January'14 medals, prizes, trophies were presented by Shri Ashok Mishra, former Director, IIT Bombay and Prof. H. P. Khincha, in presence of Director, Prof. D.C. Panigrahi and many distinguished faculty & guest.

In the men section B. Tech Final year and in the women section B. Tech 2nd year were adjudged best team respectively.

In the men section Shri V. Murahari & Milan Kumar of B. Tech Final year & in women section Ms. Indumathi. E of B. Tech Final year adjudged best athletes respectively. 85TH Annual Sports has achieved its laurels when Shri V. Murahari established a new meet record by clocking 10.99 sec in 100 M event after breaking 1957's record, established by Shri Y. Singh of 11.02 sec.

7.6 ORGANISING OF SPORTS FESTIVAL - PARAKRAM 2014

Parakram, the All India Inter College Sports Fest was organised at ISM Dhanbad on 6-8 February 2014. This year the fest witnessed unprecedented participation of more than 900 students out of which 725 students were from colleges other than ISM.

The event started in the Morning of 6th February but opening ceremony was in the evening of 6th February in the Lower Ground, where Ms. Ratna Lahiri, in presence of Shri. P. K. Lahiri, Chairman, EB & GC, Prof. D. C. Panigrahi and other distinguished guests declared the event open after the demonstration of March Past & Yoga. Three days of continuous games (indoor and outdoor) in which a total of 14 events Cricket, Tennis, Boxing, Squash, Gym, Football, Basketball, Volleyball, Badminton, Table Tennis, Athletics, Carom board, Chess, Squash for men and women were held in Lower Ground, Upper Ground, Sports Complex, Student Activity Centre (SAC), Squash Complex and Examination hall of LHC. The closing of the event finally was in the Sports Complex of the Campus on 8th February 2014 at 8:00 PM.

There were 22 participating Institutes apart from ISM namely Jadavpur University, BESU, Netaji Subhash Institute of Technology, Heritage Institute of Technology, BCET Durgapur, St. Xaviers College Ranchi, Asansol Engineering College, NIFFT Ranchi many other colleges.

The overall championship was achieved by Team ISM.

In the closing ceremony, Shri P. K. Lahiri, Chairman, EB & GC, Prof. D. C. Panigrahi, Director, Col (Retd.) M. K. Singh, Registrar, Prof. B. C. Sarkar, President SPEC have given away the prizes to the winners.

Special Sessions:

- We have organised periodical **YOGA** classes at Student Activity Centre from where hundreds of students participated under a yoga expert Shri Ajay Narayan from Hirapur. Special Assessment cum year wise and open competition separately for boys and girls was also organized at Student Activity Centre in the evening where service of part time Yoga expert Shri Ajay Narayan was sought.
- A special **NSO** programme was organised 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 etc. apart from Physical Conditioning.
- Regular **Basketball** practices were being organized under an honorary coach Shri Kallol Samanta.
- **Boxing/Wushu** classes were being organised regularly by an honorary Coach Shri Sashi Kant Pandey.
- Regular **Squash** practices were also being organized under an honorary coach Shri Abhisekh Pandey.
- Regular **Athletics** practices were being organized under our regular Coach Shri N. K. Sadhukhan along with honorary coach Ms. Sujapa Thakur.
- Regular **Cricket** practices were being organized under an honorary coach Shri Kishor Kumar.

Teams Participation in Extramural Competitions:

- Our **Football** Team took part in East Zone Inter University Football Championship held at West Bengal State University, Barasat from 3rd October to 7th October 2013.

- Our **Athletes** Shri V Murahari, Shri I V Reddy, and Shri Milan Kumar took part in 74th All India Inter University Athletic Meet 2013 organised by Punjabi University, Patiala from 23rd December 2013 to 28th December 2013.
- Our **Cricket** Team took part in East Zone Inter University Cricket Championship held at Jadavpur University, Jadavpur from 4th January to 12th January 2014.
- A 96 member contingent comprising of students and 03 nos. officials has gone to IIT Kanpur on 25.09.2014 to participate in **Udghogh Sports Festival** which was held at IIT Kanpur from 26.09.2014 - 29.09.2014.
- A 100 member contingent comprising of students and 03 nos. officials has gone to IIT BHU on 19.02.2014 to participate in **Spardha Sports Festival** which was held at IIT BHU from 20.02.2014 - 23.02.2014.
- Nine member ISM Athletic Team participated in 29th **Open District Athletic Meet** organised by Dhanbad District Athletic Association where our athletes won 02 Gold, 02 Silver and 06 nos. Bronze medal.
- Our **Volleyball** team participated in **Dhanbad District Volleyball Men's Championship** where ISM team secured 3rd position. ISM team also participated in under 21 and Beach Volleyball championship organised by Dhanbad District Volleyball Association.
- Our 4 **Cricket** Teams have been taking part in **Dhanbad District Cricket Leagues** where they are in the fray to reach **Super** division.
- Our **Squash** players Shri Gaurav Chauhan, B. Tech 3rd year and Shri Vipul Jindal B. Tech final year participated in **61st Senior National Squash Championship 2013**, held at Jaipur from 18th to 23rd August 2013. In which top India rank players have participated.

7.7 HINDI CELL

The Hindi Cell of ISM Dhanbad is playing a significant role to make Rajbhasha an important part in ISM. As per the orders of the Government of India, Home Ministry- the cell organizes meetings of official language implementation Committee, ensures progressive use of Hindi in day-to-day official work. It also performs all type of translation work. All letters received in Hindi from individuals as well as Government of India are replied in Hindi as per the administrative instructions. According to bilingual policy, every employee of ISM is requested to encourage their Hindi knowing staff to use Hindi for their notes and simple drafts.

The main function of Hindi cell is to provide translation of English version of annual reports, annual audit reports. The Hindi section maintains papers, files and circulars relating to the work conducted by it, issued from time to time by University/UGC/MHRD/GOI. Moreover the Hindi cell send reports at the end of every quarter to the Ministry.

In compliance with the orders issued by the Government of India, the Home Ministry Rajbhasha Vibhag 'Hindi Pakhwara' was organized in the first two weeks of September 2011. It was organized for students, officers, and staff members as well. The participants actively engaged themselves in events, such as, Hindi debate competition and essay writing competition. The activities were organized for both Hindi and non-Hindi groups. To encourage the participants, Prize Distribution Ceremony was organized on the 14th of September as 'Pakhwara Samapan Samaroh'.

