भारतीय
प्रौद्योगिकी
संस्थान
काशी हिन्दू विश्वविद्यालय

IIT

INDIAN
INSTITUTE OF
TECHNOLOGY
BANARAS HINDU UNIVERSITY

ANNUAL REPORT

2016-2017

INDIAN INSTITUTE OF TECHNOLOGY
(BHU), VARANASI

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प्रौद्योगिकी
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ANNUAL REPORT

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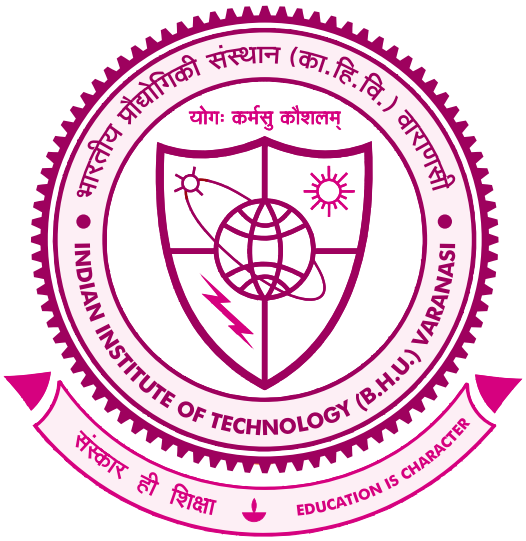

INDIAN INSTITUTE OF TECHNOLOGY (BHU), VARANASI

Contents

1. Director's Report

The Indian Institute of Technology (Banaras Hindu University) owes its existence to Mahamana Pandit Madan Mohan Malviya, Bharat Ratna-the founder of the first residential university of modern India, the Banaras Hindu University, who could foresee the important role of technical education in strengthening independent India.

The three of the erstwhile engineering colleges of BHU, namely BENCO, MINMET and TECHNO, were merged to form the Institute of Technology (IT-BHU) in 1968 to provide an integrated educational base. The IT-BHU has been admitting students through the JEE conducted by the IIT's since 1972, and has been consistently ranked amongst the top few engineering institutions of the country. IT-BHU became IIT (BHU) in June 29, 2012 by an Act of Parliament.

Following conversion to IIT, the Institute engaged itself in taking up the mammoth task of putting many of the procedures and practices similar to those of IITs. Recently the new statutes of IIT (BHU), passed in IIT Council have come into force.

The Institute has maintained high academic standard since its inception. It has turned out luminary engineers and administrators who served the nation with great distinction. The current student strength is 5764 with 4196 UGs, 683 M.Techs and 885 PhD students. The current faculty strength of the Institute is 254 (as against a sanctioned strength of about 502) while the number of technical & non-technical staff is 499. At present, the Institute comprises 14 Departments and 3 interdisciplinary schools. Central facilities in the Institute include a newly established Central Instrumentation Facility, Main Workshop, Computer Unit, Institute Library and Industrial Consultancy & Testing Services.

Academic Activities

The new curriculum for undergraduate programs has entered its 4th year. It has choice based credit system; it is project oriented and learner centric. The exploratory projects are introduced in the 2nd year to conform to layered learning through Practice-Theory-Practice Model. The implementation of UG stream projects & courses as part of UG research & innovation are also in place from this year. Humanities, Management courses and open electives are being offered across Departments.

A notable achievement of the Institute pertains to a three-week Induction Program which started last year, in July 2016. This program has been successfully conducted for about 1080 UG students admitted in the current session (July 2017) also. In addition to credit courses like Physical Education, Creative Practice, and Human Values, newly admitted students are made aware of specialties of Campus, City, and intellectual accomplishments of Varanasi-the city of light besides familariasation with Gymkhana activities by senior students.
Along with IIT (BHU), two other IITs (IIT Mandi and IIT Patna) also introduced this programme in 2016. As IIT BHU is the homeland of this programme, we helped them in conducting it. The broad idea is to make new entrants comfortable in the college environment. The feedback we got about the last year's programme was particularly positive.

In a meeting of the IIT Council, I was asked to share the experience of the programme. This new initiative received an overwhelmingly positive response from IIT Directors and the Union Minister of HRD. It was then decided to introduce this in other IITs as well. Accordingly, many more IITs joined the fleet and the programme has been implemented there this year itself. Some of them are IIT Kharagpur, IIT Ropar, IIT Jodhpur etc.

AICTE (All India Council of Technical Education) and TEQIP program of MHRD have decided to introduce Induction Program for all engineering institution. Awareness meetings of Principals and Directors of various engineering institutes have been organized in major metros, after which 3-day teachers' training workshop are organized. Teacher training workshops have taken place in Varanasi, Pune, Delhi, Hyderabad, Chandigarh, Raipur, Kanpur, Indore and Guwahati. All this activity is under the guidance of IIT(BHU).

Teaching Learning Cell set up in December 2013 continues to cover all aspects of teaching, pedagogy, course delivery, laboratory projects, assessment, and is facilitating online courses.

Our students have been hired by some of the best companies. IIT(BHU) boasts of offers that are one of the best placement packages among the IIT's.

Research & Development activities

Highly qualified faculty and talented research scholars are active in frontier areas of research and their efforts are

supported by Govt. research sponsoring agencies and many reputed industries such as TISCO, HINDALCO, ONGC, SAIL, BHEL, MECON, UPSEB, FCI, Coal India etc. The total financial support for the 85 ongoing projects in the Departments and Schools and 27 fellowships is nearly Rs. 17.35 Crore including FIST/UGC-SAP funding/ Steel Technology Centre. Madan Mohan Malviya Railway Chair was established in June 2015 to undertake work related to Metallurgy & Materials. Workshop for the Railway Officers and Brain Storming Session on designing light weight smart passenger coaches was arranged. Some research projects have been awarded to us under IMPRINT.

Design and Innovation Hub has been in operation through which teachers and students can initiate projects and express their creativity. Project Varanasi and Unnat Bharat Abhiyan aim at solving technological problems dealing with issues of common man. The design and Innovation Hub (DIH) also sponsored students to participate in Shell Eco Marathon and SAE-BAJA technical competitive events. DIH also funded 120 one year extended project and 400 two months summer projects. Total students who worked on extended project during summer are 600.

Extension of our expertise and laboratory facilities to the industries of this region is an important service activity of the Institute. All the major departments of the Institute have been actively engaged in providing industrial consultancy and testing services to a large number of industries and entrepreneurs of the region and also to large industrial houses. During this year several consultancy and testing projects valued at over approximately Rs.6.45 crores were completed successfully.

The Department and Schools of the Institute have also been active in organizing seminars and symposia, summer/winter schools and co-curricular and extra-curricular activities of the students, etc.

Alumni have also come forward to support scholarships for needy students and supporting projects that have social relevance. We record our gratefulness to them.

Infrastructure Development

Infrastructure development is the need of the hour for us. Renovation of hostels is an ongoing process and was done this past summer also. 32 single bedroom apartments (Block C) are ready. Work has started on construction of a 728 seater girls hostel. Institute is facing acute shortage of residential quarters for faculty and non-teaching staff. There is also an acute shortage of boys hostel for which funds are needed.

The Computer Unit of the Institute hosts high end servers with GPUs, storage server, etc. Various campus wide scientific and research software solutions are installed on these servers which are accessible to students and faculty members of the institute through intranet / LAN. A High Performance Computing facility of 500 teraflops is being set up. The long awaited campus computer network is being setup with testing to begin this month.

Students' Activities

The Institute nurtures social, cultural and sporting activities pursued by the Students' Gymkhana and other student groups. Besides games and sports, the artistic and creative talents of students are encouraged through various activities like dramatics, debates, music, visual arts etc. and clubs like Radio, Audio, Photography, Automobile, Aero-Modelling, Cine and Computer Club. Students Gymkhana organized its annual techno-management festival Technex, cultural festival Kashi Yatra & games event Spardha. IIT(BHU) regularly participate in IIT meet.

The Institute strongly believes that an abiding social and human engagement is the hallmark of its student body. Students are involved in social service with underprivileged sections of society through the newly formed Council for Social Service which includes Kashi Utkarsh and other erstwhile informal initiatives. The other clubs are Sahyog for extending a helping hand for sharing knowledge with the darkest parts of the society, Social Projects Club to contribute to the community, Health and Hygiene Club for sanitation, health, hygiene and cleanliness among fellow human beings.

Conclusion

In conclusion, IIT(BHU) is in transition. As the new emerges from the old, building on its strengths, but transforming itself to meet challenges of the future, we shall strive for a glorious future of IIT (BHU). Each student of IIT (BHU) in its own way has internalized the spirit of IIT(BHU), that emerges out of commitment, excellence, fellowship and service.

2. Apex Committees

1. IIT Council

Chairperson
Shri Prakash Javadekar,
Hon'ble Minister of Human Resource Development
Government of India
New Delhi- 110001

Members

Dr. Mahendra Nath Pandey
Minister of State, HRD, New Delhi

Dr. Pawan Goenka
Chairperson, Board of Governors, IIT Madras

Dr. Srikumar Banerjee
Chairperson, Board of Governors, IIT Kharagpur

Dr. Rajiv I. Modi
Chairperson, Board of Governors, IIT Guwahati

Shri V.S. Oberoi
Secretary (HE), MHRD New Delhi

Padmashree Mrs. Lila Poonawalla
Chairperson, Board of Governors, IIT Ropar

Shri Dilip Shanghvi
Chairperson, Board of Governors, IIT Bombay

Prof. Devang V. Khakhar
Director, IIT Bombay

Prof. Indranil Manna
Director, IIT Kanpur

Prof. Bhaskar Ramamurthi
Director, IIT Madras

Prof. Ajit Chaturvedi
Director, IIT Roorkee

Prof. C.V.R. Murty
Director, IIT Jodhpur

Prof. U.B. Desai
Director, IIT Hyderabad

Prof. R.V. Rajkumar
Director, IIT Bhubaneswar

Prof. Pradeep Mathur
Director, IIT Indore

Prof. Ashok Jhunjhunwala
Professor, Deptt. of Elect. Engg., IIT Madras

Prof. Vijaylakshmi Ravindranath
Centre For Neuroscience,
Indian Institute of Science, Bangalore

Prof. R.C. Bhudhani
Professor, Deptt. of Physics, IIT Kanpur

Prof. D.C. Panigrahi
Director, IIT (ISM) Dhanbad

Shri Sanjiv Mittal
Joint Secretary, Ministry of Information Technology

Mrs. Tripti Gurha
Director (IITs), MHRD, New Delhi

Shri V.K. Wadhwa
Project Officer, Secretariat of Council of IITs

Shri Mohit Gupta
ASO, MHRD, New Delhi

Shri Ninong Ering
Member of Parliament (Lok Sabha)

Shri Kumar Mangalam Birla
Chairperson, Board of Governors, IIT Delhi

Prof. Ashok Misra
Chairperson, Board of Governors, IIT Roorkee

Shri R.C. Bhargava
Chairperson, Board of Governors, IIT Kanpur

Dr. B.V.R. Mohan Reddy
Chairperson, Board of Governors, IIT Hyderabad

Prof. Girish Chandra Tripathi
Chairperson, Board of Governors, IIT (BHU) Varanasi

Shri Pankaj Rambhai Patel
Chairperson, Board of Governors, IIT Bbubaneswar

Prof. V. Ramgopal Rao
Director, IIT Delhi

Prof. Partha P. Chakrabarti
Director, IIT Kharagpur

Prof. Gautam Biswas
Director, IIT Guwahati

Prof. Rajeev Sangal
Director, IIT (BHU) Varanasi

Prof. Pushpak Bhattacharya
Director, IIT Patna

Prof. Sarit Kumar Das
Director, IIT Ropar

Prof. Timothy A. Gonsalves
Director, IIT Mandi

Prof. Prof. Sudhir K. Jain
Director, IIT Gandhinagar

Prof. Anil D. Shahsrabudhe
Chairperson, AICTE

Dr. (Mrs.) Tessy Thomas
Outstanding Scientist' & Director,
Advanced Systems Laboratory (ASL), Hyderabad

Dr. S.K. Joshi
Former D.G. CSIR, New Delhi

Shri R. Subrahmanyam
AS (TE), MHRD, New Delhi

Ms. Darshana M. Dabral
JS & FA, MHRD, New Delhi

Ms. Prisca Mathew
Under Secretary (IITs), MHRD, New Delhi

Shri Arun Kumar Karan
ASO, MHRD, New Delhi

Ms. Heena
ASO, MHRD, New Delhi

2. Board of Governors

Prof. Girish Chandra Tripathi
Vice-Chancellor (ex-officio)
Banaras Hindu University,
Varanasi-221 005

Prof. Rajeev Sangal
Director (ex-officio)
IIT (BHU), Varanasi – 221 005

Prof. Narendra Ahuja
Room No.3299, Electronic Niketan
(ITRA, Media Lab Asia),
6-CGO Complex, New Delhi-110003.

Shri Ganesh Bagaria
Manviya Shiksha Sanskar Sansthan
Opp. Vanakhandeshwar Mandi, Mandhana,
Kanpur-209217.

Prof. Jagmohan Singh Rajput
A-16, Sector P-7 Mitra Enclave,
(Opp. Greater Valley School)
Greater Noida-201 310, Uttar Pradesh.

Prof. Dhananjai Pandey
School of Material Sciences & Technology
Indian Institute of Technology, BHU, Varanasi-221 005

Professor Onkar Singh
[Ex-VC MMMUT, Gorakhpur]
Dept. of Mechanical Engineering
Harcourt Butler Technical University (HBTU),
Nawabganj, Kanpur, U.P. – 208 002

Prof. Rajiv Prakash
School of Materials Science & Technology
IIT (BHU), Varanasi – 221 005

Prof. Y.C. Sharma
Dept. of Chemistry, IIT (BHU)
IIT (BHU), Varanasi – 221 005

Prof. Nilay Krishna Mukhopadhyay
Dept. of Metallurgical Engg,
IIT (BHU) [Effective from 1.1.2017]

Prof. Prabhakar Singh
Dept. of Physics, IIT (BHU) [Effective from 1.1.2017]

3. The Senate

1. Dr. R.K. Dube, Former Professor, Dept. of Materials Science & Engg., IIT Kanpur
2. Dr. Harish Karnick, Professor, Dept. of Computer Science & Engg., IITKanpur
3. Dr. P.K. Mukhopadhyay, Former Professor, Dept. of Philosophy, Jadavapur
4. Prof. Madhoolika Agrawal, Dept. of Botany, BHU
5. Prof. Anand Kumar, Department of General Surgery, IMS, BHU
6. Prof. R.R. Jha, Dept. of Political Science, Faculty of Social Sciences, BHU
7. Prof. Rajesh Kumar, Dept. of Mechanical Engg., IIT (BHU)
8. Dr. Brind Kumar, Dept. of Civil Engg., IIT (BHU)
9. Dr. M.K. Meshram, Dept. of Electronics Engg., IIT (BHU)
10. Dr. Amirtanshu Pandey, Dept. of Electronics Engg., IIT (BHU)
11. Dr. Chandan Upadhyay, School of Materials Science & Tech., IIT (BHU)
12. Dr. Neeraj Sharma, School of Biomedical Engg., IIT (BHU)
13. Dr. Rakesh Kumar Gautam, Dept. of Mechanical Engg., IIT (BHU)

Department of Ceramic Engineering

14. Prof. Devendra Kumar
15. Prof. Ram Pyare
16. Prof. Vinay Kumar Singh

Department of Chemical Engineering and Technology

17. Prof. A.K. Verma
18. Prof. A.S.K. Sinha
19. Prof. B.N. Rai
20. Prof. Pradeep Kumar Mishra

21. Prof. Pradeep Ahuja
22. Prof. Manoj Kumar Mondal
23. Prof. Ram Saran Singh

Department of Civil Engineering

24. Prof. Veerendra Kumar
25. Prof. Goutam Banerjee
26. Prof. Devendra Mohan
27. Prof. Prabhat Kumar Singh
28. Prof. Prabhat Kumar Singh Dixit
29. Prof. Sasankasekhar Mandal
30. Prof. Rajesh Kumar
31. Prof. Shyam Bihari Dwivedi
32. Prof. K.K. Pathak
33. Prof. Arun Prasad

Department of Computer Science and Engineering

34. Prof. A.K. Tripathi
35. Prof. K.K. Shukla
36. Prof. R.B. Mishra
37. Prof. Rajeev Srivastava

Department of Electrical Engineering

38. Prof. Shiva Pujan Singh
39. Prof. S.K. Nagar
40. Prof. Arun Kumar Kapoor
41. Prof. R.K. Pandey (On Deputation w.e.f. 11.07.2016)
42. Prof. Rakesh Kumar Srivastava
43. Prof. Rakesh Kumar Mishra
44. Prof. Ranjeet Mahanty
45. Prof. Devender Singh
46. Prof. Mitresh Kumar Verma

Department of Electronics Engineering

47. Prof. P. Chakrabarti
48. Prof. P.K. Jain
49. Prof. V.N. Mishra
50. Prof. Satyabrat Jit

Department of Mechanical Engineering

51. Prof. J.P. Dwivedi
52. Prof. Virendra Pratap Singh
53. Prof. A.K. Agrawal
54. Prof. A.K. Jha
55. Prof. V.K. Srivastava
56. Prof. Santosh Kumar
57. Prof. S.P. Tewari
58. Prof. K.S. Tripathi
59. Prof. A.P. Harsha
60. Prof. Sanjay Kumar Sinha
61. Prof. Sandeep Kumar
62. Prof. Rajesh Kumar
63. Prof. Prashant Shukla
64. Prof. Pradumna Ghosh
65. Prof. Shailendra K. Shukla
66. Prof. Rajnesh Tyagi

Department of Metallurgical Engineering
67. Prof. G.V.S. Sastry
68. Prof. R.K. Mandal
69. Prof. N.K. Mukhopadhyay
70. Prof. Sunil Mohan
71. Prof. (Mrs.) N.C. Shanti Srinivas
72. Prof. B. Nageshwar Sarma

Department of Mining Engineering
73. Prof. B. K. Shrivastava
74. Prof. Netai Chandra Karmakar
75. Prof. Aarif Jamal
76. Prof. Piyush Rai (On Lien)
77. Prof. Sanjay Kumar Sharma
78. Prof. Suprakash Gupta

Department of Pharmaceutics
79. Prof. B. Mishra
80. Prof. S.K.Singh
81. Prof. Sanjay Singh
82. Prof. S.K. Shrivastava

Department Of Chemistry
83. Prof. (Mrs.) R. B. Rastogi
84. Prof. Prem Chandra Pandey
85. Prof. A.K. Mukherjee
86. Prof. Syed Hadi Hasan
87. Prof. (Mrs.) Vandana Srivastava
88. Prof. Yogesh Chandra Sharma
89. Prof. D. Tiwary
90. Prof. K.D. Mandal

Department of Mathematical Sciences
91. Prof. Tanmoy Som
92. Prof. (Mrs.) Rekha Srivastava
93. Prof. Lal Pratap Singh
94. Prof. Sanjay Kr. Pandey

Department of Humanistic Studies
95. Prof. Prasant Kumar Panda

Department of Physics
96. Prof. D. Giri
97. Prof. Prabhakar Singh
98. Prof. Sandeep Chatterjee
99. Prof. Rajendra Prasad

School of Bio-Chemical Engineering
100. Prof. Subir Kundu
101. Prof. S. K. Srivastava
102. Prof. (Mrs.) Mira Debnath (Das)
103. Prof. R.M. Banik
104. Prof. Pradeep Srivastava

School of Bio-Medical Engineering
105. Prof. (Mrs.) Ranjana Patnaik
106. Prof. (Miss) Nira Misra
107. Dr. Neeraj Sharma

School of Materials Science & Technology

108. Prof. Dhananjai Pandey
109. Prof. Rajiv Prakash
110. Prof. Pralay Maiti

In Terms of Senate Resolution No. 11.2

111. Dr. Akhilesh Kumar Singh, Chairperson, SUGC –Invited member
112. Dr. S.K. Gupta, Chairperson, SPGC –Invited member

4. Finance Committee

Prof. Girish Chandra Tripathi
Vice-Chancellor (ex-officio) Banaras Hindu University, Varanasi-221 005.

Prof. Rajeev Sangal
Director (ex-officio) IIT (BHU), Varanasi – 221 005.

Additional Secretary (TE) to the Government of India
Technical Education, MHRD, New Delhi.

Joint Secretary & Financial Advisor to the Government of India
Integrated Finance Division, MHRD, Department of Higher Education, New Delhi.

Professor Onkar Singh
[Ex-VC MMMUT, Gorakhpur], Dept. of Mechanical Engineering, Harcourt Butler Technical University (HBTU) Nawabganj, Kanpur, U.P. – 208 002.

Prof. Rajiv Prakash
School of Materials Science & Technology, IIT (BHU), Varanasi – 221 005.