8.0 ACTIVITIES UNDER INTERNATIONAL RELATIONS AND ALUMNI AFFAIRS (IRAA)

- **Activities Under International Relations**

- (1) **Erasmus Mundus India 4EUII Project**

Out of 23 foreign mobilities granted to ISM, 5 mobilities have been successfully completed and the faculty and students have returned. The credits earned by students in different host universities of Europe were transferred to ISM framework through an approved procedure for transfer based on the marks/grades obtained. Three students who returned recently are yet to get their results officially. Remaining 15 mobilities are still in progress and all of them are expected back in ISM by July 2014. The mobilities were mainly in three domains of study, namely, faculty exchange, research scholar exchange and study abroad for UG and dual degree students and provided a good exposure to all visited. Notable are the advanced facilities of research in the field of tunnelling, rock excavation and rock mechanics in Politecnico di Torino (POLITO), Torino, Italy and Manufacturing Engg. in Aalto University, Finland. All the mobilities were fully funded by European Commission. A discussion was held with Prof. Enrico Macii, Vice Rector for Research, Technology Transfer and International Affairs on 27.10.2013 for the possible international collaborations with ISM. Prof. V. M. S. R. Murthy, Associate Dean (International Relations and Alumni Affairs) is the local exchange coordinator for this project.

- (2) **Erasmus Mundus AREAS+I Project (Academic Relations between Europe and Asia II)**

ISM has participated, as a partner university, with Politecnico di Torino as coordinator in a new student cum faculty exchange project (AREAS+) fully funded by European Commission and the project got selected for funding. In this project mobilities will be from Europe to India also apart from India to Europe. A presentation on the academic, research and infrastructure facilities available at ISM was also made concurrently to the students of POLITO on 25.10.2013 by Prof. V. M. S. R. Murthy to attract foreign students for short exchange studies while he was in POLITO, Torino, Italy under India4EUII mobility. The selection outcome for the first call were published in the month of April 2014 and 10 mobilities were granted to ISM for India to Europe movement, 4 in Ph.D, 5 in Post-doc and 1 academic staff category. Two students from Europe were also selected and are expected reach ISM in

July 2014 session. The UG and PG mobilities would be focussed in the second call. Dr. Biswajit Chowdhury, Associate Professor, Deptt. of Applied Chemistry is the Local exchange coordinator of this project. All the mobilities will be fully funded by European Commission.

(3) MOUs signed

The following MOUs were signed by ISM.

SI.No.	Logo	University	Lead Department (s)
1		Escola Politecnica da Universidade de Sao Polo, Brazil March 2014	Mining, Petroleum and Mineral Engg.
2		University of Tunis & National High Engineering School of Tunis (ENSIT) 19.05.2014	Computer Science and Engg.

(4) Foreign Students Rules for Studies at ISM revised

In recent times, it has been observed that there is an increase in number of applications for pursuing PG and research (PHD) studies at ISM in its areas of core competency as well as other upfront engineering branches. To streamline the same it was felt that the present rules of admission needed some minor changes at par with other reputed IITs. Accordingly, some needful modifications mainly in application procedures, documents in support, no. of seats, eligibility grades/percentage and fees were proposed and presented in the 86th Academic Council meeting held on 26.05.2014. The same were approved. These rules are being placed in the FC and EB for their concurrence for needful implementation from the session 2014-15 commencing from July 2014.

(5) Indo-Netherlands Project

Indo-Netherland joint project entitled “Design of novel bifunctional gold-Ti- and Fe-modified zeolite functional materials for the catalytic oxidation of hydrocarbons” has been approved for funding by DST, Govt of India. The total layout of the project is around 85 lakhs and tenure of the project is for four years. Dr. Biswajit Choudhary, Associate Professor, Deptt. of Applied Chemistry is the PI and Dr. Vinod Prabhakaran, National Chemical Laboratory, Pune will act as co-PI. Dr. T. A Nijhuis and Prof. Hensen from Eindhoven University of Technology, Netherland will act as Co-PI. As per

DST decision project will be operated from ISM. There will be exchange of researcher between ISM and Eindhoven University of Technology as per DST and NWO guidelines.

(6) International EDC Annexe

A 24 room residential facility for housing the international students is almost ready and the furnishing is in full swing. It is expected that facility will be functional from July 15, 2014 as some international students from Europe are expected under Erasmus Mundus Areas+ exchange project.

- **Alumni Affairs**

1. Student International Travel (SIT) Grant for Training Abroad

There has been a long pending demand from ISM students for supporting their training related expenditure in abroad while they are in studies. An initiative was taken by ISMAA Mumbai chapter to support the cause. Steps were taken to avail the facility, was formulated by ISM and ISMAA HQ Chapter. In recent meeting of ISMAA HQ held in the month of April 2014, the President ISMAA and DG, DGMS, Shri Rahul Guha has agreed to set aside a fund of approximately 10 lakhs for supporting such training needs of the students in abroad. The fund will be collected from all the chapters of ISMAA. Funding to the tune of one lakh per student will be provided to needy students subject to the actual expenditure on **refundable basis**. Needful procedures were evolved for the same in consultation with the Office of Associate Dean (IR&AA) and Director, ISM. The scheme has come to force from May 2014.

2. Student International Travel (SIT) Grant for Conference Paper reading Abroad by ISMAA

Three students obtained the grant for visiting abroad to read their papers in different conferences.

3. BASANT was organised on 02.02.2014 alongwith golden jubilee of 1965 batch.

4. International Alumni Meet for presenting the views on ISM to IIT(ISM) conversion

Meeting with the ISM to IIT Conversion Committee lead by Prof. Ashok Misra, Former Director, IIT Bombay with Alumni was organised on

19.01.2014 in GJLT. Many luminaries, namely, Prof. Harsh K. Gupta, Dr. Rabi Bastia, Dr. D. K. Paul, Prof. S. P. Banerjee, Prof. R. V. Ramani, Shri G. C. Mrig, Shri S. J. Sibal graced the meeting. All the alumni strongly supported the need to convert ISM to IIT for the overall benefit of the Institute. Mr. Ganesh Thakur, VP and Global Advisor, Chevron Energy Technology Company, anchored the presentation and steered the discussions. Prof. D. C. Panigrahi, Director, ISM facilitated the discussions and played a pivotal role in organising the meet.