5. Building and Works Committee

1. **Prof. Rajeev Sangal** — **- Chairman**
   Director, IIT (BHU)
2. **Prof. A.K. Jain** — **- Member**
   Prof. & Head, Department of Civil Engg. IIT Delhi, New Delhi-110016
3. **Prof. Pradeep Bhargawa** — **- Member**
   Department of Civil Engg. IIT Roorkee, Roorkee-247667
4. **Prof. Manoj Mathur** — **- Member**
   Head Industrial Design SPA and Architect
   (Nominee of Director, School of Planning & Architecture)
   4-Block-B, Indraprastha Estate, New Delhi-11002
5. **Sri N. Nanjappa** — **- Member**
   (Ex-Senior Superintending Engineer, CCMB, Hyderabad)
   Flat No. 202, "Grand Residency", No. 4-7-102/18
   Lane No. 2, Sai Enclave, Habsiguada, Hyderabad-500007
6. **Prof. Veerendra Kumar** — **- Member**
   Chairman, IWC, IIT (BHU)
7. **Prof. R. Mahanty** — **- Member**
   Dept. Electrical Engg. IIT (BHU)
8. **Dr. S.P. Mathur** — **- Member Secretary**
   Registrar, IIT (BHU), Varanasi

3. Faculty Administration

Faculty Position as on 31.03.2017

Faculty Members	245
Visiting Faculty/Institute Professor/Emeritus Professor	13 + 17 + 13 = 43

Faculty Members appointed during 2016-17

Professors	02
Associate Professors	02
Assistant Professors	09
Visiting Faculty/Institute Professor/Emeritus Professor	06 + 10 + 05 = 21
Contractual Faculty	04

List of Faculty Members appointed during April 2016 - March 2017

S. No.	ID No.	Name of Staff	Designation	Department/ Section	Date of Joining
1	50056	Dr. Krishna Kant Pathak	Professor	Civil Engineering	06.04.2016
2	50062	Dr. Shyam Kamal	Assistant Professor	Electrical Engineering	01.08.2016 (AN)
3	50063	Dr. Sandip Ghosh	Assistant Professor	Electrical Engineering	02.08.2016
4	50074	Dr. Somak Bhattacharyya	Assistant Professor	Electronic Engineering	27.12.2016
5	50073	Dr. Amitesh Kumar	Assistant Professor	Mechanical Engineering	15.12.2016
6	50068	Dr. Debdas Ghosh	Assistant Professor	Mathematical Sci.	08.10.2016
7	50069	Dr. Sunil Kumar	Assistant Professor	Mathematical Sci.	17.10.2016
8	50070	Dr. Lavanya Sivakumar	Assistant Professor	Mathematical Sci.	01.12.2016
9	50064	Dr. Vishal Mishra	Assistant Professor	Bio-Chemical	15.09.2016
10	50066	Dr. Ashish Kumar Singh	Assistant Professor	Bio-Chemical	04.10.2016
11	50067	Dr. Sanjay Kumar	Assistant Professor	Bio-Chemical	05.10.2016
12	50065	Dr. Ashish Kumar Mishra	Assistant Professor	SMST	01.10.2016
13	50071	Dr. Shrawan Kumar Mishra	Assistant Professor	SMST	16.11.2016
14	50072	Dr. Sanjay Singh	Assistant Professor	SMST	19.12.2016

List of internal faculty/staff members who joined during the period from April 2016 - March 2017

S. No.	ID No.	Name of Faculty/Staff	Designation	Department/ Section	Date of Joining with (FN/AN)
1	18295	Dr. Pradeep Srivastava	Associate Prof. to Professor	Bio-Chemical	01.09.2016
2	18229	Dr. Vikas Jindal	Assistant Prof. to Associate Prof.	Metallurgical Engg.	01.07.2016
3	16830	Dr. Abha Mishra	Assistant Prof. to Associate Prof.	Physics	01.09.2016

Faculty/staff member who resigned/were relieved

S. No.	ID No.	Name of Faculty/Staff	Designation	Department/ Section	Date of Relief with (FN/AN)
1	19850	Dr. Somdeb Bose Dasgupta	Assistant Professor	School of Bio-Medical Engg.	17.10.2016 (AN)
2	17690	Dr. Vikas Kumar	Associate Professor	Pharmaceutical Engg. & Tech.	26.09.2016 (AN)

Faculty/staff member who retired between April 2016 - March 2017

S. No.	ID No.	Name of Faculty/ Staff/Officer	Designation	Department	Date of Birth	Date of Relief with (FN/AN)
1	13693	Shri Amar Nath	Associate Professor	Ceramic Engineering	15.06.1951	30.06.2016
2	13736	Dr. K.K. Srivastava	Professor	Chemical Engineering	01.07.1951	30.06.2016
3	13779	Shri Gopal Sharma	Associate Professor	Electrical Engineering	02.01.1952	30.06.2016
4	13801	Dr. R.R. Das	Professor	Electronics Engineering	20.06.1951	30.06.2016
5	17360	Dr. M.A. Quraishi	Professor	Chemistry	01.07.1951	30.06.2016
6	13789	Dr. D.N. Vishwakarma	Professor	Electrical Engineering	17.08.1951	31.08.2016
7	13884	Dr. A.K. Ray	Professor	Bio-Medical	02.11.1951	30.11.2016
8	14161	Shri P.K. Mukherjee	Associate Professor	Electronics Engineering	09.11.1951	30.11.2016
9	13795	Dr. Anand Mohan	Professor	Electronics Engineering	26.01.1952	31.01.2017
10	13796	Dr. R. Dwivedi	Associate Professor	Electronics Engineering	02.01.1952	31.01.2017
11	13689	Dr. S.P. Singh	Professor	Ceramic Engineering	13.02.1952	28.02.2017
12	13737	Dr. Ram Prasad	Professor	Chemical Engineering	20.02.1952	28.02.2017
13	13891	Dr. D. Pandey	Professor	SMST	24.02.1952	31.03.2017

Faculty/staff member who expired while in service

S. No.	ID No.	Name of Faculty/ Staff/Officer	Designation	Department	Date of Birth	Date of Expiry with (FN/AN)
1	13675	Dr. Ranjana Ghosh	Professor	Chemistry	28.09.1952	25.07.2016

Faculty/staff members on extraordinary leave

S. No.	Name	Designation	Department	From	To	Details	Remarks
1	Dr. (Mrs.) Kalyani Mohanta	Associate Professor	Ceramic Engineering	30.01.2014	29.01.2017	EOL	
2	Dr. Goutam Banerjee	Professor	Civil Engineering	19.08.2013	31.07.2016	EOL	
3	Dr. Ravi P. Jaiswal	Assistant Professor	Cemical Engineering	11.04.2016 01.08.2016	07.05.2016 30.10.2016	EOL	
4	Dr. Vikas Jindal	Associate Professor	Metallurgical Engineering	01.05.2015	30.06.2016	EOL	
5	Dr. Indrajit Chakraborty	Associate Professor	Metallurgical Engineering	01.01.2016 08.01.2017	03.04.2016 12.01.2017	EOL	

Faculty members on sabbatical leave

S. No.	Name	Designation	Department	From to	Details	Remarks
1	Dr. Debashis Khan	Associate Professor	Mechanical Engineering	01.08.2016	29.10.2016	
2	Dr. M. Thottapan	Associate Professor	Electronics Engineering	27.02.2017	05.08.2017	

4. Non-Faculty Administration

Staff members in Position

Group A Staff	26
Scientific Officers	04 + 07
Technical Staff	270
Administrative Staff	151

Staff Members appointed during 2016-17

Administrative Staff	01
Contractual Staff	00

List of Staff Members appointed during April 2016-March 2017

S. No.	ID No.	Name of Staff	Designation	Department/ Section	Date of Joining
1	18545	Sri Shashank Shekhar Prasad Singh	Security Officer	Dy. Chief Proctor's Office	30.04.2016 (AN)
2	18546	Sri Abhishek Kumar Singh	Assistant Security Officer	Dy. Chief Proctor's Office	30.04.2016 (AN)
3	50059	Sri Shashank Pathak	Junior Translator (Hindi)	Admin. (GAD)	03.05.2016
4	50060	Sri Amarnath Yadav	Assistant Security Officer	Dy. Chief Proctor's Office	11.05.2016

Staff members who resigned/were relieved

S. No.	ID No.	Name of Staff	Designation	Department/ Section	Date of Relief (with FN/AN)
1		Sri Maninder Singh Chawla	Junior Superintendent	Office of the Faculty Affairs	23.05.2016 (AN)
2	19875	Sri Bipin Bihari Pathak	Junior Assistant	Recovery Unit	29.10.2016 (AN)
3	19593	Sri Prakhar Mishra	Lab. Attendant	Pharmaceutical Engg. & Tech.	resignation accepted w.e.f. 14.10.2014 as per letter dated 18.03.2017

Staff members who retired between 1 April 2016 and 31 March 2017

S. No.	ID No.	Name of Staff/ Officer	Designation	Department/ Section	Date of Birth	Date of Retirement (with FN/AN)
1	14012	Sri Chandan Lal	Sr. Mechanic	Electronics Engg.	01.07.1956	30.06.2016
2	13702	Sri Ram Dhar Yadav	S.T.A.	Ceramic Engineering	10.07.1956	31.07.2016
3	14164	Sri S.C. Yadav	Foreman Gr.-II	Electronics Engg.	01.08.1956	31.07.2016

4	13596	Sri Moti Lal	Foreman Gr.-II	Main Workshop	16.08.1956	31.08.2016
5	16659	Sri Gautam Roy	S.T.A.	Mining Engg.	24.10.1956	31.10.2016
6	18992	Dr. V.S. Pandey	Research Associate	Mathematical Sciences	15.10.1954	31.10.2016
7	16656	Sri R.N. Rai	Foreman Gr.-II	Ceramic Engg.	01.01.1957	31.12.2016

Staff members who expired while in service

S. No.	ID No.	Name of Staff/ Officer	Designation	Department/ Section	Date of Birth	Date of Expiry (with FN/AN)
1	13905	Sri Trilok Singh	S.T.A.	Mechanical Engg.	16.09.1957	18.07.2016

Staff members on extraordinary leave

S. No.	Name	Designation	Department	From	To	Details
1	Sri Jibrail Ali	Lab. Attendant	Chemistry	01.01.2017	31.12.2018	To complete Ph.D. programme from IIT-Guwahati

Staff Welfare

Human resource development

External trainings

S. No.	No. of Persons who attended	Course Title	Duration	Section/ Department	Organization where attended
1	2	Programes on Pension & Other Retirement Benefits'	04.04.2016 to 07.04.2016	--	ISTM, New Delhi
2	2	“Right to Information Public Information Officers”	09.05.2016 to 10.05.2016	--	ISTM, New Delhi
3	3	Establishment Rules	23.05.2016 to 27.05.2016	--	ISTM, New Delhi
4	5	Programme on Pension & other Retirement Benefits	20.06.2016 to 23.06.2016	--	ISTM, New Delhi
5	4	Workshop on Income Tax	04.07.2016 to 05.07.2016	--	ISTM, New Delhi
6	1	New Web Portal for Manual Cases into DBT Mode	11.07.2016	--	UGC (Mata Sundari College, New Delhi)
7	3	“Right to Information”	18.07.2016	--	DoPT, Shastri Bhawan, New Delhi
8	2	"Administrative Vigilance: Role of IO/PO"	08.08.2016 to 12.08.2016	--	ISTM, New Delhi
9	2	Reservation in Services for SC/ST/OBC	17.08.2016 to 19.08.2016	--	ISTM, New Delhi

10	1	Pay Fixation	16.11.2016 to 18.11.2016	--	ISTM, New Delhi
11	1	Workshop cum Review Meeting on Various areas related to NPS	28.11.2016	--	Regional Centre for Urban & Environmental Studies, Lucknow
12	1	GeM (e procurement)	20.12.2016	--	IIT-Delhi
13	2	GeM (e- procurement)	28.12.2016	--	NIFM, Faridabad
14	2	Workshop on e-procurement	09.01.2017 to 10.01.2017	--	ISTM, New Delhi
15	3	All India Conference "Ateendriya Bodh- An Ethereal Cognition"	28.01.2017 to 29.01.2017	--	Varanasi Branch of ICAI with Banaras Hindu University
16	2	Training Programme on Public Financial Management System (PFMS)	06.03.2017 to 10.03.2017	--	Lucknow

Internal trainings organized by the Institute

S. No.	No. of Persons who attended	Course Title	Duration	Section/ Department	Organization where attended
1	101	Being Helpful	22.10.2016 (1 Day)	--	IIT (BHU)
2	119	Office Procedure (general overview of office practices/Dos and Don'ts)	26.11.2016 (1 Day)	--	IIT (BHU)
3	96	1. Filing system prevailing in the Institute 2. Disposal of inward dak/letters 3. Communication and interpersonal interaction	13.01.2017 (1 Day)	--	IIT (BHU)

हिन्दी संवर्धन गतिविधियां (Hindi Promotion Activities)

संस्थान में हिन्दी संवर्धन हेतु वर्ष 2016–17 में निम्न गतिविधियों का आयोजन किया गया।

हिन्दी पखवाड़ा (सितंबर 1–15, 2016) का आयोजन

संस्थान द्वारा 1 से 15 सितंबर, 2016 के दौरान हिन्दी पखवाड़ा का आयोजन किया गया। हिन्दी पखवाड़ा के दौरान 1 सितंबर, 2016 से 15 सितंबर, 2016 के मध्य निम्न कार्यक्रमों का आयोजन किया गया।

हिन्दी कार्यशाला:

दिनांक 01.09.2016 को संस्थान के एनी बेसेंट व्याख्यान कक्ष संकुल में हिन्दी कार्यशाला का आयोजन किया गया। हिन्दी कार्यशाला में निम्न विषयों पर प्रशिक्षण दिया गया:

क. हिन्दी कार्यशाला का परिचय तथा राष्ट्र की राजभाषा नीति।

ख. राजभाषा नीतियों का कार्यान्वयन तथा पत्राचार एवं टिप्पण लेखन।

यूनिकोड के माध्यम से हिन्दी टंकण का प्रशिक्षण

दिनांक 01.09.2016 को संस्थान के एनी बेसेंट व्याख्यान कक्ष संकुल में कंप्यूटर पर हिन्दी में काम–काज को बढ़ावा देने के लिए कर्मचारियों को यूनीकोड के माध्यम से हिन्दी टंकण का प्रशिक्षण दिया गया ।

हिन्दी की पुस्तकों की प्रदर्शनी

दिनांक 03.09.2016 को संस्थान के मुख्य पुस्तकालय में हिन्दी की पुस्तकों की प्रदर्शनी का आयोजन किया गया ।

हिन्दी टिप्पण लेखन एवं पत्राचार प्रतियोगिताः

दिनांक 06.09.2016 को संस्थान के एनी बेसेंट व्याख्यान कक्ष संकुल में हिन्दी टिप्पण लेखन एवं पत्राचार प्रतियोगिता का आयोजन किया गया।

यूनिकोड के माध्यम से हिन्दी टंकण प्रतियोगिताः

दिनांक 10.09.2016 को संस्थान के प्रथम वर्ष, संगणक प्रयोगशाला में यूनीकोड के माध्यम से हिन्दी टंकण प्रतियोगिता का आयोजन किया गया।

हिन्दी निबंध प्रतियोगिताः

दिनांक 01.09.2016 से 12.09.2016 के मध्य संस्थान के विद्यार्थियों के बीच ''तकनीकी संस्थाओं में संघ की राजभाषा नीतियों का कार्यान्वयन एवं चुनौतियाँ'' विषय पर निबंध प्रतियोगिता का आयोजन किया गया।

हिन्दी दिवस समारोहः

संस्थान में 14 सितंबर, 2016 को हिन्दी दिवस समारोह का आयोजन किया गया। इस अवसर पर माननीय गृह मंत्री का हिन्दी दिवस के अवसर पर जारी संदेश का पठन किया गया। निदेशक महोदय ने दिनांक 01.09.2016 से दिनांक 13.09.2016 के मध्य आयोजित प्रतियोगिताओं में प्रथम, द्वितीय एवं तृतीय विजेता कर्मचारियों को पुरस्कृत किया गया।

Education assistance for children : As per GoI Rules
Transport facilities for children of staff members

5. Academic Programmes and Award of Degrees

The Institute offered Ph.D. programmes in all 17 departments (Department of Humanistic Studies established in 2015-16), M.Tech. programme in 13 streams/specializations, M.Pharm. programme in one stream/specialization, B.Tech. programmes in 9 engineering departments, B.Pharm. in one department, Dual Degree (B.Tech. and M.Tech.) programmes in 10 engineering departments/schools, Dual Degree (B.Pharm. and M.Pharm.) programme in one department, Integrated Master's (M.Tech.) Degrees in 3 science departments besides a preparatory course for SC/ST students during the year under report.

Admissions 2016–2017

Candidates for admission to the 4-Year B.Tech./B.Pharm., 5-Year Dual Degree and 5-Year Integrated Master's (M.Tech.) degree programmes were selected through JEE(Advanced) and on the basis of the All India Rank. 2-Year M.Tech./M.Pharm. programmes, candidates get admitted on the basis of GATE/GPAT score. Quite a few candidates were also selected for the M.Tech. programme under the Sponsored and Q.I.P. programmes through interviews and/or written tests. Selection for the Ph.D. programmes was done through tests/interviews, they must qualify the GATE or GPAT or UGC/CSIR-NET.

The number of students and scholars admitted to the various programmes in July 2016 and in January 2017 are listed in Table as shown below.

Table Fresh admissions

S. No.	Department/School	B.Tech	Dual Degree (B.Tech & M.Tech)	M.Tech	M.Pharma	Ph.D.	Total
1	Biochemical Engineering	---	16	8	---	4	28
2	Biomedical Engineering	---	19	9	---	9	37
3	Ceramic Engineering	54	17	15	---	15	101
4	Chemical Engineering	117	---	49	---	13	179
5	Chemistry	---	19	---	---	14	33
6	Civil Engineering	81	20	30	---	24	155
7	Computer Science and Engineering	59	15	---	---	13	87
8	Electrical Engineering	80	20	44	---	12	156
9	Electronics Engineering	80	---	37	---	5	122
10	Humanistic Studies	---	---	---	---	---	---
11	Industrial Management	---	---	6	---	4	10
12	Materials Science and Technology	---	18	12	---	13	43
13	Mathematical Sciences	---	20	---	---	18	38
14	Mechanical Engineering	98	20	47	---	16	181
15	Metallurgical Engineering	67	18	28	---	8	121
16	Mining Engineering	97	20	24	---	9	150
17	Pharmaceutical Engineering and Technology	49	15	---	38	12	114
18	Physics	---	18	---	---	11	29
19	Systems Engineering	---	---	5	---	2	7
	Total	782	255	314	38	202	1591

In addition, 30 students (OBCPD – 6; GEPD – 2; 22 ST) joined the preparatory course.

Category/Gender-wise students among fresh admissions

S. No.	Programme	General		OBC		SC		ST		PD		Total		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1	B.Tech.	354	21	203	13	111	7	55	6	11	1	734	48	782
2	Dual Degree (B.Tech. & M.Tech.)	111	8	63	2	39	2	24	2	4	---	241	41	255
3	M.Tech.	127	19	96	7	37	7	20	1	---	---	280	34	314
4	M.Pharm.	10	6	8	5	8	1	---	---	---	---	26	12	38
5	Ph.D.	80	19	49	15	26	5	7	1	---	---	162	40	202
	Total	682	73	419	42	221	22	106	10	15	1	1443	148	1591

The students admitted during the year included the following:

	Foreign National	Nil.
	OBC	461
	Scheduled Castes	243
	Scheduled Tribes	116
	Physically handicapped	16
	Women Students	148

	Q.I.P.	Nil.	Nil.
	Sponsored	M.Tech. Ph.D.	--- ---
	Project		---
	External registration	Ph.D.	---

Enrolment of Students/Scholars

The total numbers of students on roll in various programmes of the Institute in the academic year 2016–2017 are provided in Table.

Table: Students on roll

S. No.	Department/School	B.Tech	Dual Degree (B.Tech & M.Tech)	M.Tech	M.Pharma	Ph.D.	Total
1	Biochemical Engineering	---	67	16	---	28	111
2	Biomedical Engineering	---	70	15	---	29	114
3	Ceramic Engineering	186	66	31	---	45	328
4	Chemical Engineering	462	---	91	---	65	618
5	Chemistry	---	69	---	---	76	145
6	Civil Engineering	315	99	68	---	54	536
7	Computer Science and Engineering	234	75	---	---	36	345
8	Electrical Engineering	319	101	78	---	61	559
9	Electronics Engineering	320	---	75	---	43	438
10	Humanistic Studies		---	---		7	7
11	Industrial Management	---	---	14	---	14	28
12	Materials Science and Technology	---	81	26	---	54	161
13	Mathematical Sciences	---	99	---	---	50	149

14	Mechanical Engineering	393	97	92	---	74	656
15	Metallurgical Engineering	251	90	58	---	37	436
16	Mining Engineering	355	81	48	---	37	521
17	Pharmaceutical Engineering and Technology	125	40	---	67	60	292
18	Physics	---	83	---	---	45	128
19	Systems Engineering	---	---	6	---	9	15
	Total	2960	1118	618	67	824	5587

Category/Gender-wise students on roll

S. No.	Programme	General		OBC		SC		ST		PD		Total		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1	B.Tech.	1317	96	784	41	413	37	197	15	57	3	2768	192	2960
2	Dual Degree (B.Tech. & M.Tech.)	470	46	270	21	161	18	88	13	26	5	1015	103	1118
3	M.Tech.	253	47	168	19	77	13	34	5	1	1	533	85	618
4	M.Pharm.	15	14	12	10	11	2	---	2	---	1	38	29	67
5	Ph.D.	321	91	223	48	101	24	14	2	---	---	659	165	824
	Total	2376	294	1457	139	763	94	333	37	84	10	5013	574	5587

The students on roll including the following:

	Foreign National	2
	OBC	1596
	Scheduled Castes	857
	Scheduled Tribes	370
	Physically handicapped	94
	Women Students	574

	Q.I.P.		3
	Sponsored	M.Tech. Ph.D.	5 6
	Project		8
	External registration	Ph.D.	7

The branch-/discipline-wise and year-wise details of students enrolled in the 4-Year B.Tech., 5-Year Dual Degree B.Tech.-M.Tech. and M.Tech./M.Pharm. programmes are provided here:

4-Year B.Tech. students on roll

S. No.	Branch	2016	2015	2014	2013 and earlier batches	Total
1	Ceramic Engineering	54	49	40	43	186
2	Chemical Engineering	117	109	115	121	462
3	Civil Engineering	81	76	77	81	315
4	Computer Science and Engineering	59	56	58	61	234
5	Electrical Engineering	80	74	82	83	319

6	Electronics Engineering	80	74	81	85	320
7	Mechanical Engineering	98	89	101	105	393
8	Metallurgical Engineering	67	66	59	59	251
9	Mining Engineering	97	100	78	80	355
10	Pharmaceutical Engineering and Technology	49	46	21	09	125
	Total	782	739	712	727	2960

5-Year Dual Degree (B.Tech. and M.Tech.) students on roll

S. No.	Branch	2016	2015	2014	2013	2012 and earlier batches	Total
1	Biochemical Engineering	16	14	11	13	13	67
2	Biomedical Engineering	19	16	10	12	13	70
3	Ceramic Engineering	17	17	10	10	12	66
4	Chemistry	19	13	13	10	14	69
5	Civil Engineering	20	19	19	20	21	99
6	Computer Science and Engineering	15	15	15	12	18	75
7	Electrical Engineering	20	20	22	20	19	101
8	Materials Science and Technology	18	17	13	16	17	81
9	Mathematical Sciences	20	19	20	21	19	99
10	Mechanical Engineering	20	20	20	19	18	97
11	Metallurgical Engineering	18	18	19	17	18	90
12	Mining Engineering	20	19	9	15	18	81
13	Pharmaceutical Engineering and Technology	15	10	4	5	6	40
14	Physics	18	21	15	14	15	83
	Total	255	235	200	204	221	1118

2-Years M.Tech. students on roll

S. No.	Branch	2015	2014	Extended students	Total
1	Biochemical Engineering	8	8	---	16
2	Biomedical Engineering	9	6	---	15
3	Ceramic Engineering	15	16	---	31
4	Chemical Engineering	49	42	---	91
5	Civil Engineering	30	38	---	68
6	Electrical Engineering	44	34	---	78
7	Electronics Engineering	37	38	---	75
8	Industrial Management	6	8	---	14
9	Materials Science and Technology	12	14	---	26

10	Mechanical Engineering	47	45	---	92
11	Metallurgical Engineering	28	30	---	58
12	Mining Engineering	24	24	---	48
13	Systems Engineering	5	1	---	6
	Total	314	304	---	618

2-Years M.Pharm. students on roll

S. No.	Branch	2015	2014	Extended students	Total
1	Pharmaceutical Engineering and Technology	38	29	---	67
	Total	38	29	---	67

Ph.D. scholars on roll

S. No.	Branch	2016	2015	2014	2013	2012 and previous years	Total
1	Biochemical Engineering	4	3	---	9	12	28
2	Biomedical Engineering	9	7	4	5	4	29
3	Ceramic Engineering	15	10	4	8	8	45
4	Chemical Engineering	13	14	8	16	14	65
5	Chemistry	14	15	9	17	21	76
6	Civil Engineering	24	16	6	4	4	54
7	Computer Science and Engineering	13	2	4	9	8	36
8	Electrical Engineering	12	13	12	11	13	61
9	Electronics Engineering	5	14	13	7	4	43
10	Humanistic Studies	---	5	2	---	---	7
11	Industrial Management	4	0	3	3	4	14
12	Materials Science and Technology	13	3	3	3	32	54
13	Mathematical Sciences	18	13	10	9	---	50
14	Mechanical Engineering	16	1	8	14	35	74
15	Metallurgical Engineering	8	10	3	9	7	37
16	Mining Engineering	9	9	2	8	9	37
17	Pharmaceutical Engineering and Technology	12	19	10	3	16	60
18	Physics	11	9	13	9	3	45
19	Systems Engineering	2	1	2	1	3	9
	Total	202	164	116	145	197	824

Students Intake in different programmes

The Institute offered the following programmes in various departments/school. The Department/School-wise Intake is given below:

Department/Programme-wise Intake capacity

S. No.	Courses	Students Intake					
		GE	SC	ST	OBC	PC#	Total
Four-Years B.Tech. Programmes							
1	Ceramic Engineering	30	9	4	16	(2)	59
2	Chemical Engineering	60	18	9	32	(4)	119
3	Civil Engineering	40	12	6	22	(2)	80
4	Computer Science & Engg.	30	9	4	16	(2)	59
5	Electrical Engineering	40	12	6	22	(2)	80
6	Electronics Engineering	40	12	6	22	(2)	80
7	Mechanical Engineering	50	15	8	27	(3)	100
8	Metallurgical Engineering	35	10	5	19	(2)	69
9	Mining Engineering	50	15	8	27	(3)	100
10	Pharmaceutical Engineering and Technology	35	10	5	19	(2)	69
11	Total in 4 year B.Tech. / B.Pharm	410	122	61	222	(24)	815
	Five-Years Integrated M.Tech. Dual Degree Programmes						
11	Engineering Physics	10	3	2	5	(1)	20
12	Industrial Chemistry	10	3	2	5	(1)	20
13	Mathematics & Computing	10	3	2	5	(1)	20
14	Biochemical Engineering	10	3	2	5	(1)	20
15	Bioengineering with M.Tech. in Biomedical Technology	10	3	2	5	(1)	20
16	Ceramic Engineering	10	3	2	5	(1)	20
17	Civil Engineering with M.Tech. in Structural Engg.	10	3	2	5	(1)	20
18	Computer Science & Engineering	8	2	1	4	(1)	15
19	Electrical Engineering with M.Tech. in Power Electronics	10	3	2	5	(1)	20
20	Materials Science & Technology	10	3	2	5	(1)	20
21	Mechanical Engineering	10	3	2	5	(1)	20
22	Metallurgical Engineering	10	3	2	5	(1)	20
23	Mining Engineering	10	3	2	5	(1)	20
24	Pharmaceutical Engineering and Technology	10	3	2	5	(1)	20
	Total in 5 year Integrated M.Tech. / M. Pharm. Dual Degree	138	41	27	69	(14)	275
	Grand Total of UGD/IDD/IMD Courses	548	163	88	291	(38)	1090
	Two-Years M.Tech. Programmes						
25	Ceramic Engineering	10	3	1	5	(1)	19
26	Chemical Engineering	25	7	3	12	(1)	47
27	Civil Engineering	25	7	3	12	(1)	47

28	Electrical Engineering	25	7	3	12	(1)	47
29	Electronics Engineering	25	7	3	12	(1)	47
30	Mechanical Engineering	25	7	3	12	(1)	47
31	Metallurgical Engineering	25	7	3	12	(1)	47
32	Mining Engineering	15	4	2	8	(1)	29
33	Biochemical Engineering	5	1	1	2	(0)	09
34	Biomedical Engineering	5	1	1	2	(0)	09
35	Materials Science & Technology	10	3	1	5	(1)	19
36	Industrial Management	5	1	1	2	(0)	09
37	Systems Engineering	5	1	1	2	(0)	09
	Two-Years M.Pharm. Programme						
38	Industrial Management	20	6	3	11	(1)	40
	Grand Total of 2-Years M.Tech. Courses	225	62	29	109	(10)	425

#Student intake numbers for PC category has not been added in calculating total number of seats, as provision for the physically challenged candidate will be made from within the respective category.

Convocation

The 5th Convocation was held on October 17, 2016. Dr. Ashok Jhunjhunwala, Padma Shri Professor IIT Madras and Director on the Board of Tata Teleservices (Maharashtra) and Dr. Abhay Bang, Director, Society for Education, Action and Research in Community Health (SEARCH) were delivered the convocation address. A total of 1453 various degrees were awarded in 5th Convocation of the Institute. During Convocation, 764 candidates received degrees in person. The department-wise details of the degrees awarded are provided in Table.

Degrees awarded

S. No.	Department/School	Ph.D.	M.Tech	M.Pharm.	I.M.D.	B.Tech.	M.Tech.	B.Pharm.	M.Pharm.	B.Tech.	B.Pharm.	Total
1	Biochemical Engineering	03	06	---	---	14	14	---	---	---	---	37
2	Biomedical Engineering	04	05	---	---	14	14	---	---	---	---	37
3	Ceramic Engineering	03	17	---	---	12	12	---	---	50	---	94
4	Chemical Engineering	01	36	---	---	---	---	---	---	106	---	143
5	Chemistry	02	---	---	10	---	---	---	---	---	---	12
6	Civil Engineering	05	32	---	---	21	21	---	---	73	---	152
7	Computer Science and Engineering	08	---	---	---	16	16	---	---	65	---	105
8	Electrical Engineering	02	34	---	---	21	21	---	---	84	---	162
9	Electronics Engineering	08	36	---	---	---	---	---	---	81	---	125
10	Industrial Management	---	02	---	---	---	---	---	---	---	---	02
11	Materials Science and Technology	06	11	---	---	13	13	---	---	---	---	43
12	Mathematical Sciences	02	---	---	15	---	---	---	---	---	---	17
13	Mechanical Engineering	03	35	---	---	21	21	---	---	104	---	184

14	Metallurgical Engineering	04	12	---	---	16	16	---	---	57	---	105
15	Mining Engineering	02	02	---	---	11	11	---	---	99	---	125
16	Pharmaceutics	09	---	29	---	---	---	19	19	---	11	87
17	Physics	02	---	---	13	---	---	---	---	---	---	15
18	Systems Engineering	---	08	---	---	---	---	---	---	---	---	08
	TOTAL	64	236	29	38	159	159	19	19	719	11	1453

With this convocation, the total number of degrees awarded so far by the Institute is 36,458. Total 7,795 degrees awarded by IIT(BHU) and before conversion of IT-BHU into IIT(BHU), the IT-BHU was awarded total number of degrees is 28,663:

S. No.	Programme		No. of degrees awarded		
			After conversion	Before conversion	Total
1	Ph.D.		343	854	1,197
2	M.Tech.		1,571	3,119	4,690
3	M.Pharm.		189	653	842
4	I.M.D.		180	0	180
5	Dual Degree	B.Tech.	699	0	699
		M.Tech.	699	0	699
6	Dual Degree	B.Pharm.	50	0	50
		M.Pharm.	50	0	50
7	B.Tech.		3,905	22,947	26,852
8	B.Pharm.		109	1,090	1,199
		Total	7,795	28,663	36,458

Award of Medals and Prizes to Students

Convocation prizes

Medals and Prizes awarded to students at the 5th Convocation:

1. Ms. Shruthi V She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Biochemical Engineering Examination, 2016.
2. Ms. Manisha She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Biomedical Engineering Examination, 2016.
3. Ms. Akanksha Singh She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Ceramic Engineering Examination, 2016.
4. Ms. Shalini Arora She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Chemical Engineering Examination, 2016.
5. Shri Rishabh Joshi He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Civil Engineering Examination, 2016.
6. Shri Gaurav Kesarwani He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Electrical Engineering Examination, 2016.
7. Ms. Thota Prathyusha Reddy She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Electronics Engineering Examination, 2016.
8. Shri Ashish Parashar He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Materials Science and Technology Examination, 2016.

9. Shri Ahmed Hasan He is awarded
   a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Mechanical Engineering Examination, 2016.
   b) Prof. (Dr.) Mahendra Kumar Jain Nyayacharya Gold Medal for securing highest CPI at the M.Tech. in Mechanical Engineering Examination, 2016.
10. Ms. Supriya Koul She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Metallurgical Engineering Examination, 2016.
11. Shri Rahul Upadhyay He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Mining Engineering Examination, 2016.
12. Ms. Pooja Prasad She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Systems Engineering Examination, 2016.
13. Shri Krishna Raj S.R. He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Systems Engineering Examination, 2016.
14. Ms. Aparajita Dutta She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Pharm. Examination, 2016.
15. Ms. Deepaneeta Sarmah She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Pharm. Examination, 2016.
16. Shri Sameer Saxena He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year Integrated M.Tech. in Industrial Chemistry Examination, 2016.
17. Shri Arnav Gupta He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year Integrated M.Tech. in Mathematics and Computing Examination, 2016.
18. Ms. Sunkara Sree Manasa She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year Integrated M.Tech. in Engineering Physics Examination, 2016.
19. Shri Rajat Sharma He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Biochemical Engineering (Biochemical Engineering and Biotechnology) Examination, 2016.
20. Shri Gagan Sharma He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Bioengineering (Biomedical Technology) Examination, 2016.
21. Shri Manav Sohal He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Ceramic Engineering Examination, 2016.
22. Ms. Amrita Singh She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Civil Engineering (Structural Engineering) Examination, 2016.
23. Shri Sanchit Mehrotra He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Computer Science & Engineering Examination, 2016.
24. Shri Somesh Gupta He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Electrical Engineering (Power Electronics) Examination, 2016.
25. Shri Satyam Srivastava He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Materials Science & Technology Examination, 2016.
26. Shri Anurag Roy He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Mechanical Engineering Examination, 2016.
27. Shri Sarvesh Mundra He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Metallurgical Engineering Examination, 2016.
28. Shri Kanishka Pratap Singh He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Mining Engineering Examination, 2016.
29. Ms. Ujjawal Bairagi She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Pharm.-M.Pharm.) Examination, 2016.
30. Shri Kevin Bhimani He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Ceramic Engineering Examination, 2016.
31. Shri Vaibhav Chaudhary He is awarded:-

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Chemical Engineering Examination, 2016.
b) The R.B.G. Modi Medal for standing First at the B.Tech. in Chemical Engineering Examination, 2016.
c) Manishi Sharma Memorial Gold Medal for securing First position at B.Tech. Chemical Engineering Examination, 2016.
d) Mrs. Gargi Devi Trivedi Memorial Gold Medal for securing highest marks in B.Tech. Chemical Engineering Examination, 2016.
e) Dr. R.J. Rathi Financial Award Rs. 1000/= cash for standing First at the B.Tech. in Chemical Engineering Examination, 2016.
f) Manishi Sharma Memorial Cash Prize Rs. 2000/= for securing First position at the B.Tech. in Chemical Engineering Examination, 2016.

32. Shri P Deepak Kumar He is awarded:-
a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Civil Engineering Examination, 2016.
b) CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Civil Engineering Examination, 2016.
c) Rai Bahadur Taracharan Gue Memorial Award Rs. 500/= cash for standing First at the B.Tech. in Civil Engineering Examination, 2016.
d) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Civil Engineering Examination, 2016.

33. Shri Divyansh Rajput He is awarded Meenakshamma Shankaranaramappa Prize Rs. 500/= cash for securing highest marks in Environmental Engineering (Theory) at the B.Tech. Civil Engineering Examination, 2016.

34. Shri Shubham Varma He is awarded:-
a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Computer Science & Engineering Examination, 2016.
b) Late Shri Shyam Sunder Lal Razdan Memorial Gold Medal for securing highest percentage of marks in B.Tech. Examination, 2016.
c) Prof. Gopal Tripathi Memorial Gold Medal for securing highest marks at the B.Tech./B.Pharm. Examination, 2016.
d) Smt. Arati Paul and Prof. Binod Bihari Paul Gold Medal for securing highest marks in IV Year Examination among all the students of B.Tech./B.Pharm. Examination, 2016.
e) C. Raja Gopal Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Computer Science & Engineering Examination, 2016.
f) Shri Raj Kishore Kapoor Silver Medal for securing highest marks at the B.Tech./B.Pharm. Examination, 2016.
g) Dr. Annie Besant Prize (in the forms of books by Dr. Annie Besant including copy of the 'Bhagavadgita') for standing First position among all the branches of B.Tech. Examination, 2016.

35. Ms. Dipti Naithani She is awarded:-
a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Electrical Engineering Examination, 2016.
b) The R.B.G. Modi Medal for standing First at the B.Tech. in Electrical Engineering Examination, 2016.
c) Lala Balak Ramji Kohinoor Memorial Gold Medal for securing highest marks at the B.Tech. Examination, 2016 among the branches of Civil, Mechanical, Electrical and Electronics Engineering.
d) Himmat Narayan Singh Memorial Gold Medal for securing the First position and First Division in B.Tech. Electrical Engineering Examination, 2016.
e) CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Electrical Engineering Examination, 2016.
f) N.V.R. Nageshwar Iyer (Prize Rs. 100/= in the form of books) for standing First in B.Tech. in Electrical Engineering Examination, 2016.
g) Prof. V.V. Chalam Prize (The Prize shall be in the form of books by Mr. J. Krishnamurti) for standing

Second position among all the branches of B.Tech. Examination, 2016.

h) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in the B.Tech. in Electrical Engineering Examination, 2016.

36. Shri Armaan Garg He is awarded:-
    a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Electronics Engineering Examination, 2016.
    b) Late Prof. Nagesh Chandra Vaidya Gold Medal for standing First at the B.Tech. in Electronics Engineering Examination, 2016.
    c) Dr. (Late) Nandita Saha Roy Memorial Gold Medal for securing First position in B.Tech. Electronics Engineering Examination, 2016.
    d) C. Raja Gopal Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Electronics Engineering Examination, 2016.
    e) Dr. Ayyagari Sambasiva Rao Prize Rs. 1000/= cash for standing First at the B.Tech. in Electronics Engineering Examination, 2016.
    f) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Electronics Engineering Examination, 2016.
37. Ms. Diksha Kaushik She is awarded Prof. A.K. Ghosh Silver Medal for standing Second Position in B.Tech. in Electronics Engineering Examination, 2016.
38. Shri Shubham Verma He is awarded:-
    a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Mechanical Engineering Examination, 2016.
    b) The Prince of Wales Medal for standing First at the B.Tech. in Mechanical Engineering Examination, 2016.
    c) Sudhir Kumar Sharma Memorial Gold Medal for securing highest marks in B.Tech. Mechanical Engineering Examination, 2016.
    d) CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Mechanical Engineering Examination, 2016.
    e) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Mechanical Engineering Examination, 2016.
39. Shri Ashwini Kumar Sahay He is awarded:-
    a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Metallurgical Engineering Examination, 2016.
    b) Swarnamma Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Metallurgical Engineering Examination, 2016.
40. Ms. Ishika Sahay She is awarded Prof. B.B. Bansal Memorial Gold Medal for being involved in Social Services/Co-curricular activities and having highest CPI at the undergraduate engineering Examination, 2016 among such students.
41. Shri Santosh Kumar He is awarded:-
    a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Mining Engineering Examination, 2016.
    b) The Bishan Das Basil Medal for securing Fist position among B.Tech. in Mining and Metallurgical Engineering Examination 2016.
    c) Dr. B.S. Verma Memorial Gold Medal for securing highest marks in B.Tech. Mining Engineering Examination, 2016.
42. Shri Ankit Modi He is awarded:-
    a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Pharm. Examination, 2016.
    b) Aruna and Malviya Medal for standing First at the B.Pharm. Examination, 2016.
    c) Late Prof. G.P. Srivastava (Prize Rs. 200/= in the form of books) for standing First at the B.Pharm. Examination, 2016.

6. Department of Ceramic Engineering

Year of Establishment : 1924

Head of the Department : Prof. Devendra Kumar

Brief outline and history of the Department

The founder of Banaras Hindu University, Pandit Mandan Mohan Malviyaji instituted courses in Glass and Ceramic Technology as early as 1924 with the noble objective of advancing glass and ceramic technology in India. The Department offers B. Tech, B. Tech - M. Tech. (Dual Degree), M. Tech. and Ph. D. degrees in Ceramic Engineering. M. Tech. and Ph. D. programs are interdisciplinary and are also open to those students of allied branches of Engineering and Science who qualify GATE or NET:Sponsored candidates from industries and R&D organization are also admitted in the PG Programs. The Department is pursuing active research in the emerging areas of glass, glass ceramics, bio-glass and bio-glass ceramics, refractories, ceramic white-wares, pottery & porcelain, cement, electrical and electronic ceramics. Research papers are being published in reputed national and international journals regularly.

The Department regularly works in collaboration with Academic and Research institutions, National Laboratories and various Ceramic industries through regular contacts, visits, seminars, symposia, workshops and conferences. The Department has also been rendering technical advice and consultancy to the industries under Industrial Consultancy and Testing Services of the Institute from time to time. The contribution of this very Department of Ceramic Engineering during past is unparallel to the entire industrial, research and development and educational areas in the country. The Department is having large no. of projects funded by different government and private organization, e.g., CSIR, DST, DRDO, etc.

Teaching programs

1. 4 Years B.Tech., Ceramic Engineering
2. 5 Years B.Tech.- M.Tech. Dual Degree, Ceramic Engineering
3. Years M.Tech., Ceramic Engineering
4. Ph.D., Ceramic Engineering

Future expansion of the Department

During last fifty years, with the rapid advancement in technology, materials were required with controlled characteristics such as high purity, chemical homogeneity, particle size, particle size distribution and morphology to get reproducible long life performance of the end product. Interest in these ceramic materials known as advanced ceramics or high-tech ceramics is because of their high strength, better chemical resistance to the environment at high temperature as compared to metals and alloys, and superior electrical, magnetic, optical and thermal properties. Ceramic products form the backbone of various fields of medicine, civil, chemical, electronic, electrical, mechanical and metallurgical engineering.

The Department has made major contributions in the area of electronic ceramics, glass, glass- ceramics, oxide refractories and castables during last decade. Human resource development by the department in the form of undergraduate and graduate teaching has met the demand of many of the R&D organizations and industries in India. Following are the frontier areas in advanced ceramic engineering in which the Department of Ceramic Engineering would like to further intensify its efforts in building strong academic and research programs and infrastructure to meet the needs of R&D organizations and industries in the next 10 years:

Electro-ceramics
Nano-ceramics
Structural Ceramics
Bio-Ceramics
Composites based on ceramics

The Department wishes to continue to strengthen the infrastructural facilities in the following traditional areas of ceramic engineering and technology for teaching and technology up-gradation:

Glass
Cement

Pottery and heavy clay ware
Refractory
Ceramic coating

Others - Memorandum of Agreement

A. Memorandum of Agreement Between the University of Connecticut USA and Indian Institute of Technology (Banaras Hindu University)

A Memorandum of Agreement ("MOA") is entered into to promote institutional cooperation between the University of Connecticut ("UConn") Storrs, CT, USA and Indian Institute of Technology (Banaras Hindu University), "IIT (BHU)" Varanasi India.

This MOA will help in: (i) Establishing mutually beneficial collaborative research projects between departments and individual faculty members; (ii) Exchange of faculty members for short- and long-term visits for the purpose of research, teaching, and the presentation of seminars; (iii) Exchange of graduate and undergraduate students; (iv) Joint supervision of graduate research students among interested faculty members on both sides; (v) Joint research projects in fields of mutual interest; (vi) Exchange of academic publications and reports; (vii) Sharing of experiences in innovative teaching methods and course design; (viii) Organization of joint symposia, workshops, and conferences etc.

In this regard,Prof. Devendra Kumar visited the University of Connecticut during June 2017 and various research programs were identified.

B. Memorandum of Understanding between India Refractory Makers Association, Kolkata (IRMA) and Indian Institute of Technology (Banaras Hindu University) Varanasi (IIT BHU) for the establishment of IIT-BHU-IRMA Centre for Excellence in Refractories.

Refractories areused in all core sector industries like iron & steel, cement, glass, power etc., and have major role in operational efficiency and the cost of production. Refractory technology is changing continuously and with these the technological refractory testing and development facility are required for the progress of core sector industries in general and refractory in particular. Memorandum of Understanding has been made between India Refractory Makers Association, Kolkata(IRMA) andthe Indian Institute of Technology (Banaras Hindu University) Varanasi (IIT BHU for the establishment of IIT-BHU-IRMA CENTRE FOR

Excellence in Refractories

This Centre of Excellencein Refractories will be an independent testing as well as development facility for effective use by all its member organization of IRMA and allied industries. The Center will steer the standardization activities and undertake projects which would be of common interest to all refractory producers and academic institutions. The projects can be undertaken by the faculty and students of the Institute towards fulfillment of their curriculum requirement also. The proposed center will encourage the students of the Ceramic Engineering of IIT-BHU so that they take refractory as their career option.It will promote education and training programsin the field of refractory, run the Talent programs and give awards to the students for scientific work in the field of refractory which, at the present, are organized by the IRMA.

Workshops/ Symposia conducted:

I. A National Workshop on "Advanced Ceramics in the field of Nanotechnology for Electro-ceramics" and a student events (KERAMOS-2016) under the banner of Students Chapter of Indian Ceramic Society, IIT(BHU).

Publications

Books & Books Chapters [Authors, Title, Publisher, Year, ISBN no].

Pallav Gupta , Devendra Kumar, M. A. Quraishi, Om Parkash "Metal Matrix Nanocomposites and Their Application in Corrosion ControlChapterAdvances in Nanomaterials Volume 79 of the series Advanced Structured Materials pp 231-246 Date: 15 March 2016

Research Papers published in peer-reviewed Journals

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3 Kalyani, VinayJaiswal, Rashmi B. Rastogi, Devendra Kumar & Praveen Singh, Evaluation of Tribological Properties of Sulfur- and Phosphorous-Free Quinolinium Salts and Their Correlation with Quantum Chemical Parameters, Tribology Transactions60 (2), (2017) 349-361

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7 Kalyani, VinayJaiswal, RashmiBalaRastogi, Devendra Kumar, Synergistic studies of Schiff base with organoborate as efficient antiwear lubricant additive, Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology 231 (2017) 357-365

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10 Bhupendra Singh, AmanBhardwaj, SandeepK_Gautam, Devendra Kumar, OmParkash, In-HoKim, Sun-JuSong, Fast ionic conduction in tetravalent metal pyrophosphate-alkali carbonate composites: New potential electrolytes for intermediate-temperature fuel cells J. Power Sources 345 (2017) 176-181.

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characteristics of ZnO-0.5 mol% V_2O_5-2 mol% MnOvaristors".Advanced Materials Science Research 1 (1), (2016) 14-19

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19 A Dubey, P Khosla, HK Singh, V Katoch, D Kumar, P Gupta "A Review on Role of Processing Parameter in Determining Properties of Silicon Carbide Reinforced Metal Matrix Nanocomposites" Journal of Applied Science and Engineering, Vol. 19, (2016) 303 - 312

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Research Papers published in conference proceedings :

1 Sunil Prasad,Vikash Kumar Vyas, MdErshad, Akher Ali and Ram Pyare, In vitro bioactivity and physical-mechanical properties of HA based 45S5 bio-composites, Key Engineering Materials 2016

2 MdErshad, Vikash Kumar Vyas, , Sunil Prasad, Akher Ali and Ram Pyare, Synthesis and Characterization of Cerium- and Lanthanum Containing Bioactive Glass, Key Engineering Materials, 2017

3 PreetiKumari, PankajTripathi, Om Parkash,Devendra Kumar,BhagirathSahu, and S.P.Singh, An aperture coupled dual segment RDRA on glassceramicLTCC substrate, International Conference on Computer, Communications and Electronics (Comptelix), Malaviya National Institute of Technology, Jaipur, July 01-02, 2017doi.978-1-5090-4708-6/17

Research papers presented in Conferences (not published):

1 PreetiKumari, BhagirathSahu, PankajTripathi, Om Parkash, S. P. Singh, Devendra Kumar, An aperture coupled dual segment RDRA on glass-ceramic LTCC substrate, IEEE conference COMPTELIX-2017, Jaipur, July 01-02, 2017.

2 Neera Singh, Sitashree Banerjee, Om Parkash, Devendra Kumar, Synthesis and Characterization of Fe-Ni Intermetallic and ZrO_2 Reinforced Fe based Composite Prepared by Powder Metallurgy Route, in an International conference NMD-ATM-2016, Kanpur (INDIA) 12-14th Nov 2016.

3 Birendra N Bhattacharjee, V. K.Mishra , S. B. Rai , Om Parkash , Devendra Kumar, Study of Morphological Behavior of Hydroxyapatite, EDTA Hydroxyapatite and Metal Doped EDTA Hydroxyapatite Synthesized

by Chemical Co-Precipitation Method via Hydrothermal Route, International Conference "Bioceramics 28" 18-21st October, Charlotte, North Carolina USA

4 Neera Singh, Sitashree Banerjee, Om Parkash, Devendra Kumar, Effect of Reinforcement Content on the Corrosion Behavior of (Fe-10Ni)-ZrO_2 Metal Matrix Composites' in an International conference EMSI-2016, Varanasi (INDIA), 2-4th June 2016.