9.0 PERSONNEL

9.1 ACADEMIC ADMINISTRATION

Director	: Prof. D. C. Panigrahi
Dean (Research & Development)	: Prof. R. Venugopal
Dean (Faculty & Planning)	: Prof. P. S. Gupta
Dean (Academic)	: Prof. S. Mohanty
Dean (Students' Welfare)	: Prof. Chandar Bhar
Professor-in-Charge (Training & Placement) & Professor of Continuing Education	: Prof. V. P. Sharma
Associate Dean (Academic & Research)	: Prof. G. Udyabhanu
Associate Dean (Students' Welfare)	: Prof. J. Manam
Associate Dean (International Relation & Alumni Affairs)	: Prof. V.M.S.R. Murthy
Associate Dean (Projects & Infrastructure Development)	: Prof. T. K. Chatterjee

9.2 ACADEMIC

PROFESSOR (As on 31.03.2014)

S I. No.	Name of the employee	Designation	Deptt./Section
1.	Prof.D C Panigrahi (Director)	Professor (HAG)	ME
2.	Prof. Gurdeep Singh	Professor (HAG)	ESE
3.	Prof.R Venugopal	Professor (HAG)	FME
4.	Prof. U K Singh	Professor(HAG)	ME
5.	Prof. T Kumar (on deputation.)	Professor(HAG)	PE
6.	Prof. P S Gupta	Professor(HAG)	A Physics
7.	Prof. S Laik	Professor(HAG)	PE
8.	Prof. Kampan Mukherjee	Professor(HAG)	MS
9.	Prof. R K Singh	Professor(HAG)	HSS
10.	Prof. M Jawed	Professor	ME
11.	Prof. Phalguni Sen	Professor	ME
12.	Prof. P K Sarkar	Professor	Mech E
13.	Prof. S K Paul	Professor	ECE
14.	Prof. V P Sharma	Professor	PCE

15.	Prof. V K Srivastava	Professor	AGP
16.	Prof. A Basu	Professor	AP
17.	Prof. G S Seth	Professor	AM
18.	Prof. T Sharma	Professor	FME
19.	Prof. V Kumar	Professor	ECE
20.	Prof. S Mohanty	Professor	AGL
21.	Prof. B C Sarkar	Professor	AGL
22.	Prof. A Sarkar	Professor	AC
23.	Prof. A K Pathak	Professor	PE
24.	Prof. Pramod Pathak	Professor	MS
25.	Prof. Chandan Bhar	Professor	MS
26.	Prof. T K Chatterjee	Professor	MME
27.	Prof. J Manam	Professor	A Physics
28.	Prof. N Suresh	Professor	FME
29.	Prof. K Dasgupta	Professor	MME
30.	Prof. A K Mukhopadhyay	Professor	MME
31.	Prof. V M S R Murthy	Professor	ME
32.	Prof. P C Pal	Professor	A Maths
33.	Prof. S Bhattacharya	Professor (Chair)	FME
34.	Prof. J K Pattanayak	Professor	MS
35.	Prof. P R Mohanty	Professor	AGP
36.	Prof. A K Varma	Professor	AGL
37.	Prof. D Asthana	Professor	AGL
38.	Prof. V Priye	Professor	ECE
39.	Prof. V K Saxena	Professor	CE
40.	Prof. N R Mandre	Professor	FME
41.	Prof. G P Biswas	Professor	CSE
42.	Prof. Subrata Bhattacharya	Professor	ECE
43.	Prof. G Udayabhanu	Professor	A Chem
44.	Prof. A K Pal	Professor	ESE
45.	Prof. S Gupta	Professor	A Maths
46.	Prof. G N Singh	Professor	A Maths
47.	Prof. Somnath Pan	Professor	EE
48.	Prof. D D Pathak	Professor	A Chem
49.	Prof. A S Venkatesh	Professor	AGL
50.	Prof. P K Jana	Professor	CSE
51.	Prof. Shalivahan	Professor	AGP
52.	Prof. (Mrs) Debjani Mitra	Professor	ECE
53.	Prof. P K Sadhu	Professor	EE

54.	Prof. R K Das	Professor	Mech E
55.	Prof. (Mrs) B Mukherjee	Professor	A Maths
56.	Prof. S K Maiti	Professor	ESE
57.	Prof. P S Mukherjee	Professor	MME
58.	Prof. G S Pathak	Professor	MS
59.	Prof. R K Upadhyay	Professor	A Maths
60.	Prof. A K Nirala	Professor	A Physics
61.	Prof. S Chaudhuri *	Professor (Chair)	ME
62.	Prof. A K Singh *	Professor (Chair)	ESE
63.	Prof. N C Jha*	Professor (Chair)	ME
64.	Prof. V.P. Sinha*	Professor (Chair)	ME

ASSOCIATE PROFESSOR

(As on 31.03.2014)

S I. No.	Name	Designation	Department
1.	Shri P K Behra	Assoc. Prof.	ME
2.	Dr. Kailash Jha	Assoc. Prof.	Mecch E
3.	Dr. (Mrs) Rima Chatterjee	Assoc. Prof.	AGP
4.	Dr. Biswajit Paul	Assoc. Prof.	ESE
5.	Dr. A K Mishra	Assoc. Prof.	ME
6.	Dr. S Chattopadhyay	Assoc. Prof.	Mech E
7.	Dr. S N Singh	Assoc. Prof.	Mech E
8.	Dr. Chiranjeew Kumar	Assoc. Prof.	CSE
9.	Dr. Vinayak Ranjan	Assoc. Prof.	Mech E
10.	Dr. (Mrs.) Saumya Singh	Assoc. Prof.	MS
11.	Dr. M K Singh	Assoc. Prof.	A Maths
12.	Dr. S Chatterjee	Assoc. Prof.	A Maths
13.	Dr. Kalyan Chatterjee	Assoc. Prof.	EE
14.	Dr. S K Gupta	Assoc. Prof.	ESE
15.	Dr. (Mrs) Keka Ojha	Assoc. Prof.	PE
16.	Dr. Vikas Mahto	Assoc. Prof.	PE
17.	Dr. Ajay Mandal	Assoc. Prof.	PE
18.	Dr. P K Singh	Assoc. Prof.	ESE
19.	Dr. Dhiraj Kumar	Assoc. Prof.	ME
20.	Dr. P K Khan	Assoc. Prof.	AGP
21.	Dr. R K Dubey	Assoc. Prof.	AGL
22.	Dr. A K Behura	Assoc. Prof.	HSS
23.	Dr. Md. Mojibur Rahman	Assoc. Prof.	HSS
24.	Dr. S K Sharma	Assoc. Prof.	A Physics