5 PreetiKumari, PankajTripathi, Om Parkash, Devendra Kumar, Study the effect of TiO_2 as a nucleating agent on the thermal behaviour of MgO-B_2O_3-SiO_2 Glass ceramics,Twentieth Symposium and workshop on Thermal Analysis at IIT-BHU, jointly organized by Indian Thermal Analysis Society, Mumbai and Dept. of Physics, IIT(BHU), January 18-22, 2016.

6 Niraj Singh Mehta, Md. Ershad, Ram pyare, ManasRanjanMajhi, Effect of sintering on mechanical and electrical properties after addition of silica in aluminous based porcelain, International Conference in Materials Engineering (ICME 2017) Indian Institute of Technology (IIT) Kanpur 2nd -4th June 2017.

7 S. Das et al., High performance nanocomposites based on $Ni_{0.5}Mg_{0.5}Fe_2O_4$-$Ba_{0.75}Sr_{0.25}TiO_3$ and their electromagnetic properties, accepted in International Conference on "Advances in Biological Systems and Materials Science in NanoWorld" to be held on 19 - 23 February 2017 Department of Physics, IIT (BHU) Varanasi, INDIA.

8 S. Das et al., Saving the Environment from Toxic Chemicals Using Amorphous Metals, TMS 2016 145th ANNUAL MEETING & EXHIBITION February 14 – 18, 2016 Nashville, Tennessee, USA.

9 S. Das et al., Tailoring the Magnetic Properties and Mechanical Behavior of Cobalt-Iron Metallic Glasses, TMS 2016 145th ANNUAL MEETING & EXHIBITION February 14 – 18, 2016 Nashville, Tennessee, USA.

10 Bhupendra Singh, A Bhardwaj, SK Gautam, D Kumar, O Parkash,Ionic Conductivity in Tetravalent Metal Pyrophosphate-Alkali Metal Carbonate Composites in Intermediate Temperature Range, 21st Solid State Ionics Conference, Padua, Italy, June 18-23, 2017 (Poster).

11 A Bhardwaj, SK Gautam, O Prakash, D Kumar, SJ Song, B Singh,Studies on CeP_2O_7-ZrP_2O_7 Solid Solutions: Electrolytes for Intermediate Temperature Proton-Conducting Ceramic-Electrolyte Fuel Cells (IT-PCFCThe 9th International Conference on Materials Science and Technology (MSAT-9), Bankok, Thailand, December 14-15, 2016 (Oral).

Invited Talks/ Lectures delivered

1 Devendra Kumar, Developing Glass Ceramic as a Functional Materials, International Conference on Advances in Glass and Technology (ICAGT 2017) 23-25 January, 2017, CSIR-Central Glass and Ceramic Research Institute, Kolkata – 700032, India

2 Devendra Kumar, Mechanical and Electrochemical Behavior of Fe/Fe-Ni/ ZrO_2 Metal Matrix Composites, International Conference on Functional Materials (ICFM 2016) 12-14 December, 2016, Indian Institute of Technology, Kharagpur, India

3 Devendra Kumar, Research and Development Activities in Ceramic Science and Technology at Indian Institute of Technology (Banaras Hindu University) - Mechanical and Corrosion Studies on Iron and Iron-Nickel Based Metal Matrix Composites , 24th October 2016, Department of Materials Science and Engineering, The Pennsylvania State University, University Park, PA 16802

4 Devendra Kumar, Investigations onPerovskite Ceramic and Glass Ceramics and Microwave Characterization of a few Ceramic Systems, 22th October 2016, Center for Dielectrics and Piezoelectrics,North Carolina State University, Raleigh, NC USA

5 Devendra Kumar, Studies on Structural and Electrical Behaviour of Ceramic and Glass Ceramic Systems for Electronic Applications, 12th October 2016; Department of Materials Science and Engineering, University of Connecticut, Storrs, USA

6 Preetam Singh,New Strategies for developing Solid Alkali-ion electrolytes,1st World Conference on Solid Electrolytes for Advanced Applications: Garnets and Competitors 6-9, September 2017 in Puducherry, India

7 Santanu Das,UK-INDIA Workshop on Integrated Renewables for Autonomous Power Supply, August 1st - 2nd 2016 at the University of Exeter, Cornwell, Exeter, UK

8 Santanu Das, Characterizations of Two Dimensional Nanomaterials Using Raman Spectroscopy and Scanning Probe Microscopy,National Seminar on Instrumentation and Characterization Techniques (NSICT-2016), 22th - 23th December 2016 at Banasthali University, Rajasthan, India.

9 Santanu Das, Synergistic Nanostructures for Various Functional Applications in Electronics and Energy,International Conference on Nanoscience and Materials, February 15-16, 2017 at Nesamony Memorial Christian College, Kanyakumari, Tamilnadu, India.

10 Santanu Das,Two Dimensional Functional Nanomaterials For Electronics And Energy Devices, Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017),, 10-12 February 2017 at Mahatma Gandhi University, Kottayam, Kerala, India.

11 Santanu Das, 2D-Functional Nanomaterials for Electronic and Energy Applications, the International Conference on "Nanotechnology: Science And Application In Advanced Materials And Beyond, December 19th - 22nd 2016 at the Department of Chemistry, Bananas Hindu University.

12 Santanu Das, Scanning probe Techniques and its Applications on Nano Structure Characterizations, 26th October 2016 at the Department of Physics and Astrophysics, University of Delhi.

13 Santanu Das, Two Dimensional Graphene: A wonder material of the decade, 27th October 2016 at the Department of Physics and Astrophysics, University of Delhi.

14 Santanu Das, FUNCTIONAL NANOMATERIALS FOR ELECTRONICS AND ENERGY APPLICATIONS, NSNN 2017, 17-18 March 2017at Haldia Institute of Technology.

15 Santanu Das, Development of nanoparticles and characterization; Materials Tribology: Fundamentals and Recent Advances, 23-29 March 2017 at Department of Mechanical Engineering, IIT (BHU), Varanasi.

16 Bhupendra Singh, Tetravalent Metal Pyrophosphates and their Composites: New Electrolytes for Intermediate-Temperature Fuel Cells, 2nd International Conference on Power & Energy Engineering, Munich, Germany July 17-18, 2017.

17 Santanu Das, Nanomaterials For Electronics and Energy, KERAMOS' 2016, March 12th, 2016, at the Department of Ceramic Engineering, IIT (BHU).

18 AkanshaDwivedi, InducupRelaxor behaviour in inherently ferroelectric Material, Annual meeting of American ceramic Society in materials Science & Technology (MS&T-16) Salt Lake City Utah, USA.

Conferences Attended

1 Prof. Devendra Kumar: Glasspex/Glasspro, AIGMF Exhibition and Conference onFlat/Solar/Processed/Container/Tableware glasses (Feb 23-25, 2017) at Greater Noida.

2 Prof. Devendra Kumar: 5th International Conference on Refractories at Jamshedpur (ICRJ-17), 7to 8th Feb 2017, Tata Steel Ltd , Jamshedpur India

3 Prof. Devendra Kumar: International Conference on Advances in Glass and Technology (ICAGT 2017), 23-25 January, 2017, CSIR-Central Glass and Ceramic Research Institute, Kolkata – 700032, India

4 Prof. Devendra Kumar: International Conference on Functional Materials (ICFM 2016), 12-14 December, 2016, Indian Institute of Technology, Kharagpur, India

5 Prof. Devendra Kumar: International Conference "Bioceramics 28" 18-21st October, Charlotte, North Carolina USA.

Industry Collaborations

Non disclosure Agreement (NDA) with Renault Nissan Technology & Business Centre India Private Limited (Mahindra IT Park, Mahindra World City, Natham Sub-Post, Chengalpat, Kancheepuram District, 603002, India,) for developing NA-ion electrode for hybrid automobile vehicles.

Awards/ Honors / Chair Positions

S. No.	Name	Title of Awards	Place	Year
1	Prof. Ram Pyare	Nominated Chairman, Examination Committee	IIC, Kolkata	2016

Patents and Technologies

S. No.	Name of Authors	Title of Patents	Patent File No.	Year
1	SK.Hossain,L.Mathur, M.R.Majhi	A method for preparing tiles and composition thereof	201631039979	2016
2	SkHossain,L.Mathur, M.R. Majhi	A composition for bricks from waste materials and method of manufacturing the same	201631030744	2016
3	S.K.Hossain, A.Bhardwaj, M.R.Majhi	A biomass composition for thermal insulation and method of manufacturing the same	201611024361	2017
4	S.Das	A new environment friendly green production method of reduced graphene oxide (rGO) and making a supercapacitor thereof	(IPR/2017-18/002).	2017
5	S. Das	A thermo-chemical method of preparing graphene faster and making electrochemical devices thereof;, Govt.	(IPR/2017-18/003).	2017
6	Bhupendra Singh	A solution phase synthesis for doped/ undoped cerium(IV) pyrophosphate compounds of different morphologies	201611033229	2016
7	Bhupendra Singh	A process for preparing pyrophosphate-carbonate composite ionic conductors and the product thereof	201611035232	2016

Sponsored Projects (Ongoing)

S. No.	Name of Authors	Title of Projects	Funding Agency	Amount (Rs.)	Year
1	Dr. M. R. Majhi	Development of Al_2O_3-ZrO_2-SiO_2 refractories for glass industry	IIT(BHU)-Research & Development Grant	14.66 Lacs	2016
2	Dr. Imteyaz Ahmed	Development of a high throughput processing for CIGS PV absorber films by spray pyrolysis of pre-synthesised nanoparticle ink	DST-SERB Early Career Research (ECR) Award	47 Lakh	2016-19
3	Dr. Imteyaz Ahmed	A Modular Setup for I-V Characteristics Measurement of Solar Cells	Center for Energy and Resource Development	7 Lakh	2016-18
4	Dr. Imteyaz Ahmed	Development of field assisted sintering technique for ceramics	Institute Seed Gant	10 lakh	2016-17

5	Dr. Imteyaz Ahmed	In-situ Electron Microscopy at Atomic Scale for Understanding Nucleation, Growth and Interfaces of Omega Phase	DST-SERB	80 lakh	2016
6	Dr. Preetam Singh	Novel Electrode Materials for Reversible Alkali-ion (Li+/Na+) capacitors and Pseudocapacitors	SERB, India	—	2016
7	Dr. Santanu Das	Seamless Synthesis of large-area 2D transition metal di-chalcogenide semiconductors and their applications in next-generation high-performance	SERB/DST	49.6 Lakhs	2016
8	Dr. Santanu Das	Amplification Charge transport at the interface for supercapacitor devices	CERD/DST	11.5 Lakhs	
9	Dr. Santanu Das	Design and Innovation Cell: Graphene based high performance field effect transistor devices		4.0 Lakhs	

Other Activities (Ph.D./ M.Tech.)Supervision, viva-voce conducted)

Ph.D.		
1	10601EN001	Shri Abhinav Srivastava
2	10604EN005	Shri Shreevats
3	11601EN005	Shri Arepalli Sampath Kumar
4	11601EN006	Shri Vikash Kumar Vyas
M.Tech.		
1	15032001	Shri Abhishek Kumar Singh
2	15032002	Shri Akash Saxena
3	15032003	Shri Aman Bhardwaj
4	15032005	Ms. K. Swetha
5	15032006	Shri Krishna Gopal Nigam
6	15032007	Shri Lakshya Mathur
7	15032010	Shri Neeraj Gupta
8	15032011	Shri Neeraj Singh
9	15032012	Shri Pankaj Chaurashiya
10	15032013	Shri Rahul Singh
11	15032014	Shri Sanjay Kumar
12	15032015	Shri SK Saddam Hossain
13	15032016	Shri Vaibhav Singh

List of Ph.D. Research Scholars (2016-17)

S. No.	Roll. No.	Name of Studnets
1	12601EN001	Mr. BirendraNathBhattacharjee
2	12601EN002	Mr. Sunil Prasad
3	12601EN003	Mr. BrijBanshNathAnchal
4	12615EN004	Mr. ShukdevPandey
5	13031001	Mr. Kumar Saurav
6	13031003	Mr. Md. Ershad
7	13031004	Mr. Niraj Singh Mehta
8	13031007	Mr. Sandeep Kumar Yadav
9	13031503	Mr. VipulSaxena
10	14031001	Ms. DeepshikhaShekhawat
11	14031002	Ms. Neera Singh
12	14031003	Ms. PreetiKumari
13	15031001	Mr. Akher Ali
14	15031002	Mr. Alok Singh Verma
15	15031003	Mr. AmrendraRai
16	15031004	Mr. Dhiraj Kumar
17	15031005	Mr. Nayan Kr. Debnath
18	15031006	Miss. PriyankaVerma
19	15031501	Mr. Angaraj Singh
20	15031502	Miss. PoojaRai
21	15031503	Mr. PremPrakash Seth
22	16031001	Mr. Abhinav Saxena
23	16031002	Miss. Akanksha Yadav
24	16031003	Mr. Deepak Khare
25	16031004	Mr. Mukesh Suthar
26	16031005	Mr. Maurya Sandeep Pradeepkumar
27	16031006	Mr. Neeraj Kumar Mishra
28	16031007	Mr. Neeraj Pandey
29	16031008	Mr. Rakesh Mondal
30	16031009	Mr. Rajesh Suthar
31	16031010	Mr. Sandeep Kumar Gautam
32	16031011	Mr. Sushma Yadav
33	16031502	Mr. Aman Singh

List of M.Tech. Students (2016-17)

S. No.	Roll. No.	Name of Studnets
1	16032002	Mr. Akshay Varshney
2	16032003	Mr. Ashish Rai
3	16032004	Mr. Avinash Kumar Pandey
4	16032005	Mr. Debajyoti Mahapatra
5	16032006	Mr. Mayank Agarwal
6	16032008	Mr. P. Kameshwara Rao
7	16032009	Mr. Sandeep Kumar Singh
8	16032010	Mr. Shailendra Kumar Singh
9	16032011	Mr. Shete Ganesh Diliprao
10	16032012	Mr. Shubham Jaiswal
11	16032014	Mr. Sumit Kumar

Equipment purchased

S. No.	Equipments	Amount (Rs. In Lakh)
1	Theramal Evaporator	9.40
2	Hot Modulus of Rupture	12.86
3	Viscometer	1.89
4	Ultrasonic thickness measurement unit	5.73
5	Particle size analyzer	14.71
6	Glass Softening point apparatus	9.05

Any other information

The following two students have done their Part of the Master of Technology Thesis work abroad:

S. No.	Name	Title of the Thesis	Name of the External Supervisor and his affiliation
1	Mr. AmanBhardwaj (15032003), M.Tech	Development of New Metal Pyrophosphate based Solid Electrolytes for Intermediate Temperature Proton Conducting Ceramic-Electrolyte Fuel Cells (IT-PCFC)	Prof. Sun-Ju Song, School of Material Science and Engineering, Chonnam National University, Republic of Korea.
2	Mr. Shyam Sharma (12401EN001), IDD	Study of Topological Characteristics in Binary Skutterudite $RhSb_3$	Prof. Dr. Claudia Felsar, Max Planck Institute for Chemical Physics of Solids Dresden-01187, GERMANY

7. Department of Civil Engineering

Year of Establishment : 1949

Head/Coordinator of the Department : Prof. Prabhat Kumar Singh

Brief Introduction of the Department :

The Department of Civil Engineering was established as a integral part of the erstwhile Banaras Engineering College of Banaras Hindu University in the Year 1949. The present annual intake at B. Tech., IDD, and M.Tech. level is 80, 20 and 47 respectively. The postgraduate courses (M. Tech.) are running at present in FIVE specialisations being offered are Environmental Engineering, Geotechnical Engineering, Hydraulic and Water Resource Engineering, Structural Engineering, and Transportation Engineering. Two other (M. Tech.) programmes have been finalized in "Engineering Geoinformatics" and "Engineering Geosciences". In addition to the above, Ph.D. programme is also continuing at this Department.

Department works through various sections based on the specializations. Each section is headed by the senior most professor of the section, who continuously keeps interacting with new as well as experienced faculty members for the purpose of revision the course curriculum, course contents, etc. under the guidance of the Head of the Department. The emerging research areas are thoroughly discussed to assign problems to the M. Tech. and Ph.D. students. Regular meetings of Faculty members of a particular section motivate new faculty members to take up the challenging research problems, and also enable them to work on these. Faculty members of Civil Engineering Department have contributed towards administrative responsibilities like Wardenship, IIT (BHU) Gymkhana. They also conduct classes for inculcating the moral and ethical values in the students.

The Department of Civil Engineering is continuously engaged in developing international standard in teaching and research programs. The Department directs concerted efforts to achieve an international level and also, to become a Mark of Prestige to the Nation.

Major areas of Research

Environmental Engineering, Geotechnical Engineering, Hydraulic and Water Resource Engineering, Structural Engineering, Transportation Engineering, Geoinformatics and Engineering Geoscience.

Area of the Department/School (in square meters):

Floor Area: 4000 Sq. m. (excluding faculty rooms)

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	08
2	No. of Lecture Halls	---
3	No. of Laboratory	09
4	No. of Computers available for students in the Department/School/ School	50

Unique Achievement / Preposition of the Department/School

During last five years, many students have qualified the Indian Engineering Services Examination.

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	CE-5261	Hydro-Geomorphology	11
2	CE -5161	Engineering Geosciences	11

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	81	76	77	78	
2	Dual Degree	20	21	18	23	21
3	M. Tech/ M. Pharm	26	19	---	---	---
4	Ph. D (Under Institute Fellowship)	18	16	6	4	1
5	Ph. D (Under Project Fellowship)	---	---	---	---	---
6	Ph. D (Under Sponsored Category)	1	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Jayvant Chaudhary	15061008	12th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries, organized by Transportation System Engineering, Department of Civil Engineering, IIT Bombay	December 19-21, 2016, IIT Bombay	IIT (BHU)
2	Ashwani Kumar Agnihotri	15061004	International Conference on Urban Geoinformatics	22-23 February 2017, New Delhi	IIT (BHU)
3	Shashi	14061003	8th National Conference on Wind Engineering	December 16-17, 2016, IIT (BHU)	IIT (BHU)
4	Gaurav	13131506	8th National Conference on Wind Engineering	December 16-17, 2016, IIT (BHU)	IIT (BHU)
5	Biswanath	15062012	8th National Conference on Wind Engineering	December 16-17, 2016, IIT (BHU)	IIT (BHU)
6	Vutuk Sai	12403 EN001	8th National Conference on Wind Engineering	December 16-17, 2016, IIT (BHU)	IIT (BHU)
7	Abhishek	16061001	8th National Conference on Wind Engineering	December 16-17, 2016, IIT (BHU)	IIT (BHU)
8	Kushagra	14065042	8th National Conference on Wind Engineering	December 16-17, 2016, IIT (BHU)	IIT (BHU)

ABROAD					
1	Nikita Shivhare	15061012	EcoSummit 2016 Ecological Sustainability: Engineering Change	29 August -1 September 2016 Le Corum, Montpellier, Franc	IIT (BHU)+ Self
2	Atuk Kr Rahul	15061005	EcoSummit 2016 Ecological Sustainability: Engineering Change	29 August -1 September 2016 Le Corum, Montpellier, Franc	IIT (BHU)+ Self
3	Bhutani, S		19th IASTEM International Conference, Kuala Lumpur	3 April 2016	IIT (BHU)

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)	
PROFESSORS			
1	V. Kumar	Structural Engineering	Plastic analysis, Concrete technology, Retrofitting
2	G. Banerjee	Environmental Engineering	
3	D. Mohan	Environmental Engineering	
4	Prabhat Kumar Singh	Environmental Engineering	Water Quality, Solid waste Engineering and Management, River Health
5	P.K.S. Dikshit	Hydraulics & Water Resources Engineering	Hydraulics And Water Resources Engineering, Remote Sensing, River Engineering
6	S. Mandal	Structural Engineering	Wind effect on structures, FEM, Advanced Concrete Technology
7	Rajesh Kumar	Structural Engineering	Earthquake Resistant Structure, Finite Element Method and Structural Optimization
8	S.B. Dwiwedi	Geology	Petrology, Geochemistry & Engg. Geology.
9	Arun Prasad**	Geotechnical Engineering	Ground Improvement, Unsaturated Soil, Foundation Design
10	K.K. Pathak	Structural Engineering	Structural shape optimization; Finite Element Analysis; Applications of Neural Networks
ASSOCIATE PROFESSORS			
1	K.K. Pandey	Hydraulics & Water Resources Engineering	Fracture Mechanics of Concrete, Hyd & Hydrologic Modeling, Hyd. Strctures
2	Brind Kumar	Transportation Engineering	Pavement Materials, Analysis & design of pavements, Road traffic noise.
3	P.R. Maiti	Structural Engineering	Structural dynamics, Bridge Engineering, Steel Structures

4	Medha Jha	Geology	Hydrogeomorphology, Engineering Geology
5	S.K. Gupta	Hydraulics & Water Resources Engineering	Optimization of Hydraulic Systems Computational Hydraulics, Modelling and Uncertainty Analysis
6	Anurag Ohri	Surveying	Remote sensing, GIS, Surveying, Solid Waste Engineering
7	P. Bala Ramudu	Geotechnical Engineering	Geotechnical Engineering-Critical State Soil Mechanics; Environmental Geotechnics; Soil Improvement using Waste by-products; Remediation of Contaminated Sites
ASSISTANT PROFESSORS			
1	Kesheo Prasad	Hydraulics & Water Resources Engineering	Ground Water; Fluid Mechanics; Ground water recharge; CFD
2	Suresh Kumar	Geotechnical Engineering	Soft soil, Stone column, static & dynamic analysis, Geosynthetic application
3	Ankit Gupta	Transportation Engineering	Pavement Performance Modelling, Pavement Material Characterization, Traffic Flow Modelling

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	P. K. S. Dikshit S. B. Dwivedi C. S. P. Ojha	Mitigating Impact of Climate Change on Indian Agriculture	23rd July 2016.
2	S. Mandal	8th National Conference on Wind Engineering	December 16-17, 2016.
3	P R Maiti (Organizing Secretary)	VIII NCWE 2016	29 March, 2016.
4	Medha Jha (Oraganizing Secretary)	One-day Workshop on Rain water harvesting and Ground water recharge. Department of Civil Engineering, IIT (BHU).	16
5	S. K. Tiwari and Devendra Mohan	Second Interdisciplinary Refresher Course on 'Mahamana Malaviya and His Mission', organized at UGC-Human Resource Development Centre, BHU, Varanasi.	July 14 - Aug 03, 2016
6	S. K. Tiwari and Devendra Mohan	75th Orientation Course, organized at UGC-Human Resource Development Centre, BHU, Varanasi	August 30 - September 26, 2016

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prabhat Kumar Singh	Workshop on Social Justice and Environmental Leadership Development	Dec. 5-9, 2016. Bhikampura Alwar, Rajasthan
2	Prabhat Kumar Singh	International conference on Incessant Ganga	25-26 February 2017, Water and Land Management Institute (WALMI), Patna.
3	P. K. S. Dikshit	Evaluation of geotechnical properties of Vindhyan sandstone for suitability as a building stone	June 17-18, 2016,
4	Rajesh Kumar	8th National Conference on Wind Engineering (VIII NCWE 2016)	16-17 December 2016
5	Brind Kumar	National Conference on Fifteen years of PMGSY	August 6-7, 2016, Civil Engineering Department, IIT Roorkee.
6	Brind Kumar	8th National Conference on Wind Engineering (VIII NCWE 2016) 16-17 December 2016	
7	Anurag Ohri	FROM IMAGERY TO MAP: digital photogrammetric technologies	14-16 November, 2016, Agra
8	Anurag Ohri	Geospatial World Forum 2017	23-25 January 2017, Hyderabad
9	Kesheo Prasad	One day National Seminar on Social and Economic Development of Backward Class (SC, ST, OBC), GB Pant Agriculture and Technical University, Pantnagar	26 March, 2017
10	Ankit Gupta	4th Chinese and European Workshop, TU Delft, Netherland	29th June – 02 July 2016
11	Ankit Gupta	14th World Conference on Transport Research, Tongji University, Shanghai, China	10 – 15 July 2016
12	Ankit Gupta	National Conference on Fifteen Years of Pradhan Mantri Gram Sadak Yojna (FYPMGSY), IIT Roorkee	06 - 07 August 2016
13	Ankit Gupta	Seminar on Urban Transport Corridors, Visakhapatnam (AP)	21 – 22 October 2016
14	Ankit Gupta	12th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC) at IIT Bombay	19 – 21 Dec. 2016
15	Ankit Gupta	15th REAAA Conference and 1st IRF Global Road Summit at Bali, Indonesia	22 – 24 March 2017
Meetings			
1	P. K. S. Dikshit	Building Committee, Central University of South Bihar	05-Sept-2016, Patna

2	P. K. S. Dikshit	Building Committee, Central University of South Bihar	10-Nov-2016, Patna
3	P. K. S. Dikshit	Building Committee, sampurnanand University, varanasi	Sampurnanand University, varanasi
4	P. K. S. Dikshit	BIS	New Delhi

Special lectures delivered by faculty members in other institutions

S. No.	Name of faculty Member	Topic of Lecture	Institution	Date
Seminars/Symposia/Conferences				
1	P. K. S. Dikshit	Water resources management of Barkachha basin	IIT Roorkee	October 19-21, 2016
2	S.B. Dwivedi	Disaster mitigation	UGC-Human Resource Development Centre, BHU	7.9.2016
3	Devendra Mohan	Go Wild for Life	Central Mine Planning and Design Institute Limited, Ranchi	June 06, 2016
4	Devendra Mohan	Disaster Management: Major Issues	National Institute of Technical Teachers' Training and Research, Bhopal	April 22, 2016.
5	Devendra Mohan	Environmental Challenges to Skill India: Remedial Measure	Corporate Institute of Science and Technology, Bhopal	April 23, 2016
6	Rajesh Kumar	Soil Structure Interaction in Homogenous Building Cluster	61st Congress of The Indian Society of Theoretical and Applied Mechanics(An International Conference), Jointly Organized by IIT Kharagpur and VIT University held at VIT Vellore-632014	11-14 December, 2016
7	K.K. Pathak	Application of Finite Element Method in Analysis & Design	DTU New Delhi	9 Dec.2016
8	K.K. Pathak	Computer Simulation of Design & Manufacturing Processes	OIST Bhopal	21st Jan., 2017
9	K.K. Pathak	Application of Numerical Methods in Design	SIRT Bhopal	25th Feb., 2017
10	K.K. Pathak	Applications of Modelling and simulations in design and manufacturing	AMITY University Jaipur	2nd Sept., 2016
11	Brind Kumar	Fifteen years of PMGSY: Lessons learnt and the way ahead	National Conference on Fifteen years of PMGSY, Civil Engineering Department, IIT Roorkee.	August 6-7, 2016,

12	Medha Jha	Managed Aquifer Recharge	One-day Workshop on Rain water harvesting and Ground water recharge. Department of Civil Engg., IIT (BHU).	29 March, 2016
13	Ankit Gupta	Highway Geometric Design and Road Safety	Jawaharlal Nehru Government Engineering College Sundernagar Mandi (HP)	19th August 2016

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Rajesh Kumar	Tokyo, Japan	24th May, 2016	29th May, 2016	To Chair the session and to present/deliver the lecture	IIT (BHU), Varanasi
2	Ankit Gupta	Netherland	28 June 2016	07 July 2016	International Conference	CPDA
3	Ankit Gupta	Switzerland	28 June 2016	07 July 2016	Technical Interaction	CPDA
4	Ankit Gupta	China	09 July 2016	15 July 2016	International Conference	CPDA
5	Ankit Gupta	Indonesia	21 March 2017	24 March 2017	International Conference	Personal and Organizers

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Ankit Gupta	Invited Speaker at Seminar on Urban Transport Corridors, Visakhapatnam (AP), 21–22 October 2016
2	Ankit Gupta	Session Chair (Moderator) at 15th REAAA Conference and 1st IRF Global Road Summit at Bali, Indonesia, 22–24 March 2017

Fellowships of academic and professional societies

S. No.	Name of Faculty Member	Details of Fellowship
1	Rajesh Kumar	A.M., American Society of Civil Engineers (ASCE)-ID:11020407
2	K.K. Pathak	Fellow, The Institution of Engineers (India), Kolkata
3	Medha Jha	Life member of Indian Association of Hydrologists; Life member of Quarterly Journal of the Geological Association; Life member of Geological Society of India

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	B.Vaish, P.Singh, P.K.Singh, and R.P. Singh	Chapter: Biometanation Potential of Algal Biomass (Chapter) p 331-346, in Algal Biofuels: Recent advances and Future Prospects. S.K.Gupta, A.Malik, F.Bux (Editors)	Springer International Publishing AG 2017
2	B.Vaish, A. Sarkar, P. Singh, P.K Singh and R.P Singh	Chapter: Prospects of Biomethanation in Indian Urban Solid Waste: Stepping towards a Sustainable Future. In Recycling of Solid Waste for Biofuels and Biochemical, (p 1-27) Karthikeyan O.P., Heimann, K., Muthu, S.S., (Editors)	Springer Singapore
3	Manisha Mishra and Devendra Mohan	Bioremediation of Soils Contaminated with Heavy Metals and Toxic Substances: An Overview	Adaptive Soil Management: From Theory to Practices (Rakshit et al., Eds.), Springer-Nature Publication
4	Abaidya Nath Singh, Deepak Kumar Gautam, Pankaj Kumar and Devendra Mohan	Impacts Assessment of Municipal Solid Squander Dumping in Riparian Corridor Using Multivariate Statistical Techniques	Adaptive Soil Management: From Theory to Practices (Rakshit et al., Eds.), Springer-Nature Publication

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	K.K. Pathak	Editor	International Journal of Advanced Production and Industrial Engineering, (IJAPIE)
2	Sanjay K. Gupta	Editorial Advisory Board Member (www.journals.elsevier.com/flow-measurement-and-instrumentation/editorial-board)	Flow Measurement and Instrumentation, Elsevier
3	Sanjay K. Gupta	Guest Editor	Section on Free Surface Flow Measurements, Flow Measurement and Instrumentation, Elsevier
4	Ankit Gupta	Member, Editorial Board	International Journal of Modern Traffic and Transportation Engineering
5	Ankit Gupta	Member, Editorial Board	Journal of Transport Literature (JTL-RELIT), Brazil
6	Ankit Gupta	Member, Editorial Board	International Journal for Traffic and Transportation Engineering, Serbia
7	Medha Jha	Member, Editorial Board	Sci-fronts: A Journal of Multiple Sciences

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Sitting space in Geotechnical Engg. Laboratory	4.0
2	New Tinkering Laboratory	10 lakhs (2.5 lakhs have been spent)

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Improving Solid waste Management at IIT (BHU) and adopting the Bio digestion System of Bhagwanpur STP for Biogas Production.	June 2016-May 2018	DIH-Varanasi Project, IIT (BHU)	19.50 Lakh	Prabhat Kumar Singh (PI)
2	Adopting River Assi Catchment for Improved Environmental Management in Varanasi	June 2016-May 2018	DIH-Varanasi Project, IIT (BHU)	33.20 Lakh	Prabhat Kumar Singh (PI)
3	Development of Ganga Grams under Namami Gange Program with support of Technical Institutions	May 2016-April 2018	DIH-Varanasi Project, IIT (BHU)	5.00 Lakh	Prabhat Kumar Singh (PI)
4	Design of floating Jetty for river Ganga	June, 2016-2017	Project Varanasi, DIH, IIT(BHU), Varanasi	3.98 Lakhs	K.K. Pandey
5	Propagation and mitigation model of mixed road traffic noise for planning of mid-sized indian cities.	Likely to start in FY 2017	IMPRINT-INDIA (MHRD)	338.00 Lakh (Sanctioned)	Brind Kumar
6	3D Mapping of IIT(BHU) Campus	3rd October 2016 to 2rd April 2017	IIT(BHU)	5 Lakh	Anurag Ohri
7	Pedestrian Behaviour Analysis at IIT (BHU) Campus	2016-2018	Project Varanasi, MHRD	5	Ankit Gupta
8	Developing a Pedestrian Master Plan for Varanasi	2016-2018	Project Varanasi, MHRD	25	Ankit Gupta
9	Augmentation of a Stretch of Heritage Trail through Pattern Identification based Place Marking. Case Study: 500 meter stretch at Panchganga Ghar Urban Built Environment	2016-2018	Project Varanasi, MHRD	18	Ankit Gupta
10	Capacity and LOS Analysis of Signalized Intersections under Heterogeneous Traffic Conditions and with New Generation Vehicles	2017-2019	IIT (BHU)	14	Ankit Gupta

Industrial consultancy projects

S. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	P. K. S. Dikshit	Inspection report of Rajeev Awas Yojana	C & DS Varanasi	13.8
2	Rajesh Kumar	Four laning of Ghaghra Bridge to Varanasi Section of NH-233 (Package-III), Vetting of Structural Design and Drawing of following Bridge: 1. Major Bridge of span 3×45.5 at chainage 209+450(sub-Structure& Super Structure) 2. Major Bridge of Span 5×45.5 at Chainage 275 +810(sub-Structure & Super Structure)	National Highways Authority of India (NHAI), Govt. of India	4.60 Lakhs
3	Prabhat Kumar Singh	Vetting of Process Engineering calculations of different units of 140MLD STP, Dinapur, Varanasi based on ASP	General Manager, UP Jal Nigam, Ganga Pollution Prevention Unit, Bhawanpur, Varanasi-221005	4.00 Lakh
4	P R Maiti	Review and proof check for structural (Major and Minor Bridges and CD structures) Elements of Highway of four laning sections of 30.721 Km, SADA, Gawalior (MP)		9 lakh
5	Brind Kumar	Re-carpeting of runway at Lal Bahadur International Airport, Varanasi.	Airport Authority of India	2.16 Lakhs
6	Brind Kumar	Resurfacing of runway at Muirpur	Hindalco Industries Limited	1.15 Lakhs
7	Brind Kumar	Design of CC pavement for 100 beded hospital at Atraulia, Azamgarh district	UPRNN	1.44 Lakhs
8	Brind Kumar	Design of CC pavement for Tarighat to Bara road, Ghazipur district	PWD, UP	2.99 Lakhs

Faculty members' participation with other universities under MoUs (Ongoing only)

1. Ankit Gupta is undergoing join project with IIT Kharagpur.
2. Ankit Gupta is co-supervising M.Tech. student from PEC, Chandigarh.

Research Publications

S. No.	Name of Faculty Member	No.
1	Total Number of Papers Published in Refereed National Journals	9
2	Total Number of Papers Published in Refereed International Journals	26
3	Total Number of Papers Presented in National Conferences	17
4	Total Number of Papers Presented in International Conferences	20

(a) Refereed International Journals

1. S.B. Dwivedi and K.Thenuo (2016) Occurrence of wagnerite in Mg-Al granulites of Sonapahar, Meghalaya, Journal of Earth System Science 126 DOI 10.1007/s12040-017-0829-8.
2. N Shivhare,A.K. Rahul, S. Gaur,M.S. Chauhan, P.K.S Dikshit,S.B. Dwivedi and C.S.P. Ojha (2016) Hydrological planning of watershed of RGSC, Mirzapur, U.P, using GIS techniques" Water Science and Technology Library - Springer (Accepted).
3. R.S. Patel, D.Sen Gupta, S.K.Tiwari and S.B. Dwivedi (2106) Morphometric aspects of a small river system of Mirzapur district, Uttar Pradesh, India: A case study of Barhi river system. International Journal of Multidisciplinary Research and development 3 :250-255 ISSN 2349-4182.
4. Dwivedi S.B., Dikshit P.K.S., Sindhusuta and Dikshit P. Kumari S. (2016) "Evaluation of geotechnical properties of Vindhyan sandstone for suitability as a building stone" Journal of Rock Mechanics & Tunnelling Technology (in press).
5. B.Yaswanth Kumar, Rajesh Kumar and Veerendra Kumar (2016) Limit Analysis of Annular Footings acted upon by Axisymmetric Load. Journal of Structural Engineering, Vol.42, No.5, December 2015-Januray 2016, pp 379-38.
6. Rajesh Bhargava, Pathak K.K., Saleem Akhtar (2017) Numerical and experimental investigations of two span prestressed concrete beams, J. Struct. Engg., 43(6): 521-530
7. Avanti Partikar, Pathak K.K. (2016) Fully Stressed Design Of Fink Truss using STAAD. Pro software, Open Journal of Civil Engineering (OJCE), 6: 631-642
8. Saket Rusia, Pathak K.K. (2016) Application of artificial neural network for analysis of triangular plate with hole considering different geometrical and loading parameters, Open Journal of Civil Engineering,6: 31-41
9. Megha Jain, Pathak K.K., Experimental evaluation of insulation material on existing residential building exists in subtropical humid climatic zone, International Journal of Sustainable Building Technology & Urban Development (Accepted)
10. Harshad Subhasrao Birajdar, Pabitra Ranjan Maiti and Pramod Kumar Singh (2016). "Strengthening of Garudchatti Bridge", Engineering Failure Analysis, 62(4): 49-57.
11. B. Vaish, V. Srivastava, P.Singh, A.Singh, P. K.Singh and R.P.Singh, (2016) Exploring untapped energy potential of urban solid waste. Energ. Ecol. Environ., DOI 10.1007/s40974-016-0023-x.
12. D. Gusain, P.K.Singh and Y.C.Sharma (2016). Kinetic and Equilibrium modelling of adsorption of cadmium on nano crystalline zirconia using response surface methodology. Environmental Nanotechnology, Monitoring & Management, 6, 99-107, Elsevier.
13. S.K. Gupta, Umank Mishra, Vijay P. Singh (2016), Design of Minimum Cost Earthen Channels Having Side Slopes Riveted with Different Types of Riprap Stones and Unlined Bed by Using Particle Swarm Optimization, Irrigation and Drainage, 65(3), pp. 319–333. (SCI Expanded).
14. S.K. Gupta, Section Editorial: Free surface flow measurements, Flow Measurement and Instrumentation, Volume 54, April 2017, p. 273. (SCI Expanded).
15. Rohit Mittal, Vivek Nandan, P. R. Maiti (2016) Variation of Aerodynamic Coefficients with Air Flow Parameters on Long Span Bridge Deck" International Journal of Structural Engineering, Vol 7, No-3, pp-279-290 (Inderscience)
16. P. Deepak Kumar, Aishwarya Alok, P R Maiti (2016) Comparative study of dynamic analysis of rectangular liquid filled containers using codal provisions, Procedia Engineering, Vol 144, pp- 1180-1186 (Elsevier)
17. Harshad S Birjdar, P R Maiti & P K Singh (2016) "Strengthening of Garudchatti Bridge after Failure of Chauras Bridge" Engineering Failure Analysis, Elsevier Vol-62, pp-49-57
18. Soumya Gorai and P R Maiti (2016) Advanced Retrofitting Technique for Reinforce Cement Concrete: A state of an art Review, I'managers Journal of Structural Engineering, Vol-1, No-5, March- May 2016.
19. Sahu, M., Lahari, S., Gosain, A.K., Ohri, A. (2016), Hydrological Modeling of Mahi Basin Using SWAT, Journal of Water Resource and Hydraulic Engineering, Vol. 5 Iss. 3, PP. 68-79.
20. Gupta, A. (2017) "Finite Element Analysis of Granular Pavements Considering Material Nonlinearity", Asian Transport Studies, J-STAGE, Vol. 4, No. 3, pp. 550-564.

21. 2. Mondal, S., Chakraborty, S., Roy, S. K. and Gupta, A. (2017) "Estimation of Passenger Car Unit for Heterogeneous Traffic Stream of Urban Arterial: Case Study of Kolkata", Transportation Letters: The International Journal of Transportation Research, Taylor and Francis. (DOI: 10.1080/19427867.2017.1293313) [IF: 0.405].
22. 3. Gupta, A., Das, V. R. and Pundir, N. (2016). "Study of Pedestrian Characteristics in Hilly Area". European Transport/Transporti Europei, Vol. 62, Paper No. 6, pp. 1-12.
23. 4. Mohanty, M. and Gupta, A. (2016). "Investigation of Adolescent Accident Predictive Variables in Hilly Regions", International Journal of Injury Control and Safety Promotion, Taylor and Francis. Vol. 23, No. 3, pp. 291-301. [IF: 0.888].
24. Dubey, A. A., & Kumar, S. (2017), "Assessment Of Stress-Strain behavior of Energy Piles Installed in Sand." International Journal of GEOMATE, March, 2017, Vol. 12, Issue 31, pp. 112-120 Geotec., Const. Mat. & Env., ISSN:2186-2990, Japan, DOI: http://dx.doi.org/10.21660/2017.31.6538
25. Dubey, A. A., & Kumar, S., "Thermo-Mechanical Analysis of Geothermal Piles in Dense Sand." SixthInternational Conference on Geotechnique, Construction Materials and Environment, Bangkok, Thailand,Nov. 14-16, 2016, ISBN: 978-4-9905958-6-9 C3051.
26. Deepanshu Agarwal, Kunal Tongaria, Siddhartha Pathak, Anurag Ohri, Medha Jha (2016), Soil erosion mapping of watershed in Mirzapur district using RUSLE model in GIS environment, International Journal of Students' Research In Technology and Management, 4(3).

(b) Refereed National Journal

1. Sukanya Saxena, Pathak K.K. (2016) Fully Stressed Design of Pratt and Howe Trusses, NBM&CW, 22(5):180-192
2. Shalaka Dhokane, Pathak K.K. (2017) A study on the effectiveness of bracing systems in soft storey steel buildings, JOTITT, 4(2): 1-13
3. Akhil Nema, Pathak K.K. (2016) Wind and earthquake analysis of natural draught hyperbolic cooling towers using ANN, Journal of Engineering, Science & Management Education, 9(1), Jan. April 2016, pp.34-44
4. Saket Rusia, Pathak K.K. (2016) Application of ANN to analyse hexagonal plate with hole considering different geometrical and loading parameters, JOTITT, 4(1):1-13.
5. B.Vaish, P. Singh, R.Kothari, V.Srivastava, P.K.Singh, R.P. Singh (2016) The Potential of Bioenergy Production from Marginalised Lands and Its Effect on Climate Change. Climate Change and Environmental Sustainability 4(1): 7–13, 2016 DOI: 10.5958/2320-642X.2016.00002.8.
6. Rahul Jadhav, P. R. Maiti and Sabita Madhvi Singh (2016) , "Effect of Natural Frequency of Slender Structure on VIV at Higher Reynolds Numbers", International conference on Modern research in Aerospace Engineering.(MRAE-2016), Amity University Uttar Pradesh, Noida, 22-23 September, 2016.
7. Anshul Sharma, Sabita Madhvi Singh, P R Maiti and Shivang Aggrawal "Methods and Tools for Integrating Climate Change Adaption and Risk Management" pp 584-590, Proceedings of International conference on Trends and Recent Advances in Civil Engineering, TRACE 2016, 11-12 August, 2016, Amity University, Uttar Pradesh.
8. Shivang Aggrawal, Sabita Madhvi Singh, P R Maiti and Anshul Sharma "HEC-RAS Flow analysis in River Ganga at Varanasi" pp-616-623, Proceedings of International conference on Trends and Recent Advances in Civil Engineering, TRACE 2016, 11-12 August, 2016, Amity University, Uttar Pradesh.
9. Singh, B., Gupta, A. and Suman, S. (2016) "Case Study: Framework for ATIS in Chandigarh", TrafficInfra Tech, India, Vol. 6, No. 3, pp. 60-62.

(c) Proceedings of International Conferences

1. P. Omar, N. Shivhare, K. Jain, M. Chauhan, A. Rahul, P. K. S. Dikshit, S. Dwivedi (2016), "Prioritization of Micro-watersheds using Geomatics Techniques", EcoSummit 2016 Ecological Sustainablity: Engineering Change, The Corum Convention Centre, Montpellier, France.
2. Shreya Thusoo, Karan Modi, Ankit Kumar Jha and Rajesh Kumar 2016. Dynamic Soil Structure Interaction in Buildings, World Academy of Science, Engineering and Technology, Tokyo Japan May26-27, 2016, 18(5) Part XXIV.

3. Rajesh Kumar 2016. Soil Structure Interaction in Homogenous Building Cluster, 61th Congress of ISTAM, An International Conference, December 11-14, 2016, VIT Vellore.
4. Harshad Subhasrao Birajdar, Pabitra Ranjan Maiti and Pramod Kumar Singh (2016). "Design of Steel Concrete Composite Open Web Girder Bridge", Proc. Inter. Istanbul Bridge Conf.
5. P.K.Singh, S. Saxena and M.Ranjan (2017). A synoptic view of Ganga River Basin Management Plan (GRBMP) 2015 with special reference to Middle and Lower Segments. In International Conference on Incessant Ganga, WALMI Patna, Feb. 25-26, 2017.
6. A. Kumar, A.D. Binns, S.K. Gupta, Vijay P. Singh, Jack L. McKee, Analysing the Performance of Various Radar-Rain Gauge Merging Methods for Modelling the Hydrologic Response of Upper Thames River Basin, Canada, ASCE World Environmental and Water Resources Congress, May 22–26, 2016, West Palm Beach, Florida, USA. (SCOPUS).
7. Ohri, A., Sahu, M. (2016), 3D Modeling of the Vishwanath Temple, Varanasi Using Close Range Digital Photogrammetry, in the 16th International Scientific and Technical Conference "FROM IMAGERY TO MAP: digital photogrammetric technologies", 14-16 November, 2016, Agra
8. H. Nagrath, B. Behra, M. Sahu, A. Ohri, (2016), 3D Modelling of IIT BHU Varanasi campus, using photogrammetric techniques on UAV captured data, in the 16th International Scientific and Technical Conference "FROM IMAGERY TO MAP: digital photogrammetric technologies", 14-16 November, 2016, Agra
9. Agnihotri, A.K., Ohri, A. (2016), "Urban Green Space Assessment in The Holy City of Varanasi Using Remote Sensing and GIS", International Conference on Urban Geoinformatics, 22-23 February 2017, New Delhi.
10. Gupta, A. and Adhikari, S. (2016). "Comparison of Empirical and Mechanistic Design Approach for Granular Pavements", Proc., of 4th Chinese European Workshop, CEW-2016, TU Delft, Netherlands, pp. 191-202. (ISBN: 978-1-138-02924-8)
11. 2. Gupta, A., Singh, B. and Pundir, N. (2016). "Effect of Gradient on Pedestrian Flow Characteristics Under Mixed Flow Conditions", Proc., of 14th World Conference on Transport Research, WCTR-2016, Shanghai, China. (Paper Id – H3-2D1)
12. 3. Mohanty, M. and Gupta, A. (2016). "Microscopic Study on Role of Young Drivers in Road Crashes: A Case Study in India", Proc., of 14th World Conference on Transport Research, WCTR-2016, Shanghai, China. (Paper Id – H3-2C5)
13. 4. Chaturvedi, A. K. and Gupta, A. (2016). "Open Source Toolkit for Pedestrian Evacuations", Proc., of 12th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries, 19-21 December, Bombay, India, Paper Id - 198.
14. 5. Yadav, A. and Gupta, A. (2016). "Framework for Road Safety Audit of Higher Educational Institutes: A Case Study of IIT (BHU) Campus", Proc., of 12th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries, 19-21 December, Bombay, India, Paper Id - 209.
15. 6. Singh, J., Singhal, V. and Gupta, A. (2016). "Effect of Traffic Calming Device Geometry on Vehicular Speeds", Proc., of 12th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries, 19-21 December, Bombay, India, Paper Id - 187.
16. Choudhary, J., Kumar, B. and Gupta, A. (2016). "Preliminary Characterization of Waste Materials as Mineral Filler for Asphalt Pavements", Proc., of 12th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries, 19-21 December, Bombay, India, Paper Id - 194.
17. 8. Mondal, S. and Gupta, A. (2016). "Assessment of Functional Characteristics of a Signalized Intersection: A Review", Proc., of 12th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries, 19-21 December, Bombay, India, Paper Id - 186.
18. M.S. Chauhan, A.K. Rahul, V. Kumar, N. Shivhare, P.K.S. Dikshit, S.B. Dwivedi "Rainfall and temperature trends in Varanasi, Uttar Pradesh" EcoSummit 2016 Ecological Sustainability (ECOS2016@elsevier.com), Organised by Elsevier in France.
19. N. Shivhare, P. Omar, M. Chauhan, A. Rahul, P. Dikshit, S. Dwivedi "Prioritization of microwatersheds using geoinformatics techniques" EcoSummit 2016 Ecological Sustainability (ECOS2016@elsevier.com), Organised by Elsevier in France.