25.	Dr. (Mrs.) Rajni Singh	Assoc. Prof.	HSS
26.	Dr. M K Jain	Assoc. Prof.	ESE
27.	Dr. P N Singha Roy	Assoc. Prof.	AGP
28.	Dr. Mahendra Yadav	Assoc. Prof.	A Chem
29.	Dr. S Mukhopadhyay	Assoc. Prof.	CSE
30.	Dr. B.Bhattacharya	Assoc. Prof.	EE
31.	Dr. M K Mukherjee	Assoc. Prof.	AGL
32.	Dr. Sandeep Mandal	Assoc. Prof.	MS
33.	Dr. Akhilesh Prasad	Assoc. Prof.	A Maths
34.	Dr. S P Tiwari	Assoc. Prof.	A Maths
35.	Dr. S K Ghosal	Assoc. Prof.	Mech E
36.	Dr. B Choudhury	Assoc. Prof.	A Chem
37.	Dr. Rohith P John	Assoc. Prof.	A Chem
38.	Dr. N K Singh	Assoc. Prof.	Mech E
39.	Dr. Upendra Kumar Singh	Assoc. Prof.	AGP
40.	Dr. Nitai Pal	Assoc. Prof.	EE
41.	Dr. Sukanta Dey	Assoc. Prof.	AGL
42.	Dr. Vineet Kumar Rai	Assoc. Prof.	A Physics
43.	Dr. Asit Kumar Kar	Assoc. Prof.	A Physics
44.	Dr. Sanjoy Mandal	Assoc. Prof.	EE
45.	Dr. Jitendra Kumar	Assoc. Prof.	ECE
46.	Dr. Bobby K Antony	Assoc. Prof.	A Physics
47.	Dr. Syed Tajdarul Hassan	Assoc. Prof.	AGL
48.	Dr. M K Das	Assoc. Prof.	ECE
49.	Dr. A R Dixit	Assoc. Prof.	Mech E
50.	Dr. Shushanta Sarangi	Assoc. Prof.	AGL
51.	Dr. L A Kumaraswamidhas	Assoc. Prof.	MME
52.	Dr. Chandan Guria	Assoc. Prof.	PE
53.	Dr. V K Singh	Assoc. Prof.	A Physics
54.	Dr. Tanmay Maity	Assoc. Prof.	MME
55.	Dr. Haider Banka	Assoc. Prof.	CSE
56.	Dr. R M Bhattacharyee	Assoc. Prof.	ME
57.	Dr. Sagar Pal	Assoc. Prof.	A Chem
58.	Dr. Ashis Mallick	Assoc. Prof.	Mech E
59.	Dr. Rabindra Nath Hota	Assoc. Prof.	Mech E
60.	Dr. Arun Kumar Samanta	Assoc. Prof.	CE

ASSISTANT PROFESSOR

(As on 31.03.2014)

S I. No.	Name	Designation	Department
1.	Dr. Hari Om	Asstt. Prof.	CSE
2.	Dr. Alok Sinha	Asstt. Prof.	ESE
3.	Dr. V Mukherjee	Asstt. Prof.	EE
4.	Dr. P S Rao	Asstt. Prof.	AM
5.	Dr. Partha Sarathi Paul	Asstt. Prof.	ME
6.	Dr. Kalyan Kumar Singh	Asstt. Prof.	MECH E
7.	Dr. A K Bhaumik	Asstt. Prof.	AGL
8.	Dr. Santanu Dwari	Asstt. Prof.	ECE
9.	Dr. Swapan Dey	Asstt. Prof.	A Chemistry
10.	Dr. Pankaj Mishra	Asstt. Prof.	A Physics
11.	Dr. Subindu Kumar	Asstt. Prof.	ECE
12.	Dr. Sushrut Das	Asstt. Prof.	ECE
13.	Dr. Subrata Kumar Ghosh	Asstt. Prof.	MECH E
14.	Dr. Anshumali	Asstt. Prof.	ESE
15.	Dr. (Ms) Mrinalini Pandey	Asstt. Prof.	MS
16.	Dr. Niladri Das	Asstt. Prof.	MS
17.	Dr. R B Choudhary	Asstt. Prof.	A Physics
18.	Dr. B S Kushvah	Asstt. Prof.	A Maths
19.	Dr. Devi Prasad Mishra	Asstt. Prof.	ME
20.	Dr. B M Konar	Asstt. Prof.	ME
21.	Dr. Sachin Tripathi	Asstt. Prof.	CSE
22.	Dr. Anurag Jayswal	Asstt. Prof.	A Maths
23.	Dr. (Mrs.) Abha Rani	Asstt. Prof.	A Maths
24.	Dr. Alok Kumar Das	Asstt. Prof.	MECH E
25.	Dr. Mrs. Shalini Gautam	Asstt. Prof.	FME
26.	Dr. Sahendra Singh	Asstt. Prof.	AGL
27.	Dr. B S Choudhary	Asstt. Prof.	ME
28.	Dr. Gnananandh Budi	Asstt. Prof.	ME
29.	Dr. A K Singh	Asstt. Prof.	A Maths
30.	Dr. Vipin Kumar	Asstt. Prof.	ESE
31.	Dr. S K Raghuwanshi	Asstt. Prof.	ECE
32.	Dr. Tarun Kumar Naiya	Asstt. Prof.	PE
33.	Dr. Somnath Yadav	Asstt. Prof.	A Chem
34.	Dr. Aju Aravind	Asstt. Prof.	HSS
35.	Dr. P K Mahato	Asstt. Prof.	MECH E
36.	Shri Amgoth Tarachand	Asstt. Prof.	CSE