20. S. Bhutani,S.K. Bansal,P. Singh and S.B. Dwivedi " Role of Coir fiber in crack reduction in Concrete" Proceedings of 19th IASTEM International Conference, Kuala Lumpur(2016), Malaysia 3rd April2016, ISBN: 97893-85973-86.

(d) Proceedings of Nation al Conferences

1. S.B. Dwivedi (2016). Paleoproterozoic (1672 Ma) granulites of Sonapahar, Shillong Meghalaya Gneissic Complex (SMGC) evident from SHRIMP dating (22-24), Nov 2016, Jhansi organized by Department of Geology Bundelkand University and The Society of Earth Scientists.
2. A. Kumar, M.Joshi and S.B.Dwivedi(2016) Prograde metamorphism of garnet-mica schists from Siah Devi,Almora,Kumaun Lesser Himalaya: evidence from garnet composition mapping (22-24) Nov 2016) Jhansi organized by Department of Geology Bundelkand University and The Society of Earth Scientists.
3. Pathak K.K., Application of modelling & simulation in design and manufacturing, Emerging Trends in Mechanical Engg., ICETME-2016, 27- 28 May, TIT 2016.
4. Ajay Kumar Kaviti, Roopesh Mehra and Pathak K.K., Measurement of top and bottom unequal frictional values using profile map, International Conference on Advances in Materials & Manufacturing, ICAMM-2016, December 8-10,2016, Hyderabad, INDIA
5. Pathak K.K., Swami S.K., Rahul Dhoke, Effect of support conditions on the analysis of structural units, International Conference on Recent Advancements & Innovations in Civil Engineering (RAICE '16), 9 –10 September 2016, TIT Bhopal
6. Tushar Golait, Rahul Dhoke, Pathak K.K., Comparative study of Finite Element and Matrix Methods for Structural Analysis of High-rise Building under Different Loading Conditions, International Conference on Recent Advancements & Innovations in Civil Engineering (RAICE '16), 9 –10 September 2016, TIT Bhopal
7. Vivekanand Vyas, Pathak K.K., Prafulla Kumar Tiwari, Seismic influence of floor diaphragm on tall buildings considering structural and geometrical parameters, International Conference on Recent Advancements & Innovations in Civil Engineering (RAICE '16), 9 –10 September 2016, TIT Bhopal
8. Pathak K.K, Deepak Tiwari, Geeta Agnihotri, Effects of die angle and friction on tube drawing process using FEM, International Conference on Advanced Production and Industrial Engineering ICAPIE 2016, Delhi Technological University, Delhi, 9-10 December 2016
9. Saurabh Rajoria, Pathak K.K., Vivekanand Vyas, Analysis of Transmission Tower for Wind Loading considering Different Height and Bracing System, 8th NCWE Conference IIT(BHU) Varanasi, 16-17 Dec. 2016
10. Mohammad Mansoor Maliq Khan, Pathak K.K., Akhil Nema, Analysis of steel chimney considering different wind zone and geometrical parameters, 8th NCWE Conference IIT(BHU) Varanasi, 16-17 Dec. 2016
11. Megha Jain, Pathak K.K., Green technology used in buildings for sustainable development- benefits and downsides, ICMEPS-2017, OIST Bhopal, Jan.20-21, 2017
12. Mohit Sheode, Pathak K.K., Study of mix design for high strength concrete, ICMEPS-2017, OIST Bhopal, Jan.20-21, 2017
13. Sumeet Chakraborty, Pathak K.K., Buckling analysis of steel columns using FEM and its validation with Euler's theory, ICMEPS-2017, OIST Bhopal, Jan.20-21, 2017
14. Abhay Gupta, Samit Diwan, Pathak K.K., Contact stress theory for multi body system, ICMEPS-2017, OIST Bhopal, Jan.20-21, 2017
15. P.K. Singh and R. Singh (2016). Domestic wastewater management in Varanasi-A review, National Workshop on "Sustainable Water management in India: Strategies and Issues', Department of Water supply and Sanitation, Govt. of Uttar Pradesh, April 18-19, 2016.
16. Jayvant Chaudhary, Brind Kumar and Ankit Gupta, "Laboratory Evaluation on Recycling Waste Industrial Glass Powder as Mineral Filler in Hot Mix Asphalt", In Proceedings of Civil Engineering Conference, Innovation for Sustainability, Hamirpur, India, September 09-10, 2016. pp 352-359.
17. Choudhary, J., Kumar, B. and Gupta, A. (2016). "Laboratory Evaluation on Recycling Waste Industrial Glass Powder as Mineral Filler in Hot Mix Asphalt", Proc., of Civil Engineering Conference – Innovation for Sustainability (CEC-2016), 09-10 September, NIT Hamirpur, India, pp. 352-359.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. S. K. Gupta, Vijay P Singh (2011), Discussion of Enhanced Predictions for Peak Outflow from Breached Embankment Dams, Journal of Hydrologic Engineering, 16(1), 81-88. (Cited by 18)
   Summary : Multivariate analysis incorporating the height of water behind the dam embankment, volume of water, and a composite variable that includes both the average width and length of the embankment as three independent variables in a single equation was carried out. The newly proposed equation incorporated the unified effect of all four variables, which adequately deals with the non-availability of any of the two geometric variables. Further, to eliminate the difficulty of selecting an equation from a group of expressions developed on the basis of single and double independent variables, i.e., height of water, volume of water, or both together for predicting peak outflow through breached embankments, a single equation for each case was also proposed for prediction of discharge through breached dams.
2. Gupta, A., Kumar, P. and Rastogi, R. (2011). "Pavement Deterioration and Maintenance Models for Low Volume Roads", International Journal of Pavement Research and Technology, Vol. 4, No. 4, pp. 195-202. (13 Citation as per Google Scholar till 31st April, 2017)
3. Gupta, A., Kumar, P. and Rastogi, R. (2014). "Critical Review of Flexible Pavement Performance Models", Korean Society of Civil Engineers (KSCE), Journal of Civil Engineering, Springer, Vol. 18, No. 1, pp. 142-148. [IF: 0.600] (12 Citation as per Google Scholar till 31st April, 2017)
4. Singh, B. and Gupta, A. (2015). "Recent Trends in Intelligent Transportation Systems: A Review", Journal of Transport Literature, Brazil, Vol. 9, No. 2, pp 30-34. (11 Citation as per Google Scholar till 31st April, 2017)
5. Jain, A., Gupta, A. and Rastogi, R. (2014). "Pedestrian Crossing Behavior Analysis at Intersections", International Journal of Traffic and Transportation Engineering (IJTTE), Vol. 4, No. 1, pp. 103-116. (11 Citation as per Google Scholar till 31st April, 2017)

Other activities

Indian Faculty visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. M R Madhav	Invited Lecture	31st March 2017

Foreign Faculty Visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Rakesh Mishra, Energy, Emissions and the Environment Research Group Leader, Centre for Efficiency and Performance Engineering, School of Computing and Engineering, University of Huddersfield, U.K.	Collaboration with Department of Civil Engineering. IIT(BHU)	4 September 2016

8. Department of Chemical Engineering

Year of Establishment : 1921

Head of the Department : Prof. P.K. Mishra

Brief Introduction of the Department :

Department of Industrial Chemistry was established in 1921 at Banaras Hindu University. Subsequently, it was renamed as the Department of Chemical Engineering and Technology in 1956. The Department has established several benchmarks of achievements in teaching and research. It modernizes its programmes to impart education in upcoming areas of chemical engineering.

The Department presently offers courses leading to B. Tech., M. Tech. and Ph. D. degrees in Chemical Engineering. The Department also offers courses to IIT(BHU) and Banaras Hindu University.In the new undergraduate curriculum, the department has been entrusted to offer a number of institute level courses either independently or jointly with outer departments. The research facilities of the department are utilized not only by other departments of the institute and BHU but also by other teaching institutions and research laboratories.

The floor area of the department is 4,002 sq. meter. The department 18 laboratories, a workshop, 7 lecture theatres, a 250 seat auditorium, a library having over 11,000 volumes of text and reference books and a textbook bank and internet facility. The Department also has a seminar room and a few instruction rooms and rooms for its faculty.

The University Grants Commission, New Delhi has granted the Department the Status of Centre of Advanced Study in Chemical Engineering. The Department also enjoys the status of DST – FIST Sponsored Department.

The Department enjoys an excellent rapport and professional interaction with various industrial organisations. Faculty members are engaged in high level consultancy work in industry, where as some others have projects funded by the industry. Besides these, the Department also provides know-how for process improvement/ development, raw materials and products analysis, pollution monitoring facilities, etc to the industries in and around Varanasi.

Major areas of Research

Currently major areas of research in the department are waste water treatment, separation processes, catalysis, biotechnology and fuel cell. The department has identified three major thrust areas for future research as energy, environment and nanotechnology with emphasis on developing affordable solutions for the problems in the country such as drinking water,energy (harvesting, production and storage) and healthcare.

Area of the Department/School (in square meters) :

The floor area of the department is 4,002 sq. meter.

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	07
2	No. of Lecture Halls	03
3	No. of Laboratory	18
4	No. of Computers available for students in the Department/School/ School	80

Unique Achievement / Preposition of the Department

1921: Established as Department of Industrial Chemistry
1935: Two year M.Sc. (Tech.) Degree course started.
1949: Four year Bachelor Degree Course in Engineering started
1956: Renamed as the Department of Chemical Engineering and Technology
1963: Two year Master Degree in Chemical Engineering started
1993: Special Assistance under SAP/ COSIST Programmes of UGC
1997: IFFCO Chair was granted by IFFCO Ltd, New Delhi

1999: UGC - Centre of Advanced Study
2004: DST-FIST (Level I)
2005: UGC - Centre of Advanced Study Phase II
2010: UGC – Centre of Advanced Study Phase III
2013: DST – FIST (Level I further for next 5 years)

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech.	117	105	104	108	---
2	Dual Degree	---	---	---	---	---
3	M. Tech/ M. Pharm	38	36	---	---	---
4	Ph. D (Under Institute Fellowship)	13	12	08	17	10
5	Ph. D (Under Project Fellowship)	---	---	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	01	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Susmit Ilame	12602 EN008	Conference	Centre of food Science and Technology, Banaras Hindu University, Varanasi (U.P.) 221005	CPDA
2	RPS Kushwaha	14041001	Conference	Centre of food Science and Technology, Banaras Hindu University, Varanasi (U.P.) 221005	CPDA
3	Munna Kumar	13041503	Conference	20-21 Oct. 2016, Vellore12-17 Dec. 2016 NIT Warangal	Institute
4	Munna Kumar	13041503	Workshop	12-17 Dec. 2016 NIT Warangal	Institute
5	Suverna Trivedi	014041006	Conference	NIT Srinagar, Kashmir, May 25-29, 2016.	Institute
6	Suverna Trivedi	014041006	Conference	Ac-Tech Anna University and IIT-Madras, Chennai, December 27-30th , 2016.	Institute
7	Sachin Ramesh Geed Rao	15041005	Conference	December 16-17, 2016, IIT (BHU)	RSGF/ STGS

8	Amrita Shahi	14041004	Conference	October 2016, 17-23, Kanpur	RSGF/ STGS
9	M.K. Rai	13041006	Conference	October 2016, 5-11, Chennai	RSGF/ STGS
10	Munna Kumar	13041003	Conference	September 2016, 12-16, Chennai	RSGF/ STGS
11	M.K. Rai	130415006	Conference	October 2016, 6-9, Kanpur	RSGF/ STGS
12	Sri Ram Bushan Krishna Sai	13042036	Conference	December 2016, 10-13, Lucknow	RSGF/ STGS
13	Zeenat Arif	15041014	Conference	December 2016, 25-31, Chennai	RSGF/ STGS
14	Snigdha Mishra	15042039	Conference	December 2016, 25-02, Chennai	RSGF/ STGS
15	Kaviya Ashish	15042022	Conference	December 2016, 25-02, Chennai	RSGF/ STGS
16	Deepak Yadav	13041001	Conference	December 2016, 27-30, Chennai	RSGF/ STGS
17	Suverna Trivedi	14041006	Conference	December 2016, 25-02, Madras	RSGF/ STGS
18	Mahendra Ram	13041003	Conference	December 2016, 25-31, Chennai	RSGF/ STGS
19	Parmendra Gaurah	13041009	Conference	December 2016, 25-31, Chennai	RSGF/ STGS
20	Deoshish Panjara	15041004	Conference	December 2016, 25-02, Madras	RSGF/ STGS
21	Ankita Srivastava	13042009	Conference	December 2016, 25-02, Madras	RSGF/ STGS
22	Maneesh Kumar Kureel	12602 EN002	Conference	December 2016, 08-10, Vellore	RSGF/ STGS
23	Vikash Kumar Bharti	13042044	Conference	December 2016, 10-14, Lucknow	RSGF/ STGS
24	Uday Kumar Gupta	14041008	Conference	December 2016, 25-02, Madras	RSGF/ STGS
25	Abhay Kumar Chaudhary	15041001	Conference	December 2016, 25-02, Madras	RSGF/ STGS
26	Kaviya Ashish Rajkumar	15042022	Conference	January 2017, 15-23, Mumbai	RSGF/ STGS
27	Dilip Kumar	130415002	Conference	December 2016, 25-02, Madras	RSGF/ STGS
28	Shailesh kumar	130415007	Conference	December 2016, 25-02, Madras	RSGF/ STGS
29	Dan Bahadur Pal	12602 EN009	Conference	December 2016, 25-02, Madras	RSGF/ STGS

Names of students/scholars who got prizes and awardsoutsidethe Institute

S. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Chandradhwaj Nayak		Dr. J.S. Pruthi Memorial Award		All India Food Processor Association
2	UK Gupta		Best paper award for 69th Annual session of IIChE, Chemcon 2016	Chennai, Dec 27-30, 2016	IIChE
3	P Gaurh		Best paper award for 69th Annual session of IIChE, Chemcon 2016	Chennai, Dec 27-30,	IIChE
4	Suverna Trivedi	014041006	Best poster Presentation as post graduate scientist	NIT Srinagar, Kashmir, May 25-29th, 2016	Prof. Kamal K Kar, IIT Kanpur

Names of scholars/students who won Convocation/Institute Day prizes

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Ms. Shalini Arora		Standing First at the M.Tech. in Chemical Engineering Examination, 2016	IIT(BHU) Varanasi
2	Shri Vaibhav Chaudhary		Standing First at the B.Tech. in Chemical Engineering Examination, 2016	IIT(BHU) Varanasi
3	Shri Vaibhav Chaudhary		R.B.G. Modi Medal for standing First at the B.Tech. in Chemical Engineering Examination, 2016	IIT(BHU) Varanasi
4	Shri Vaibhav Chaudhary		Manishi Sharma Memorial Gold Medal for securing First position at B.Tech. Chemical Engineering Examination, 2016	IIT(BHU) Varanasi
5	Shri Vaibhav Chaudhary		Mrs. Gargi Devi Trivedi Memorial Gold Medal for securing highest marks in B.Tech. Chemical Engineering Examination, 2016	IIT(BHU) Varanasi
6	Shri Vaibhav Chaudhary		Dr. R.J. Rathi Financial Award Rs. 1000/= cash for standing First at the B.Tech. in Chemical Engineering Examination, 2016	IIT(BHU) Varanasi
7	Shri Vaibhav Chaudhary		Manishi Sharma Memorial Cash Prize Rs. 2000/= for securing First position at the B.Tech. in Chemical Engineering Examination, 2016	IIT(BHU) Varanasi
8	Deepika Kushwaha	13041002	Third poster presentation prize	Prof. P.K. Mishra
9	Suverna Trivedi	014041006	Third poster presentation prize	Prof. P.K. Mishra

Names of Students/Scholars who went for foreign Internship

Note: Individual faculty members should provide the data

S. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Aayush Chandhothia	14045001	The American University in Cairo	Cairo	Egypt	1 June 2016–15 July 2016

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	A.K. Verma 13744	Modelling& Simulation, Multiphase Reactor Design & Artificial Intelligence
2	A.S.K. Sinha 13741	Reaction Engg, Photocatalysis., Electrocatalysts, Process Development, Hydrogen Energy, Nanotechnology
3	Ram Prasad 13737	Chemical reaction Engg. & Catalysis, Process Design & Development, renewable Energy
4	B.N. Rai 13746	Bio-remediation, Water Pollution control, Air Pollution control and Environmental Biotechnology
5	P.K. Mishra 13747	Separation Processes (Extraction & Membrane Separation), Wastewater Treatment, Polymeric & Ceramic Nanofibers
6	Pradeep Ahuja 13748	Modelling& Simulation Kinetics & Thermodynamics, Energy & Polymer Technology
7	M.K. Mondal 13749	Industrial Pollution Control, Transfer Process, Chemical Reaction Engg., Modeling& Simulation Process Optimization
8	R.S. Singh 16729	Environmental Biotechnology, Process Control, Bioremediation of Waste
ASSOCIATE PROFESSORS		
1	V.L. Yadav 13745	Polymer Technology, Transfer Processes, Chem. Reaction Engg, Chemical Technology
2	S.V. Singh 18210	Fruit and vegetable storage and processing, Adsorption
3	H. Pramanik 17500	Fuel Cell Technology, Energy Engineering, Electrochemistry
ASSISTANT PROFESSORS		
1	A.C. Mohan 13742	Process Control, Polymer Technology
2	Bhawana Verma 18152	Heat Transfer, Liquid membrane separation, Biodiesel, Pyrolysis, Liquid- Liquid Extraction
3	Durga Prasad A. 18151	Process modeling and simulation, Optimization techniques, Process dynamics and control, Process Equipment design.
4	Pradeep Kumar 18479	Chemical Technology, Industrial Pollution Abatement.
5	Sweta 19770	EnvironmentalCatalysis, Reaction Kinetics, Polymer Blends, Diesel Exhaust Treatment
6	Jyoti P. Chakraborty 19844	Pyrolysis, Gasification, Kinetics of Complex Reactions
7	Ravi P. Jaiswal 50025	Interfacial Engineering, Particle Adhesion

8	Ankur Verma 50026	Interfacial Science, Microfluidics, Nanotechnology
9	Manoj Kumar 50027	Optical Nano System Design, Energy and Photocatalysis
EMERITUS PROFESSORS		
1	Prof. S.N. Upadhyay	Bio Technology, Environmental Engineering, Fluidization, Transfer Operation
ANNUAL PROFESSORS		
1	K.K. Srivastava 13736	Process Engg., Transfer Processes, Fluidization Engg.

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

1. InSPIRE 2017, A workshop on "Inclusion in Smart city Planning of India of Renewable energy & Energy efficiency (InSPIRE), 25 March 2017.
2. Total Start : March 29, 2017. A startup workshop for the students by Surjo Ghosh, MD Total Start.

S. No.	Coordinator	Title	Period
1	Prof. P. K. Mishra	InSPIRE 2017, A workshop on "Inclusion in Smart city Planning of India of Renewable energy & Energy efficiency	25 March 2017
2	Prof. P.K. Mishra	Total Start: A startup workshop	March 29, 2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prof. P.K. Mishra	Panel Discussion on Biogas Renewable Energy Expo (Bio Energy Segment)	September 08, 2016 Greater Noida
2	Prof. B.N. Rai	Second capacity building and participatoryplanning workshop	March 31, 2017 NIRD & PR, Ministry of Rural Development, Hydrabad
3	Prof. B.N. Rai	Development in Sustainable Energy & Environment Protection	March 27, 2017 B.I.E.T. Jhansi
4	Prof. B.N. Rai	Meeting regarding review ARFI project	March 21, 2017
5	Prof. R.S. Singh	Meeting regarding review ARFI project	March 21, 2017
6	Prof. A.K. Verma	International conference on materials processing and characterization	March 17, 2017 Gokaraju Rangaraju, IET, Hyderabad
7	Prof. A.S.K. Sinha	Expert Committee Visit	February 07, 2017Telangana
8	Dr. Ravi P. Jaiswal		February 08, 2017 Kerala
9	Porf. P.K. Mishra	KEC International Ltd.	January 21, 2017 Jabalpur

10	Prof. P.K. Mishra	SOx emission problem in Hindalco Renusagar	January 24, 2017 Hindalco Renusagar
11	Prof. M.K. Mondal	SOx emission problem in Hindalco Renusagar	January 24, 2017 Hindalco Renusagar
12	Prof. Ram Prasad	Synthesis and performance of double substituted perovskite catalyst for diesel soot oxidation	January 01, 2017 HG Vishwavidyalaya, Sagar
Meetings			
1	Prof. P.K. Mishra	Meeting regarding Inspection of tanneries	March 28, 2017 Kanpur
2	Prof. P.K. Mishra	Interactive meeting of Nodal officer, IITs/ Technical institutions with the Secretary, Ministry of Environment, Forests & Climate Change (MoEF & CC)	March 15, 2017, New Delhi

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	Prof. P. K. Mishra	Frontier of Research in Chemical Engineering	NIT Raipur	February 20, 2017
2	Prof. P.K. Mishra	Entrepreneurial Avenues in chemical and textiles	IICT Bhadhoi	January 30, 2017
3	Prof. P.K. Mishra	Role of youth in Nations Development	Gandhi Smriti and Darshan Samiti, New Delhi	December 18, 2016
4	Prof. P.K. Mishra	Role of Bio Informatics in Entrepreneurship Development	Department of Bio Informatics Mahila Maha Vidyalay, BHU	December 09, 2016
5	Prof. P.K. Mishra	Air born pollutants and their impact	Care for air, Varanasi	October 24, 2016
6	Prof. P.K. Mishra	Basics of Entrepreneurship	Department of Geophysics, Institute of Science, BHU	September 16, 2016
7	Prof. P.K. Mishra	Integrating waste in our culture, harnessing power	Renewable Energy Expo at Greater Noida	September 08, 2016
8	Prof. P.K. Mishra	Role of Chemical Engineers in vegetable oil refining	BL Agro Ltd. Bareilly	September 04, 2016
9	Prof. P.K. Mishra	Sustainable development and renewable energy	Department of Chemical Engineering, MJP Ruhelkhand University, Bareilly	September 04, 2016
10	Prof. P.K. Mishra	Waste to Energy	UGC Human Resource Centre, BHU	June 04, 2016
11	Prof. P.K. Mishra	Make in India	Kashi Institute of Technology, Varanasi	May 16, 2016
12	JP Chakraborty, PhD	Pyrolysis of Biomass	Auburn University, Alabama, USA	June 30, 2016
13	Prof. P.K. Mishra	Panel Discussion on Biogas Renewable Energy Expo (Bio Energy Segment)	Greater Noida	September 08, 2016

14	Prof. R.S. Singh	Development in Sustainable Energy & Environment Protection	Bundelkhand Institute of Engineering & Technology Jhansi	March 27, 2017
15	Prof. A.S.K. Sinha	Photocatalytic decomposition of water for hydrogen production utilizing solar radiation	Madhav Institute of Technology & Science	February 02, 2017
16	Prof. P.K. Mishra	Key Note address on Innovative entrepreneurship and start-up	Kamla Nehru Institute of Technology,Sultanpur	March 03, 2017
17	Prof. R.S. Singh	Invited Talk on Biotechnology-Challenges and Opportunities",	Bundelkhand Institute of Engineering & Technology, Jhansi	May 2017,
18	Prof. R.S.Singh	Invited talk on Biofuels	Arya Mahila PG College	August 10, 2017, Varanasi

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Prof. P.K. Mishra	Germany (Berlin, Leipzig, Hanover)	12 November 2016	19 November 2016	Study of Biogas Installations and Visit to Bio Energy Institute	German Bio Gas Association
2	JP Chakraborty, PhD	USA	05/06/2016	02/07/2016	Short Term Research Scholar	CPDA, IIT (BHU)
3	Dr. Ram Prasad	UK, Holland, Netherlands, Germany, France, Switzerland, Italy, Spain	Aug 22, 2016	Sept 10, 2016	Tour and Conference	CPDA and self

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Dr. Satya Vir Singh	Dr. J.S. Pruthi Memorial Award for Development of New Products/New Process/ New Machinery in the area of Fruit & Vegetable Technology Awarded by All India Food Processor Association
2	Dr. A.K. Verma	Dr. J.S. Pruthi Memorial Award for Development of New Products/New Process/ New Machinery in the area of Fruit & Vegetable Technology Awarded by All India Food Processor Association
3	Dr. H. Pramanik	Best paper award for 69thAnnual session of IIChE, Chemcon 2016 , Chennai, Dec 27-30, 2016
4	Porf. M.K. Mondal	Member, committee of International Conference on New Energy and Future Energy System, August 19-22, 2016, Beijing, China.
5	Porf. P.K. Mishra	Member Governing Council NISBUD, 2015-2017
6	Prof. P.K. Mishra	Session Chair International Conference on Resource Management, Institute of Agricultural Sciences, BHU

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	JP Chakraborty, PhD (co-Author)	Conversion of solid waste to fuels and chemicals through pyrolysis	Elsevier
2	Dr. P.K. Mishra (Co-Author)	Manual on Water Analysis	Muddrak
3	Shalini Arora/ Ram Prasad	Catalytic conversion of greenhouse gases (CH4 & CO2) to synthesis gas	Lap Lambert Academic Publishing, Germany. 2016. ISBN : 978-3-659-94025-5.
4	Anupama Mishra/ Ram Prasad	Studies on catalytic oxidation of diesel soot over perovskite oxides	Lap Lambert Academic Publishing, Germany. 2016. ISBN : 978-3-Fkureel330-00396-5.
5	Suverna Trivedi/ Ram Prasad and Sony	Catalytic Control of Hydrocarbon Emissions from LPG Fuelled Vehicles	Lap Lambert Academic Publishing, Germany. 2017. ISBN: 978-3-330-01777-1.
6	S. K. Gautam/ Suverna Trivedi and Ram Prasad	Catalytic Abatement of CH_4 Emission from CNG Fuelled Vehicle Exhaust	Lap Lambert Academic Publishing, Germany. 2017.ISBN : 978-3-330-04637-5.

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Scanning Electron Microscope	1.5 Crore
2	Particle Size Analyser	30.4 Lakhs
3	Gas Chromatograph (2 nos)	17 Lakhs
4	PC based Sieve Plate Distillation Column	9.5 Lakhs
5	Number of experimental facilities in Heat Transfer lab	20 Lakhs
6	Number of experimental facilities in Mass Transfer lab	10 Lakhs
7	Experimental facility in Process Control lab	5 Lakhs
8	UV visible Spectrophotometer (2)	7 Lakhs
9	COD, BOD & other instrumentation facilities	More than 10 Lakhs
10	Boundary Wall of the Department	28 Lakhs

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	Prof. P.K. Mishra	A fermenter for enhanced bio-hydrogen production through fermentative route (Ref. No.: P.1174.IN, Date of filing: April 4, 2016). Published for sale.
2	Prof. P.K. Mishra	A pH independent cellulose system (Ref. No.: P.1278.IN, Date of filing: December 16, 2016)

Research and Consultancy

Sponsored research projects

Note : Sponsored project name is to be given only in case a faculty member is Project Incharge

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Development and Evaluation of IR NP for cellular wide sensitive E field mapping	2016-2019	DST Nano Mission	50.00	Manoj Kumar
2	Development and evaluation of poly herbal bi-layer wound dressing materials	2014-2017	DRDO	35.00	Prof. P.K. Mishra
3	Aerosol and Black Carbon Monitoring in Indo-Gangatic Plane	2007–continue	VSSC, ISRO	42.00	Prof. R.S. Singh
4	Design of High Temperature Facility for Graphite Dust Transport	2015-2017	BNRS, BARC, India	55.00	Prof. R.S. Singh
5	NOx Removal from Diesel Exhaust by Combined NOx Storage Reduction and NH_3 SCR System	August 2015-July 2018	DST (under Fast Track Young Scientist Scheme)	30	Dr. Sweta
6	Pyrolysis of Biomass for the Production of Bio-oil: Experimental and Computational Study	Jan/2013-ongoing (delay due to my transfer from RGIPT to IIT (BHU)	SERB, Govt. of India	23.5	Dr. J.P. Chakraborty
7	Characterization and anaerobic digestion of putrescible fractions in municipal solid waste		DST	18,90,000/-	Prof. MK Mondal
8	Removal of SO_2 and NOx from coal-fired thermal power plant stack gases		MoEF	25,73,280/-	Prof. MK Mondal
9	Municipal solid waste treatment and utilization		IIT(BHU)	20,00,000/-	Prof. MK Mondal
10	Thermochemical conversion of waste biomass and its utilization		IIT(BHU)	15,00,000/-	Prof. MK Mondal
11	Chemical Analysis of Water for Chitrangi Thermal Power Project Limited		Reliance Energy	4,46,000/-	Prof. MK Mondal
12	Energy Centre, Studies on Biofuel Cell	2017-18	IIT (BHU)	4.0 Lakh	Prof. R.S. Singh
13	Design and Innovation Hub	2015-17	IIT(BHU)	3.0 Lakh	Prof. R.S. Singh
14	Internship Programme,	2016-17	DST-TIFAC	5.0 Lakh	Prof. R.S. Singh
15	Development of Hybrid System for Decolorization of Dye Containing Waste Water	2017-18	IIT(BHU)	8 Lakh	Prof. R.S. Singh

Industrial consultancy projects

S. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Prof. P.K. Mishra	Monitoring of GPIs along the Ganges with special emphasis on textiles and tanneries	Central Pollution Control Board	123.00
2	Prof. P.K. Mishra	Adequacy studies on ETP of Modi Nagar Paper Mil	Modi Nagar Paper Mil	60.00

Faculty members' participation with other universities under MoUs

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	09
2	Total Number of Papers Published in Refereed International Journals	85
3	Total Number of Papers Presented in National Conferences	28
4	Total Number of Papers Presented in International Conferences	00

(a) Refereed International Journals

1. Neha Srivastava, Manish Srivastava, P.K. Mishra, Vijai K. Gupta, Gustavo Molina, Susana Rodriguez-Couto, Ambepu Manikanta and P.W.Ramteke. Applications of fungal cellulases in biofuel production: advances and limitations. Renewable & Sustainable Energy Reviews, Elsivier [Accepted].
2. Neha Srivastava, , Manish Srivastava, Ambepu Manikanta, Pardeep Singh P.W. Ramteke, P. K. Mishra and Bansi Malhotra. Production and Optimization of Physicochemical Parameters of Cellulase Using Untreated Orange Waste by Newly Isolated Emericella variecolor NS3, Applied Biochemistry and Biotechnology, SpringerDOI 10.1007/s12010-2017-2561-x.
3. Deepika Kushwaha, Ishita Mishra, Neha Srivastava and P.K. Mishra. Optimization of pretreatment conditions for enhanced sugar release. International Journal of Green Energy, DOI: 10.1080/15435075.2017.1359784.
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6. Pratap Srivastava, Rishikesh Singh, Sachhidanad Tiwari and Pradeep Kumar Mishra. Soil carbon dynamics under changing climate: A research transition from absolute to relative role of inorganic N pools and associated microbial processes. Pedosphere, (2017), doi: 10.1016/S1002-0160(17)60
7. Shradhha Awasthi, Pratap Srivastava and Pradeep Kumar Mishra. Application of EPS in Agriculture: an Important Natural Resource for Crop Improvement, DOI: 10.19080/ARTOAJ.2017.08.555731.
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Ramteke, P. K. Mishra. Efficient dark fermentative hydrogen production from enzyme hydrolyzed rice straw by Clostridium pasteurianum (MTCC116). Bioresource Technology, 238 (2017) 552–558.

10. Shraddha Awasthi, Neha Srivastava, Tripti Singh, D. Tiwary, Pradeep Kumar Mishra. Biodegradation of thermally treated low density polyethylene by fungus Rhizopus oryzae NS 5 (ITCC no. KT160362), 3Biotech, 2017, DOI: 10.1007/s13205-017-0699-4.
11. N.Srivastava, M.Srivastava, A.Manikanta, P. Singh, P.W.Ramteke, P.K. Mishra. Nanomaterials for biofuel production using lignocellulosic waste. Environ Chem Lett.(2017) 1-6.
12. N.Srivastava, M.Srivastava, P.K.Mishra, P.Singh, H.Pandey, P.W.Ramteke. Nanoparticles for biofuels production from lignocellulosic waste. In: Ranjan S, Gupta ND, Lichtfouse E (eds) Nanoscience in Food and Agriculture 4, volume 24 of the series Sustainable Agriculture Reviews. Springer, Berlin, (2017), pp 263–278.
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onto Coal Dust and Magnetized Sawdust Using Box-Behnken Design of Experiments, Environmental Progress & Sustainable Energy, American Institute of Chemical Engineers, 35(2016) 1597–1604. Impact factor: 1.631

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7. Shweta Singh, R. Prasad (2016) Physico-chemical analysis and study of different parameters of hopcalite catalyst for CO oxidation at ambient temperature, Int. J. Sci. Eng. Res., 7(4): 846-855. Dey S, Dhal GD, Prasad R, Mohan D (2016) Total oxidation of CO by CuMnOx catalyst at a low temperature, Int J Sci Eng Res, 7(10):1730-1737.
8. Sachin Geed, Avinash Raj, M K Kureel, Vijay Pratap Singh, Sumit Kumar, Balendu Giri, B.N.Rai, R S Singh, Studies on removal of Atrazine by coupling Fenton reaction with bioreactor in series, Indian journal of experimental biology, 55, 498-505, 2017.
9. Vikash Bharti, Amrita Shahi, Sachin Geed, M.K. Kureel, B.N. Rai, Surendra Kumar, B.S. Giri, R S Singh, Biodegradation of reactive orange 16 dye in the packed bed bioreactor using seeds of Ashoka and Casuarina as packing media, Indian Journal of Biotechnology, 2017(Accepted)

(c) Proceedings of International Conferences

1. R.K. Singh, A. Sarkar, JP Chakraborty, A Review on gasification of torrefied biomass, Challenges in Sustainable Development from Energy & Environment Perspectives, MMMUT, Gorakhpur in association with ENEA, Italy.

(d) Proceedings of National Conferences

1. Susmit Ilame, RPS Kushwaha and Satya Vir Singh (2016)primary clarification of kinnow fruit juice: a comparative study between centrifugation and microfiltration.International conference on recent advances in food processing and biotechnology 2016 at Center of food Science and Technology, Banaras Hindu University, Varanasi (U.P.) 221005

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. Birla, A., Singh, B., Sharma, Y.C., and Upadhyay, S.N., Kinetics Studies of Synthesis of Biodiesel from Waste Frying Oil Using a Heterogeneous Catalyst Derived from Snail Shell, Bioresource Technology, 106, 95-100, (2012). (Citations 121)
2. Sharma, Y.C., Uma, Upadhyay, S.N., Removal of a Cationic Dye from Wastewaters by Adsorption on Activated Carbon Developed from Coconut Coir, Energy & Fuels, 23, 2983-2988 (2009). (Citations 118)
3. Maya, K., Singh, R.S., Upadhyay, S.N., and Dube, S.K., Kinetic Analysis Reveals Bacterial Efficacy for Biodegradation of Chlorpyrofos and Its Hydrolyzed Metabolite TCP, Process Biochemistry, 46, 2130-2136 (2011). (Citations 44)
4. R. Prasad, V. R. Bella. A Review on Diesel Soot Emission, its Effect and Control. Bull. Chem. React. Eng. & Catal. 5(2) (2010) 69-86. (Citations 40)
5. Singh, K., Singh, R. S., Rai, B. N., and Upadhyay, S.N., Biofiltration of Toluene Using Wood Charcoal as the Biofilter Media, Bioresource Technology, 101(7), 3947-3951, (2010). (Citations 39)

Distinguished Visitors

S. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Dr. Surjo Ghosh, MD, Total Start	March 29, 2017	Workshop on Start-up
2	Dr. Deepak Ghadia, Trustee, Muni Seva Aashram, Vadodara	March 26, 2017	Workshop on Renewable Energy (Solar)
3	Mrs. Janak Palta McGiligan, MD, Jimy McGiligan, Centre for Sustainable Development	March 26, 2017	Workshop on Renewable Energy (Solar)
4	Dr. Ajay Chandak, Certified Energy Auditor & Renewable Energy Consultant,	March 26, 2017	Workshop on Renewable Energy (Solar)
5	Mr. Gaurav Kedia, Chairman, IBA	March 26, 2017	Workshop on Renewable Energy (Biogas)
6	Dr. M.R. Nauni, MNRE, GOI	March 26, 2017	Workshop on Renewable Energy (Bio Energy)
7	Dr. R.P. Verma, Former MD, IOC R&D Center, Faridabad	March 26, 2017	Workshop on Renewable Energy (Energy Initiatives of IOC)
8	Dr. R.K. Jalan, UNDP, New Delhi	March 26, 2017	Workshop on Renewable Energy (Waste to Energy)
9	Dr. P.S. Ojha, Coordinator, Bio Energy Development Board, UP	March 26, 2017	Workshop on Renewable Energy (Biogas & Briquetting)

10	Prof. Sandeep Desai, Chief Trustee, Shloka Missionaries, Mumbai	March 21, 2017	Lecture and interaction
11	Prof. G.D. Agrawal, Environmentalist	March 10, 2017	Interaction
12	Mr. M.K. Pathak, Consultant, Bangkok (1975 Batch, Chemical Engineering, BHU)	December 09, 2016	Interaction with the students
13	Mr. Ganesh Rangaswami, Entrepreneur, USA (1996 Batch Chemical Engineering BHU)	December 09, 2016	Interaction with the students
14	Mr. Yogesh Kumar Upadhyay, Consultant USA (1975 Batch Chemical Engineering BHU)	December 02, 2016	Interaction with the students
15	Mr. Siddharth Dubey, Entrepreneur, Delhi (Chemical Engineering 2003 batch)	November 25, 2016	Interaction with the students
16	Dr. Manu Vora, Chairman and President, Business Excellence, Inc., Educator, Entrepreneur, Leader, Mentor, Philanthropist, Thinker, Naperville, Illinois, USA	September 10, 2016	Principal N.N. Godbole, Memorial Institute Lecture
17	Mr. Anubhav Dwivedi, MD, Savient Consulting Company, Pune	August 02, 2016	Lecture & Interaction with the students
18	Mr. Gaurav Kedia, Chairman, IBA	August 02, 2016	Lecture & Interaction with the students
19	Mr. Anjaneya Singh, IAS, Secretary, UP Government	May 05, 2016	Lecture on initiatives of UP Government in the field of ground water and renewable energy with especial emphasis on energy crop
20	Mr. Raghav Kansal, Founder & CEO,ET Medialabs, New Delhi	May 03, 2016	Lecture
21	Mr. Anubhav Gupta, MD, Modi Paper Mills Ltd., Ghaziabad	May 02, 2016	Collaboration
22	Mr. Vasudev Singh, IOC, Alumnus (2004 Batch)	April 23, 2016	Interaction
23	Mr. Manish Jain, IUCAA Science Center, Pune	April 07-08, 2016	Science workshop

Other activities

International collaboration/achievements by the Department/School

Indian Faculty visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. A.B. Soni, Prof. NIT, Raipur	R & D Collaboration	February 28, 2017

Foreign Faculty Visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Porf. Kunal Karan, Schulich School of Engineering, University of Calgary, Canada	Interaction and Lecture	December 02, 2016
2	Dr. Shweta Singh, Agricultural & Biological Engineering, Purdue University, USA	Interaction and Lecture	November 30, 2016
3	Dr. Jagannadh Satyavolu, Theme Leader, Biomass and Biofuels, University of Louisville, Kentucky, U.S.A	Lecture and Collaboration	May 26, 2017

Foreign Students Visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Mr. Sumit Srivastava, Landon Business School	Study of Start-up eco-system in IIT(BHU)	December 22, 2016

Note : Please provide three photographs (Soft Copy) of Laboratory / Best Laboratory Equipment of your Department/Schoolwith footnote details.

9. Department of Computer Science & Engineering

Year of Establishment : 1983

Head/Coordinator of the Department : Prof. K.K. Shukla

Brief Introduction of the Department

The Department of Computer Engineering was established in July 1983. The department offers a 4 year course, B.Tech. in Computer Sc. & Engineering, 5 year Integrated Dual Degree (B.Tech. and M.Tech.) in Computer Sc. & Engineering from 2005-2006, and Ph.D. degree in various specializations of Computer Sc. and Engineering. Computer Sc. & Engineering is the most sought-after branch for the JEE selected students that come to the Institute. Our graduates have distinguished themselves in higher studies at the top Universities. They also occupy positions of eminence in the computer industry. Our Alumni remain in constant touch with us and are contributing in the development of the department. Placements for our graduates are the best in the Institute. The department has on its roll faculty members with international experience and training. The departmental research is focused in the areas of Artificial Intelligence, Neuro Computing, Parallel Processing, Software Engineering, Image Processing and Computer Vision, Medical Image Processing, Pattern Recognition, Data mining and Web mining, Biometrics and semantic web. Besides plan funding, the Department attracts financial inputs through externally funded projects and alumni donations. The department was selected by the Ministry of Communications and Information Technology as a node in the National endeavor on Technology Development for Indian Languages.

Major areas of Research

- Parellel/Distributed Computing , Software Engineering
- Artificial Intelligence, Neural Networks, Data Mining
- Artificial Intelligence, Multiagent Systems, Semantic Web
- Image Processing, Computer Vision, and Pattern Classification
- Biometrics, Pattern Classification, Image Processing, Video Processing
- Software Engineering,SoftwareRengineering
- Data Mining, Web Mining and Social Networks
- Data Structures,Algorithms and High Performance Computing
- Information Extraction, Text Summarization, Web Mining
- Natural Language Processing, Computational Linguistics, Information Retrieval
- Wireless Sensor Networks, Mobile Ad-hoc Network, and Human-Computer Interaction
- Information Retrieval, Natural Language Processing, Text Mining

Area of the Department/School (in square meters): 1454.66 sqm

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	02
2	No. of Lecture Halls	03
3	No. of Laboratory	09
4	No. of Computers available for students in the Department/School/ School	196 PC+04 Servers

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	CSO 303	Ubiquitous Computing	3-0-0 (09)
2	CS-7027	Selected topics in Mobile Computing	3-0-2 (11)
3	CS-7028	Selected Topics in Wireless Network	3-0-2 (11)

4	CS-7029	Selected Topics in Augmented Reality and Virtual Reality	3-0-2 (11)
5	CS-7030	Information Retrieval	3-0-2 (11)

Students on Roll

S. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	59	65	65	64	---
2	Dual Degree	15	17	17	15	19
3	M. Tech/ M. Pharm	---	---	---	---	---
4	Ph. D (Under Institute Fellowship)	12	---	02	07	02 + 01 (Rajiv Gandhi Fellowship)
5	Ph. D (Under Project Fellowship)	---	---	---	---	---
6	Ph. D (Under Sponsored Category)	01 + 01 (Internal)	---	---	01	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
ABROAD					
1	Shriyansh Gautam	13075045	MOBISYS	Singapore	
2	Sabyasachi Mohanty	13075062	MOBISYS	Singapore	IIT (BHU)

Names of students/scholars who got prizes and awards outside the Institute

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Ayush Srivastava	14075014	Code Fun Do	Microsoft
2	Prakhar Gupta	14075038	Code Fun Do	Microsoft

Names of scholars/students who won Convocation/Institute Day prizes

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Prakhar Gupta	14075038	UG Category	Institute
2	Rishabh Agarwal	14074011	UG Category	Institute

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
Example	*Michael Gromiha*	*Protein Bioinformatics*
PROFESSORS		
1	Prof. A.K. Tripathi	Parellel/Distributed Computing , Software Engineering

2	Prof. K.K. Shukla	Artificial Intelligence, Neural Networks, Data Mining
3	Prof. R.B. Mishra	Artificial Intelligence, Multiagent Systems, Semantic Web
4	Prof. Rajeev Srivastava	Image Processing, Computer Vision, and Pattern Classification
ASSOCIATE PROFESSORS		
1	Dr. S.K. Singh	Biometrics, Pattern Classification, Image Processing, Video Processing
ASSISTANT PROFESSORS		
1	Dr. V. Srivastava	Software Engineering, Software Rengineering
2	Dr. B. Biswas	Data Mining, Web Mining and Social Networks
3	Dr. R.S. Singh	Data Structures, Algorithms and High Performance Computing
4	Dr. R.N. Chowdary C	Information Extraction, Text Summarization, Web Mining
5	Anil Kumar Singh	Natural Language Processing, Information Retrieval, Information Extraction
6	Dr. H.P. Gupta	Wireless Sensor Networks, Mobile Ad-hoc Network, and Human-Computer Interaction
7	Dr. S. Pal	Information Retrieval, Natural Language Processing, Text Mining

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	R.B. Mishra	Computational Biology and Neuroscience	13th to 18th June, 2016
2	Rajeev Srivastava, (Other co-coordinators: Prof. R.K. Srivastava (EE), Dr. M.K. Meshram (ECE))	3rd IEEE UP Section International Conference on Electrical, Electronics, and Computer (UPCON-2016), Jointly organized by Departments of Electrical, Computer and Electronics Engineering, IIT (BHU), Varanasi.	8-10, Dec'2016.
3	Anil Kumar Singh	GIAN Course on Machine Translation : Theory and Practice	7 days
4	Anil Kumar Singh	13th International Conference on Natural Language Processing (ICON-2016)	4 days
5	Anil Kumar Singh	Regional Conference on Natural Language Processing (regICON-2016)	1 day
6	Hari Prabhat Gupta	International Workshop on Applications of Natural Language Processing in Ubiquitous Computing (INUCOM): Natural Language Interfaces for Human Computer Interaction-- In conjunction with 13th International Conference on Natural Language Processing (ICON-2016)	1 day

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Rajeev Srivastava (Session Chair)	Image Processing, Computer Vision and Pattern Recognition	10/12/2016 IIT (BHU), Varanasi (3rd IEEE UP Section International Conference on Electrical, Electronics, and Computer (UPCON-2016))
2	Rajeev Srivastava (Session Chair)	Machine Learning	07/01/2017 Hyderabad (7th IEEE International Advance Computing Conference (IAAC) at VNR VJIET, Hyderabad, India)
3	Anil Kumar Singh	Natural Language Processing: Tools and Techniques	24-25 January, 2017 Amity University, Lucknow
4	Anil Kumar Singh	Modern Perspective of NLP in Hindi and Other Indian Languages	17-19 August, 2016, MGAHV, Wardha
5	Anil Kumar Singh	Preservation, Promotion and Technological Development of Indian Languages	25 May, 2016 Babasaheb Bhimrao Ambedkar University, Lucknow
6	Anil Kumar Singh	Challenges in Promoting Language Technology in Hindi	07-09 April, 2016 MGAHV, Wardha
7	Anil Kumar Singh	7th Advanced Summer School on NLP (IASNLP-2016)	20 June to 4 July, 2016 IIIT, Hyderabad
8	Anil Kumar Singh	Indian Language Corpora Initiative (ILCI)	1-2 April, 2016 Goa University, Goa
9	Hari Prabhat Gupta	13th International Conference on Natural Language Processing (ICON-2016)	December 17-20, 2016, IIT (BHU) Varanasi, India
10	Ravi Bhushan Mishra	Computational Biology and Neuroscience	13-18 June 2016