37.	Shri A C S Rao	Asstt. Prof.	CSE
38.	Shri Vinay Kumar Rajak	Assoc. Prof.	PE
39.	Shri Rajendra Pamula	Assoc. Prof.	CSE
40.	Mrs Archana	Assoc. Prof.	PE
41.	Dr. Sukanta Das	Assoc. Prof.	EE
42.	Shri Mrinal Sen	Assoc. Prof.	ECE
43.	Shri R K Ranjan	Assoc. Prof.	ECE
44.	Shri Shatrughan Soren	Assoc. Prof.	FME
45.	Shri Gauri Shankar	Assoc. Prof.	EE
46.	Dr. Sukomal Pal	Assoc. Prof.	CSE
47.	Shri B K Naick	Assoc. Prof.	EE
48.	Dr. Shantimoy Kundu	Assoc. Prof.	A Maths
49.	Md. Sikandar Azam	Assoc. Prof.	MECH E
50.	Dr. Haripada Nayak	Assoc. Prof.	A Chem
51.	Shri Kashinath Pal	Assoc. Prof.	ME
52.	Dr. Suresh Pandian E	Assoc. Prof.	ESE
53.	Shri B K Mishra	Assoc. Prof.	ESE
54.	Dr. Kausal Kumar	Assoc. Prof.	A Physics
55.	Shri Hemant Kumar	Assoc. Prof.	ME
56.	Shri Niranjana Kumar	Assoc. Prof.	MME
57.	Shri Dharavath Ramesh	Assoc. Prof.	CSE
58.	Shri Ankit Hanotia	Assoc. Prof.	PE
59.	Shri Devendra Chack	Assoc. Prof.	ECE
60.	Dr. (Mrs.) Pratima Gajbhiye	Assoc. Prof.	FME
61.	Dr. Shibayan Sarkar	Assoc. Prof.	MECH E
62.	Shri Amitesh Kumar	Assoc. Prof.	ECE
63.	Shri Jaisingh Thangaraj	Assoc. Prof.	ECE
64.	Dr. Arup Kumar Paul	Assoc. Prof.	CSE
65.	Shri Amitava Mandal	Assoc. Prof.	MECH E
66.	Md. Tanveer Alam	Assoc. Prof.	MME
67.	Dr. Sarun P.M.	Assoc. Prof.	A Physics
68.	Dr. G C Nayak	Assoc. Prof.	A Chem
69.	Dr. (Mrs.) Sushila Maheshkar	Assoc. Prof.	CSE
70.	Dr. S R Samadder	Assoc. Prof.	ESE
71.	Dr. Sumanta KR. Sahu	Assoc. Prof.	A Chem
72.	Shri K Priya Ajit	Assoc. Prof.	MME
73.	Dr. P K Kewat	Assoc. Prof.	A Maths
74.	Dr. S K Pal	Assoc. Prof.	AGP
75.	Shri D B Kr.Kishorilal	Asstt. Prof.	MME

76.	Dr. K C Jana	Asstt. Prof.	EE
77.	Dr. Pranab Das	Asstt. Prof.	AGL
78.	Dr. R K Gangwar	Asstt. Prof.	ECE
79.	Dr. G K Vishwakarma	Asstt. Prof.	A Maths
80.	Dr. S Anand Sahu	Asstt. Prof.	A Maths
81.	Shri M L Chandravanshi	Asstt. Prof.	MECH E
82.	Shri Devara V Bhaskar	Asstt. Prof.	EE
83.	Shri Suresh Kumar Yatitirajula	Asstt. Prof.	CE
84.	Dr. Prashant Kumar Sharma	Asstt. Prof.	A Physics
85.	Dr. Rajalingam Thangavel	Asstt. Prof.	A Physics
86.	Dr. Sridhar Sahu	Asstt. Prof.	A Physics
87.	Dr. Jayanta Das	Asstt. Prof.	MME
88.	Dr. K S Thyagaraj	Asstt. Prof.	MS
89.	Shri Anand Anupam	Asstt. Prof.	FME
90.	Shri Neetish Kumar Maurya	Asstt. Prof.	PE
91.	Shri Shravan Kumar	Asstt. Prof.	FME
92.	Dr. (Ms.) Rashmi Madhuri	Asstt. Prof.	A Chem
93.	Shri Kaushik Mazumdar	Asstt. Prof.	ECE
94.	Dr. Rakesh Kumar	Asstt. Prof.	MECH E
95.	Dr. Amit Kumar Verma	Asstt. Prof.	ME
96.	Dr.(Smt.) Sarita Kar	Asstt. Prof.	HSS
97.	Shri Lutukurthi D NVV Konda	Asstt. Prof.	CE
98.	Shri Pankaj Kumar Jain	Asstt. Prof.	FME
99.	Shri Ajit Kumar	Asstt. Prof.	MME
100.	Shri Paidinaidu Paluri	Asstt. Prof.	CE
101.	Dr. Nirban Manna	Asstt. Prof.	HSS
102.	Shri V V G Kumar	Asstt. Prof.	ME
103.	Dr. Suman Dutta	Asstt. Prof.	CE
104.	Shri Shailesh Kumar Sikarwar	Asstt. Prof.	PE
105.	Shri M V S Uday Kumar	Asstt. Prof.	PE
106.	Dr. Durbha Krishna Sandilya	Asstt. Prof.	CE
107.	Dr. Saumen Maiti	Asstt. Prof.	AGP
108.	Dr. Bibhas Chandra	Asstt. Prof.	MS
109.	Dr. Upama Dutta	Asstt. Prof.	AGL
110.	Dr. Sovan Sundar Dasgupta	Asstt. Prof.	MECH E
111.	Dr. Sudipta Ghosh	Asstt. Prof.	EE
112.	Miss Shweta R Malwe	Asstt. Prof.	CSE
113.	Shri Govind Murmu	Asstt. Prof.	ECE
114.	Shri Ananda Shankar Hati	Asstt. Prof.	MME

115.	Dr. Srinivas Pasupuleti	Asstt. Prof.	Civil Engg
116.	Dr. Sarat Kumar Panda	Asstt. Prof.	Civil Engg
117.	Shri Sreevalsa Kolathayar	Asstt. Prof.	Civil Engg
118.	Dr. Raghvendra K Chaudhary	Asstt. Prof.	ECE
119.	Dr. Prabodha Ranjan Sahoo	Asstt. Prof.	AGL
120.	Miss Tanusree Kaibartta	Asstt. Prof.	CSE
121.	Shri Rahul Bhattcharya	Asstt. Prof.	ECE
122.	Dr. Kripamoy Sarkar	Asstt. Prof.	AGL
123.	Dr. R Anand	Asstt. Prof.	AGL
124.	Dr. Chanchal Halder	Asstt. Prof.	A Chem
125.	Dr. Nirupama Mandal	Asstt. Prof.	ECE
126.	Dr. Abhishek Kumar Singh	Asstt. Prof.	A Maths
127.	Dr. Binata Panda	Asstt. Prof.	A Physics
128.	Dr. Sumanta Kumar Padhi	Asstt. Prof.	A Chem
129.	Dr. Moirangthem R Singh	Asstt. Prof.	A Physics
130.	Shri Md. Soyeb Alam	Asstt. Prof.	ME
131.	Dr. Jhasaketan Nayak	Asstt. Prof.	A Physics
132.	Dr. Barun Kumar Nandi	Asstt. Prof.	FME

**Appointment for the post of Assistant Professors during the period
from 01.04.2013 to 31.03.2014**

Sl. No.	Name of the employee	Designation	Date of appointment	Department
1	Shri Ajit Kumar	Asstt. Prof.	01.04.2013	MME
2	Shri Paidinaidu Paluri	Asstt. Prof.	01.04.2013	CE
3	Dr. Nirban Manna	Asstt. Prof.	01.04.2013	HSS
4	Shri V V G Kumar	Asstt. Prof.	04.04.2013	ME
5	Dr. Suman Dutta	Asstt. Prof.	19.04.2013	CE
6	Shri Shailesh Kumar Sikarwar	Asstt. Prof.	23.04.2013	PE
7	Shri M V S Uday Kumar	Asstt. Prof.	26.04.2013	PE
8	Dr. Durbha Krishna Sandilya	Asstt. Prof.	02.05.2013	CE
9	Dr. Saumen Maiti	Asstt. Prof.	03.05.2013	AGP
10	Dr. Bibhas Chandra	Asstt. Prof.	06.05.2013	MS
11	Dr. Upama Dutta	Asstt. Prof.	22.05.2013	AGL
12	Dr. Sovan Sundar Dasgupta	Asstt. Prof.	23.05.2013	MECH E
13	Dr. Sudipta Ghosh	Asstt. Prof.	23.05.2013	EE
14	Miss Shweta R Malwe	Asstt. Prof.	27.05.2013	CSE
15	Shri Govind Murmu	Asstt. Prof.	28.05.2013	ECE
16	Shri Ananda Shankar Hati	Asstt. Prof.	29.05.2013	MME
17	Dr. Srinivas Pasupuleti	Asstt. Prof.	29.05.2013	Civil Engg
18	Dr. Sarat Kumar Panda	Asstt. Prof.	31.05.2013	Civil Engg
19	Shri Sreevalsa Kolathayar	Asstt. Prof.	31.05.2013	Civil Engg
20	Dr. Raghvendra K Chaudhary	Asstt. Prof.	06.06.2013	ECE
21	Dr. Prabodha Ranjan Sahoo	Asstt. Prof.	11.06.2013	AGL
22	Miss Tanusree Kaibartta	Asstt. Prof.	13.06.2013	CSE
23	Shri Rahul Bhattcharya	Asstt. Prof.	17.06.2013	ECE
24	Dr. Kripamoy Sarkar	Asstt. Prof.	17.06.2013	AGL
25	Dr. R Anand	Asstt. Prof.	17.06.2013	AGL
26	Dr. Chanchal Halder	Asstt. Prof.	17.06.2013	A chem
27	Dr. Nirupama Mandal	Asstt. Prof.	28.06.2013	ECE
28	Dr. Abhishek Kumar Singh	Asstt. Prof.	01.07.2013	A Maths
29	Dr. Binata Panda	Asstt. Prof.	08.07.2013	A Physics
30	Dr. Sumanta Kumar Padhi	Asstt. Prof.	08.07.2013	A Chem
31	Dr. Moirangthem R Singh	Asstt. Prof.	29.07.2013	A Physics
32	Shri Md. Soyeb Alam	Asstt. Prof.	13.08.2013	ME
33	Dr. Jhasaketan Nayak	Asstt. Prof.	26.08.2013	A Physics
34	Dr. Barun Kumar Nandi	Asstt. Prof.	30.12.2013	FME

List of Non-Teaching Officers during the period from 01.04.2013 to 31.03.2014

S I. No.	Name of the employee	Designation	Department Section
1	Shri Col (Retd) M K Singh	Registrar	RG's Sectt.
2	Shri Y P K Murthy	Dy. Registrar	Estt. Section
3	Shri Arobindo Ghosh	Dy. Registrar	S&P Section
4	Dr. Pramod Mathur	Dy. Registrar	Exam.& Acad
5	Shri Anil Kumar	Asstt. Registrar	Internal Audit
6	Shri M S Champia	Asstt. Registrar	Accounts Section
7	Ms Sukhbninder Kaur	Asstt. Registrar	Academic Section
8	Shri Babulal Rajak	Asstt. Registrar	Accounts Section
9	Shri Ashok Kr. Gupta	Asstt. Registrar	S&P Section
10	Dr. Gopal Sinha	Asstt. Registrar	Estt. Section
11	Dr. Partha De	Labrarian In-charge	Central Library
12	Shri S P Mahato	Asstt. Labrarian	Central Library
13	Dr. Praveen Kumar	SMO	Health Centre
14	Dr.(Mrs) T. Banerjee	LMO	Health Centre
15	Shri S Mitra	System Manager	Computer Centre
16	Dr. Dipankar Ray	Programmer	Computer Centre
17	Shri Anakapalli Kr. Swamy	Programmer	DT's Sectt.
18	Shri Rajesh Kr. Mishra	System Analyest	CSE
19	Shri Rakesh Soni	System Analyest	Computer Centre
20	Shri K C Nandi	Asstt. Campus Engr.	CMU
21	Shri Anil Kumar Barnwal	Asstt.Electrical Engr.	CMU
22	Shri H R Singh	Tech. Officer	AGL
23	Dr. U P Sharma	Tech. Officer	PE
24	Dr. L K Verma	Reseach Officer	FME
25	Shri D N Acharya	Sport officer	Sports Office
26	Shri Shailendra Bhatia	AWS	Workshop
27	Shri Rahul Kumar	SEO	CA Section

**Appointment for the post of Associate Professors during the period
from 01.04.2013 to 31.03.2014**

SI. No.	Name of the employee	Designation	Date of appointment	Department
1	Dr. Tanmay Maity	Assoc. Prof.	22.05.2013	MME
2	Dr. Haider Banka	Assoc. Prof.	22.05.2013	CSE
3	Dr. V K Singh	Assoc. Prof.	22.05.2013	A Physics
4	Dr. Arun Kumar Samanta	Assoc. Prof.	27.05.2013	CE
5	Dr. Ashis Mallick	Assoc. Prof.	10.06.2013	Mech E
6	Dr. R M Bhattacharyee	Assoc. Prof.	01.07.2013	ME
7	Dr. Rabindra Nath Hota	Assoc. Prof.	05.07.2013	Mech E

**Appointment for the post of Chair Professors during the period
from 01.04.2013 to 31.03.2014**

SI. No.	Name of the employee	Designation	Date of appointment	Department
1	Prof. Sumantra Bhattacharya	Professor (Chair)	28.05.2013	FME
2	Prof. A K Singh	Professor (Chair)	01.08.2013	ESE
3	Prof. N C Jha	Professor (Chair)	19.08.2013	ME
4	Prof. V.P. Sinha	Professor (Chair)	01.10.2013	ME

**Appointment for the post of Officers during the period
from 01.04.2013 to 31.03.2014**

SI. No.	Name of the employee	Designation	Date of appointment	Department
1	Dr. Gopal Sinha	Assistant Registrar	05.11.2013	Admn.

Retirement during the period from 01.04.2013 to 31.03.2014

SI. No.	Name of the employee	Designation	Retirement	Department
1	Smt. Purbi Sen	Mazdoor	30.04.2013	Workshop
2	Shri Amin Gope	Play Field Mazdoor	30.04.2013	S&PEC
3	Shri S S Hati	PA	30.04.2013	Dean office
4	Shri Panchu Hari	Head Zamader	30.04.2013	C A Section
5	Shri Gunaram Mahato	LDC	31.05.2013	A/Cs Section
6	Shri D Sahu	UDC	30.06.2013	Central Library
7	Shri S P ahato	Asstt. Librarian	31.07.2013	Central Library
8	Shri Bishu Gope	Mazdoor	30.09.2013	Workshop
9	Shri Paras Nath	UDC	31.12.2013	RG's Sectt.
10	Prof. A K Basu	Professor	31.12.2013	Mech. Engg.
11	Shri Sudhamoy Roy	Mech. "A"	31.01.2014	ECE
12	Shri Tarani Mandal	Peon	31.01.2014	T&P Cell
13	Dr. Iqbal Ahmed	Sr. Technician	31.03.2014	PE
14	Shri Munlal Gope	Peon	31.05.2013	P&S Section
15	Shri Parsuram Gope	Peon	31.03.2014	AGP
16	Prof. A Chattopadhyay	Professor	31.03.2014	A Maths

Voluntary Retirement during the period from 01.04.2013 to 31.03.2014

SI. No.	Name of the employee	Designation	Retirement	Department
1	Prof. T Sharma	Professor	01.07.2013	FME
2	Prof. N M Misra	Professor	31.03.2014	A Chem.

Resigned during the period from 01.04.2013 to 31.03.2014

SI. No.	Name of the employee	Designation	Retirement	Department
1	Shri Ankit Hanotia	Assistant Professor	28.06.2013	PE
2	Shri M V S U Kumar	Assistant Professor	02.08.2013	PE
3	Dr. Sudipta Ghosh	Assistant Professor	21.02.2014	Electrical Engg.

Terminated during the period from 01.04.2013 to 31.03.2014

SI. No.	Name of the employee	Designation	Retirement	Department
1	Shri Shailesh Kumar Sikarwar	Assistant Professor	18.11.2013	PE

Training during the period from 01.04.2013 to 31.03.2014

Sl. No.	Name of the employee	Designation	Retirement	Department
1	Shri Laldeep Gope	STA	17.04.2013 to 22.04.2013	
2	Shri Sachin Paul	SSA	17.04.2013 to 22.04.2013	
3	Shri R K Prasad	UDC	13.09.2013 to 14.09.2013	
4	Shri Subhash Gope	LDC	13.09.2013 to 14.09.2013	
5	Dr. Praveen Kumar	SMO	04 months with one contract session every month on any Sunday	
6	Dr.(Mrs) T Banerjee	LMO	04 months with one contract session every month on any Sunday	

10.0 MEMBERS OF GENERAL COUNCIL, EXECUTIVE BOARD & FINANCE COMMITTEE [Period: 1.4.2013 to 31.3.2014]

MEMBERS OF GENERAL COUNCIL

Chairman

Shri P K Lahiri, IAS (Retd)
Chairman, ISM GC & EB
8/2, Sarv Priya Vihar
New Delhi 110016

Representative of Ministry of HRD (Dept. of Higher Education)

Ms Amita Sharma
Additional Secretary to the Govt of India
Ministry of HRD
Department of Higher Education
Shastri Bhawan
New Delhi 110 115

Director, ISM (Ex-officio)

Prof D C Panigrahi
Indian School of Mines
Dhanbad

Representative of Parliament

Representations from Lok Sabha Vacant

Representation from Rajya Sabha Vacant

Nominees of Central Government

Prof T C Rao
C/o Mr. K Sanat Kumar
501, Jagdish Residency, Road No. 5
Ramkrishan Puram, Nagole
Hyderabad 500 035

Prof P B Sharma

Vice Chancellor
Delhi Technological University
Shahbad Daultapur
Delhi- 110 078

Dr Ranjeet Singh

Executive Secretary, ISTE
D-42, Ayudh Vihar, Plot No. 3
Sector 13, Dwarka
New Delhi 110 078

Prof Hamid Ali

Dean, Faculty of Engineering & Technology
Chairman, Department of Petroleum Studies
& Principal, ZH College of Engineering & Technology
Aligarh Muslim University
Aligarh 202002

Shri S. Narsing Rao

(from 03.06.2013)

Chairman, Coal India Limited
10, Netaji Subhas Road
Kolkata 700 001

Representative of All India Council for Technical Education (AICTE)

Prof Souvik Bhattacharyaya
Dept. of Mechanical Engineering
Deputy Director
Indian Institute of Technology
Kharagpur 721 302

Representative of Council of Scientific & Industrial Research

Dr Amalendu Sinha
Director
Central Institute of Mining & Fuel Research, Barwa Road
Dhanbad 826 001

Representative of Coal, GOI

Vacant

Representative of Mines, GOI

Vacant

Director General of Mines Safety

Shri Rahul Guha

Director General of Mines Safety
DGMS
Dhanbad 826 001

Representative of Geological Survey of India

Director General
Geological Survey of India
27, J.N.Road
Kolkata 700 016

Representative of ONGC

Shri K L Mehrotra

Executive Director
ONGC Academy
Oil and Natural Gas Corporation Ltd.
KDMIPE Campus,
9 - Kaulagarh Road,
Dehradun - 248 135

(from 02.08.2013)

Representative of NMDC

Chairman-cum-Managing Director
NMDC
Khanij Bhavan 10-3-311/A
Castle Hills, Masab Tank
Hyderabad 500 173

Chairman-cum Managing Director, CMPDI

Shri A K Debnath

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

Controller General of Indian Bureau of Mines

Controller General
Indian Bureau of Mines
Indira Bhawan, Civil Lines
Nagpur 440 102

Representative of Hindustan Copper Limited

Shri Mukteshwar Kundu
Dy General Manager (Mines)
Hindustan Copper Limited
Head Office, Tamra Bhawan
1, Ashutosh Chowdhury Avenue,
P.B.No. 10224, Kolkata 700 019

Representative of Central Ground Water Board

Vacant

Representative of Indian Mines Managers' Association

Dr Vinod P. Sinha (upto 24.02.2014)
President
Indian Mine Managers' Association
703, Panchwati Garden
Beside Honda Showroom
Bariatu, Ranchi 834 009, Jharkhand

Shri Rabindra Kr. Sharma (from 25.02.2014)
Indian Mine Managers' Association
701, Garden City
Luby Circular Road
Dhanbad 826 001

Representative of MGMI

Shri Subrata Chakravorty (from 10.08.2013)
Director (Technical)
Eastern Coalfields Limited
Sanctoria, Burdwan
Dishergarh 713 333
West Bengal

Representative of the Industry body such as CII, FICCI, ASSOCHAM

Vacant

Representative of Ministry of Finance

Shri Yogendra Tripathi,

Jt. Secretary, Financial Advisor to the Govt of India

Ministry of HRD

(Integrated Finance Division)

Shastri Bhawan, New Delhi 110115

Representative of Ministry of Steel

Dr S S Tak

Ministry of Steel

Joint Industrial Advisor

Ministry of Steel

Room No. 190-A,

Udyog Bhavan, New Delhi

Representative of Ministry of Labour & Employment

Shri B P Ahuja

Deputy Director General

DGMS

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Representative of Petroleum & Natural Gas

Vacant

Head of Faculty Department

Prof M Jawed

(upto 31.10.2013)

Head, Dept. of Mining Engineering

ISM, Dhanbad

Prof P Sen

(from 01.11.2013)

Head, Dept. of Mining Engineering

ISM, Dhanbad

Prof A K Varma
Head, Dept. of Applied Geology
ISM, Dhanbad

Prof Shalivahan
Head, Dept. of Applied Geophysics
ISM, Dhanbad

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Head, Dept. of Petroleum Engineering
ISM, Dhanbad

Prof V P Sharma (from 23.1.2014)
Head, Dept. of Petroleum Engineering
ISM, Dhanbad

Prof Sumantra Bhattacharya (upto 25.6.2013)
Head, Dept. of Fuel & Mineral Engineering
ISM, Dhanbad

Prof N R Mandre (from 26.6.2013)
Head, Dept. of Fuel & Mineral Engineering
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Prof K Dasgupta
Head, Dept. of Mining Machinery Engineering
ISM, Dhanbad

Prof S Pan (upto 25.2.2014)
Head, Dept. of Electrical Engineering
ISM, Dhanbad

Prof P K Sadhu (from 26.2.2014)
Head, Dept. of Electrical Engineering
ISM, Dhanbad

Prof P K Jana (upto 15.11.2013)
Head, Dept. of Computer Science & Engineering
ISM, Dhanbad

Dr Chiranjeev Kumar (from 16.11.2013)
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ISM, Dhanbad

Prof Vishnu Priye
Head, Dept. of Electronics Engineering
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Prof J K Pattanayak
Head, Dept. of Management Studies
ISM, Dhanbad

Prof G S Seth
Head, Dept. of Applied Mathematics
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Prof J Manam (upto 26.6.2013)
Head, Dept. of Applied Physics
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Prof A K Nirala (from 27.6.2013)
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Nominee from Associate Professors'

Dr Kailash Jha

(upto 25.02.14)

Associate Professor

Dept. of Mechanical Engineering

ISM, Dhanbad

Dr Rima Chatterjee

(from 26.02.14)

Associate Professor

Dept. of Applied Geophysics

ISM, Dhanbad

Nominee from Assistant Professors'

Dr Subindu Kumar

(from 09.09.2013)

Assistant Professor

Dept. of Electronics Engineering

ISM, Dhanbad

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Vacant

Nominee of Ministry of Mines, GOI

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(upto 07.09.2013)

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(from 08.09.2013)

Nominee from Associate Professors

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(upto 25.02.2014)

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(from 26.02.2014)

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Shri S Narsing Rao (from 10.02.2014)
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Chairman & Managing Director (from 10.02.2014)
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Chief Secretary (from 10.02.2014)
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