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	K.K. Shukla	Curriculum design and Big Data Analytics	MIT Academy of Engineering, Pune	19th to 21st September, 2016
2	K.K. Shukla	Information Security	Lecture Series at YC College of Engineering, Nagpur	23rd to 27th February, 2016
3	Rajeev Srivastava	Image Processing, Pattern Classification and Medical Image Analysis	"Madan Mohan Malviya University of Technology (MMMUT), Grakhpur, UP, India TEQIP sponsored STC on Advances in Computing Technology (ACT-2016) organized by Department of Computer Science and Enggi.)"	July 3-9'2016

4	Rajeev Srivastava	Selected research topics in image processing, computer Vision, and pattern classification	VNR VJIET, Hyderabad (at 7th IEEE International Advance Computing Conference (IAAC)-2017))	January 7, 2017
5	Rajeev Srivastava	Computer Vision research: A machine learning perspective	Madan Mohan Malviya University of Technology (MMMUT), Grakhpur, UP, India (In Ist winter school on Advances in Computing Technology (ACT-2017) organized by Department of Computer Science and Engineering)	23rd February – 1st March, 2017
6	Anil Kumar Singh	Computational Aspects of NLP and Resource Creation	Amity University, Lucknow	24-25 January, 2017
7	Anil Kumar Singh	Problems of Language Technology in India: A Practitioner's Perspective	MGAHV, Wardha	17-19 August, 2016
8	Anil Kumar Singh	Linguistic Resources for SMT	IIIT, Hyderabad	20 June to 4 July 2016
9	Anil Kumar Singh	Annotation Interfaces for Creating Linguistic Resources	MGAHV, Wardha	07-09 April, 2016
10	Anil Kumar Singh	Sanchay: Annotation Interfaces for Indian Language Resources	Goa University, Goa	1-2 April, 2016
11	Hari Prabhat Gupta	NS2 Simulation for Wireless Multimedia Sensor Networks	SRMSCET, Bareilly, India.	12-16 July, 2016
12	Hari Prabhat Gupta	Language and Vision	INUCOM, ICON'16.	December 17, 2016
13	Hari Prabhat Gupta	WSN	Bengal College of Engineering and Technology, Durgapur	04-Feb-2107
14	Hari Prabhat Gupta	WSN	Heritage Institute of Technology, Kolkata	03-Feb-2107
15	Ravi Bhushan Mishra	Machine Learning Methods and Application	Ambedkar Central University, Lucknow.	March 2017

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	K.K. Shukla	Singapore	19.02.2017	24.02.2017	Conference and Chaired session in TICEAS 2017 on “An integer programming formulation of the intuitionistic fuzzy orienteering problem and its work-depth analysis”	CPDA

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Rajeev Srivastava	Subject Expert/ Member of Faculty selection committee of RGPIT (Rae Bareilly), UPPSC (Allahabad), BIT Mesra (Ranchi)
2	Rajeev Srivastava	Member, Board of Studies, JNTU Hyderabad

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Tinkering Lab	10,00,000.00 (Rs. Ten Lakhs)

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	S.K. Singh, Hari Prabhat Gupta & Tanima Dutta	No. : 201711008958 A System and Method For Real-Time Cattle Recognition Using Muzzle Images

Research Publications

S. No.	Name of Faculty Member	No.
1	Total Number of Papers Published in Refereed National Journals	0
2	Total Number of Papers Published in Refereed International Journals	28
3	Total Number of Papers Presented in National Conferences	02
4	Total Number of Papers Presented in International Conferences	18

(a) Refereed International Journals

1. Anuranjeeta, Saxena S, Shukla K. K, Sharma S. (2016) Cellular Image Segmentation using Morphological Operators and Extraction of Features for Quantitative Measurement. Biosci Biotech Res Asia13(2): 353-366.
2. Anuranjeeta A, Shukla K. K, Tiwari A, Sharma S. (2017) Classification of Histopathological images of Breast Cancerous and Non Cancerous Cells Based on Morphological features. Biomed Pharmacol J 10(1):1101-1112.
3. Anuranjeeta, Shiru, S., Shukla, K.K., Aseem, A. (2017) Evaluation of morphological changes in histopathological images of ovarian and breast cancer tissues and its correlation with biochemical parameters. Research Journal of Biotechnology, 12 (4): pp. 30-38.
4. M. Verma&K. K. Shukla (2017) A new accelerated proximal technique for regression with high-dimensional datasets. Knowledge and Information Systems, pp. 1-16. ISSN: 0219-3116.
5. Ramesh C. Pandey, Sanjay K. Singh, Kaushal K. Shukla, Passive forensics in image and video using noise features: A review, Digital Investigation, Volume 19, December 2016, Pages 1-28, ISSN 1742-2876.
6. Vinay Kumar, Lalitsingh,Pooja Singh, and A.K. Tripathi, "Analysis of safety critical systems using transformation of UML into state space models: A Case Study of NPP", IEEE Software ISSN 0740-7459, (ACCEPTED on March 30th 2017). [SCI, Impact factor: 0.82]
7. Vinay Kumar, Lalitsingh, and A.K. Tripathi, "Transformation of deterministic models into state space models for safety analysis of safety critical systems: A case study of NPP", Annals of Nuclear Energy, Elsevier JournalISSN 0306-4549,volume: 105 (July 2017), pp. 133-143. [SCI, Impact factor: 1.174]

8. Vinay Kumar, Lalitsingh, and A.K. Tripathi, “A Probabilistic Hazard Assessment Framework for the Safety-critical and Control Systems: A Case Study For a Nuclear Power Plant”, Nuclear Technology Journal ISSN 0029- 5450 (ANS), volume: 197no. 1 (January 2017), pp. 22-28. [SCI, Impact factor: 0.60]
9. Tanima Dutta and Hari Prabhat Gupta, "Leveraging Smart Devices for Automatic Mood-transferring in Real-time Oil Painting", IEEE Transactions on Industrial Electronics, vol 64, no 2, pp 1581 – 1588, 2016.
10. Hari Prabhat Gupta, T. Venkatesh, S. V. Rao, Tanima Dutta, and Rahul Radhakrishnan, "Analysis of Coverage under Border Effects in Three-Dimensional Mobile Sensor Networks", IEEE Transactions on Mobile Computing, vol PP, no 99, pp 1-14, 2017.
11. Tanima Dutta and Hari Prabhat Gupta, "An Efficient Framework for Compressed Domain Watermarking in P-frames of HEVC- Encoded Video", ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), vol 13, no 1, pp 12:1-12:24, 2017.
12. Tanima Dutta and Hari Prabhat Gupta "A Robust Watermarking Framework for High Efficiency Video Coding (HEVC)- Encoded Compressed Video", Elsevier Journal of Visual Communication and Image Representation, volume 38, pp. 29-44, 2016.
13. Hari Prabhat Gupta, Haresh S. Chudgar, Siddhartha Mukherjee, Tanima Dutta, and Kulwant Sharma, "A Continuous Hand Gestures Recognition Technique for Human-Machine Interaction using Accelerometer and Gyroscope sensors" , IEEE Sensors Journal, vol 16, no 16, pp 6425 - 6432, 2016.
14. Nagendra Pratap Singh, Rajeev Srivastava, “Retinal blood vessels segmentation by using Gumbel Probability Distribution Function based matched filter”, Computer Methods and Programs in Biomedicine, Elsevier (Science Direct), Volume 129, Pages 40–50, June' 2016. (SCI IF: 1.897).
15. RB Yadav, Subodh Srivastava, Rajeev Srivastava, "A partial differential equation-based general framework adapted to Rayleigh's, Rician's and Gaussian's distributed noise for restoration and enhancement of magnetic resonance image", Journal of Medical Physics, Vol. 41, Issue 4, pp. 254-265, 2016. DOI: 10.4103/0971-6203.195190.
16. Arvind Tiwari, Rajeev Srivastava, “An efficient approach for prediction of nuclear receptor and their subfamilies based on fuzzy k-nearest neighbor with maximum relevance minimum redundancy", Proceedings of the National Academy of Sciences, India Section A: Physical Sciences (An International Journal), Springer, Nov'2016. (SCI IF: 0.390).
17. Alok Kumar Singh Kushwaha, and Rajeev Srivastava, “A Framework for Moving Object Segmentation using Dynamic Background Modeling and Shadow Suppression in Complex Wavelet Domain”, Imaging Science Journal, Taylor and Francis, UK, Vol. 64, Issue 5, pp. 267-278, 2016.
18. Vibhav Prakash Singh, Ayush Srivastava, Devang Kulshrestha, Arpit Chaudhury, Rajeev Srivastava, "Mammogram Classification using selected GLCM features and random forest classifier", International Journal of Computer Science and Information Security, USA, Vol. 14, No. 6, pp. 82-87, June'2016.
19. Vibhav Prakash Singh, Ashim Gupta, Rajeev Srivastava, “Fast and effective image retrieval using colour and texture features with self-organising map”, International Journal of Computational Systems Engineering(IJCSE), Inderscience, U.K., May' 2016.
20. Singh, Vibhav Prakash, Subodh Srivastava, and Rajeev Srivastava. "An Efficient Image Retrieval Based on Fusion of Fast Features and Query Image Classification." International Journal of Rough Sets and Data Analysis (IJRSDA) 4.1 (2017): 19-37 (ACM, DBLP Index).
21. RB Yadav, Subodh Srivastava, Rajeev Srivastava, “Identification and removal of different categories of noises from magnetic resonance image using hybrid partial differential equation based filter”, International Journal of Digital Signals and Smart Systems, UK, Accepted, February' 2017.
22. Rajesh Kumar, Subodh Srivastava, Rajeev Srivastava “Microscopic biopsy image segmentation using hybrid color k-means approach”, International Journal of Computer Vision and Image Processing (IJCVIP), Vol. 7, No. 1, Article 5, pp. 82-94, January' 2017.
23. R.B. Yadav, Subodh Srivastava, Rajeev Srivastava, “Modified complex diffusion based nonlinear filter for restoration and enhancement of magnetic resonance images”, International Journal of Medical Engineering

and Technology (IJBET), Inderscience, UK. (In Scopus and DBLP), Vol. 23, No. 1, pp. 19-37 , January 2017.
24. "Analysis of Node Velocity Effects in MANET Routing Protocols using Network Simulator (NS3)", LakshmanNaik.L, R.U.Khan, R.B.Mishra, International Journal of Computer Applications (IJCA), (0975 – 8887) Volume 144 – No.4, June 2016
25. "Analysis of Performance Improving Parameters of DSDV using NS-3",LakshmanNaik.L, R.U.Khan, R.B.Mishra, International Research Journal of Engineering and Technology (IRJET),[Impact Factor: 4.45, e-ISSN: 2395 -0056 Volume: 03 Issue: 07 | July-2016 www.irjet.net p-ISSN: 2395-0072
26. "Analysis of Transmit Power Effects in Ad-hoc Network Protocols using Network Simulator-3" LakshmanNaik.L, R.U.Khan, R.B.Mishra, International Research Journal of Engineering and Technology (IRJET), [Impact Factor: 4.45, e-ISSN: 2395 -0056 Volume: 03 Issue: 07 | July-2016 www.irjet.net p-ISSN: 2395-0072
27. "Analysis of Node Density and Pause Time Effects in MANET Routing Protocols using NS-3, LakshmanNaik.L, R.U.Khan, R.B.Mishra, International Journal of Computer Network and Information Security (IJCNIS), MECS Publications, ICV: 8.19, Open Access.2016, 12, 9-17 Published Online, December 2016 in MECS (http://www.mecs-press.org/) DOI: 10.5815/ijcnis.2016.12.02
28. K Means Clustering For Gene-Gene Interaction In Episodic Memory, SudhakarTripathi, Anand Kumar Sharma, R. B. Mishra and BabitaPandey, International Journal of Control Theory and Applications, 9(11) 2016, pp. 5529-5540 © International Science Press

(b) Proceedings of International Conferences

1. Mridula Verma, Prayas Jain, K K Shukla (2016) A New Faster First Order IterativeScheme for Sparsity-based Multitask Learning, Proceedings of 2016IEEE International Conference on Systems, Man, and Cybernetics (SMC), Budapest, Hungary,pp. 1603-1608.
2. Mridula Verma and K. K. Shukla, Performance comparison of proximal methods for regression with nonsmooth regularizers on real datasets, International Conference on Advances in Computing, Communications and Informatics (ICACCI), Jaipur, pp. 447-453 (Acceptance Rate: 15%).
3. Jain P., Shukla K.K. (2016) Cryptographic Assessment of SSL/TLS Servers Popular in India. In: Mueller P., Thampi S., Alam Bhuiyan M., Ko R., Doss R., Alcaraz Calero J. (eds) Security in Computing and Communications. SSCC 2016. Communications in Computer and Information Science, vol 625. Springer, Singapore.
4. R. C. Pandey, S. K. Singh and K. K. Shukla (2017) A fully automated blind and passive forensic method for image splicing detection, SCESM, 27-28 January, Belagavi, India, pp. 1638-1645.
5. Madhushi Verma and K. K. Shukla (2017) An Integer Programming Formulation of the Intuitionistic Fuzzy Orienteering Problem and Its Work-Depth Analysis, In Proc. of The International Conference on Engineering and Applied Sciences (TICEAS-2017), Singapore, 2017.
6. Mridula Verma and K. K. Shukla (2017) Fast Multi-Modal Unified Sparse Representation Learning. Proceedings of 2017 ACM International Conference on Multimedia Retrieval (ICMR), Bucharest, Romania (accepted).
7. Prnay Jain, Shubham Varma, Ankit, Hari Prabhat Gupta, Tanima Dutta, "A Supervised Approach Towards Network Control System Modelling", International Conference on COMmunication Systems & NETworkS (COMSNETS), Bangalore 2017.
8. Santosh Kumar, S. K. Singh, Tanima Dutta, and Hari Prabhat Gupta, "A Fast Cattle Recognition System using Smart devices", In ACM Multimedia (ACM MM) (Demo paper), Amsterdam, The Netherlands 2016.
9. Shriyansh Gautam, Hari Prabhat Gupta, and Tanima Dutta, "A Step Towards Smart Traffic Sign Board by Smart Device", In ACM MobiSys ASSET Symposium, Singapore 2016.
10. Sabyasachi Mohanty, Murari Toshniwal, Tanima Dutta, and Hari Prabhat Gupta, "The Future to Personalize Medicine Is in Your Smart-device", In ACM MobiSys ASSET Symposium, Singapore 2016.
11. Santosh Kumar, Sanjay Kumar Singh, Tanima Dutta, and Hari Prabhat Gupta, "A Low-Cost Cattle

Recognition System using Wireless Multimedia Networks", In ACM MobiSys ASSET Symposium, Singapore 2016.

12. Hemant Jeengar, Pradeep Yadav, Hari Prabhat Gupta and Tanima Dutta, "A Voice-based Indoor Positioning System for Visually Impaired People Number", In ACM MobiSys ASSET Symposium, Singapore 2016.
13. Vibhav Prakash Singh, Shivoam Malhotra, Rajeev Srivastava, Combining Hybrid Information Descriptors and DCT for improved CBIR performance, IEEE Sponsored 2nd International Conference on Control Computing Communication and Materials (ICCCCM-2016), 21-22 October, 2016, Allahabad.
14. Vibhav Prakash Singh, Rajeev Srivastava, Improved Image Retrieval Using Colour-Invariant Moment, 3rd IEEE-International Conference on Computational Intelligence & Communication Technology, Feb 10-11, 2017, Ghaziabad.
15. Vibhav Prakash Singh, Devang Kulshrestha, Ayush Srivastava, Arpit Chaudhary, Rajeev Srivastava, Content-Based Mammogram Retrieval Using k-means Clustering and Local Binary Pattern, 2nd International conference on Image, Vision and Computing, June 2-4, 2017, Chengdu, China. (Scopus/EI-Compendex index IEEE Conference: Accepted)
16. R.B. Yadav, Subodh Srivastava, Rajeev Srivastava, "An efficient PDE-Based nonlinear filter adapted to Rician noise for restoration and enhancement of magnetic resonance images", INDIA INTERNATIONAL CONFERENCE ON INFORMATION PROCESSING (IICIP 2016), held at Delhi Technological University, Delhi, India during August 12-14, 2016.
17. "Intelligent Computing Methods in Language Processing by Brain" AshishRanjan, R.B. Mishra, A.K. Singh, International Conference on Advanced Informatics for Computing Research (ICAICR-2017), 17-18 march 2017;Springer, Indexing- Scopus, DBLP, Google Scholar
18. Cloud Service Selection Using TOPSIS and Fuzzy TOPSISwith AHP and ANP, AkshayJaiswal and R.B. Mishra, ICMLSC '17, January 13-16, 2017, Ho Chi Minh City, Viet Nam© 2017 ACM. ISBN 978-1-4503-4828-7/17/01DOI: http://dx.doi.org/10.1145/3036290.3036312

(c) Proceedings of National Conferences

1. Ramashish Gaurav, Mridula Verma, and K K Shukla. 2016. Informed multimodal latent subspace learning via supervised matrix factorization. In Proceedings of the Tenth Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP '16). ACM, New York, NY, USA, Article 36, 8 pages. DOI: https://doi.org/10.1145/3009977.3010012.
2. Gorisha Agarwal, Ronak Garg, Divya Garg, Bikash Prasad, Tanima Dutta, and Hari Prabhat Gupta, "A Fast Identity-Independent Expression Recognition System for Robust Cartoonification using Smart Devices", Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP), Guwahati 2016.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

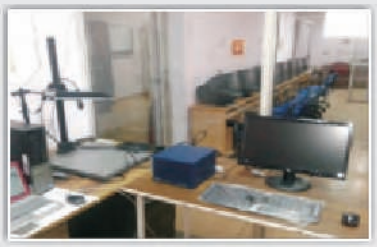
Distinguished Visitors

S. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Richard Sproat		Keynote Lecture at ICON-2017
2	Bruno Pouliquen		Guest Faculty for the GIAN course on Machine Translation and Keynote Lecture at ICON-2017
3	Dr. Samar Shailendra, Scientist at TCS Research and Innovation	17th December 2016	Lecture at INUCOM, ICON, 2016

Vision Lab

Name of Item : Workstation (Tower Based)
Description : Intel Xeon E5-2630 v3 CPU, 32 GB RAM DDR4, 2TB Hard Disk Drive, DVD Writer, 23.8" or higher LED Screen, 2GB NVidia Quadro Graphic Card, Microsoft Windows 8 Professional Preloaded
Value : 3,30,000.00

Name of Item : High Speed Imaging System with other components
Description : Vision Processor, Industrial CCD Camera, Imaging Library and Analysis Software, Imaging Computer, Lens Kit, Zoom Lens, Copy Stand/Camera Sound, Lighting
Value : 24,97,309.00



Robotics Lab

Name of Item : Robotics
Description : 5 Axis Robotic Arm Trainer, Speech based Robot Manipulator (Software), Vision based Robot Manipulator (Software), Set of 5 different robot (Foundation Robotics Lab), Set of 10 different robot (Advance Robotics Lab), 5 Axis Servo based Robotic Arm trainer kit, Speech Based Robot Arm Manipulator, Vision Based Robot Arm Manipulator
Value: 09,83,820.00

NLP Lab

Name of Item : NLP Lab
Description : Server – Dell Power Edge R430
Value : 10,00,000.00 (Approx.)

10. Department of Electrical Engineering

Year of Establishment : 1919

Head of the Department : Prof. R. Mahanty

Introduction

Mahamana Pt. Madan Mohan Malviya founded BHU in the year 1916, with benevolent and magnanimous contributions of the then maharajas and other persons of eminence. The University was nurtured by Sir Sunderlal, as the 1st V.C. of the university, followed by the great visionaries, such as Pt. Madan Mohan Malviya, Acharya Narendradev, Sir S. Radhakrishnan and many other eminent personalities.

The Benaras Engineering College (BENCO) was started in the year 1919, with its strong foundation laid by revered Prof. Charles A. King, Prof. H. P. Philpot and Prof. M. Sengupta. With the passage of time, College of Mining and Metallurgy (MINMET) and College of Technology (TECHNO) were included, expanding its horizon. These three colleges were merged and named as Institute of Technology in the year 1968 with a view to give more autonomy for its better perspective in terms of academic as well as administrative decisions. Its undergraduate students are admitted through Joint Entrance Examination (JEE) being conducted for all IITs.

Since the inception of BENCO in 1919, combined Bachelor's degree in Mechanical and Electrical Engineering was awarded till 1952. Department of Mechanical Engineering and Department of Electrical Engineering were separated in 1953 and conferred separate degrees in respective disciplines.

Presently, Department of Electrical Engineering runs five post graduate (M. Tech.) programmes in Electrical Machines and Drives (started in 1956), Power Systems (started in 1964), Control Systems (started in 1964), Power Electronics (started in 1982) and Interdisciplinary Systems Engineering (started in, 1982) and Ph. D. programme in all disciplines of Electrical Engineering. The department has also a five year Integrated Dual Degree Program (started in 2006) leading to Masters degree with specialization in Power Electronics.

The department has been sanctioned Special Assistance Programme (SAP) of UGC since 1988 and COSIST program of UGC from 1995 to 2000. Apart from these, the department has been conducting research projects funded by DST, AICTE, CPRI and other R&D organizations of Govt. of India.

Department has very good placement records over the years. The students of this department are joining core companies such as PGCIL, IOCL, HPCL, Trident, Reliance, Maruti, etc. Electronics companies such as Broadcom, Sony, etc are also regularly recruiting students of this department. Our students are also regularly joining software companies such as Morgan Stanley, Goldman Sachs, Citrix, Oracle, SISO, etc. The vast number of job offers is mainly due to the versatility of the branch which ensures that students are allowed to sit for interviews in software, core electrical, electronic as well as non technical companies.

Some of the department's famous alumni includes, Mr.Nikesh Arora: Senior Vice President and Chief Business Officer at Google, Mr. Rajiv Dogra: Indian diplomat, Ex- Consul General to Karachi, Pakistan, Mr. Gyanesh Pandey: Co-founder, CEO and CTO of Husk Power Systems and Mr. Narla Tata Rao: Winner of Padma Shree, a doyen of power sector in India.

The department is pursuing academic activities with the following goals and objectives:

- Further up-gradation and technological modernization of infrastructural facilities.
- Encouraging teaching innovations through audio visual and multimedia aids.
- Channelizing expertise of faculty in the frontier areas of electrical engineering.
- Research, testing and consultancy.
- Training the undergraduate and post graduate students towards entrepreneurship in consonance with liberalization and privatization policies of the Government.
- Development of energy efficient, environment-friendly electrical technologies as per the norms set by various planning, regulatory and other statutory bodies

Major areas of Research : Power System, Power Electronics, Machines and Drives, Control System

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	7 (Classrooms and Lecture Halls are same)
2	No. of Lecture Halls	
3	No. of Laboratory	5
4	No. of Computers available for students in the Department/School/ School	110

Unique Achievement / Preposition of the Department/School

In the last five years, the department has produced 500 graduates and 200 post-graduates. Apart from this, the department has to its credit 15 Ph.D.s awarded during the last five years.

Academic Programmes offered

Students on Roll

S. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	89	89	84	---
2	Dual Degree	---	22	22	22	23
3	M. Tech/ M. Pharm	47	45	---	---	---
4	Ph. D (Under Institute Fellowship)	61 (Total)				

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Piyush Choudhary	Research Scholar	1. 3rd International Conference of IEEE UP Section on Electrical, Computer & Electronics Engineering	1. 09-11 Dec 2016, IIT BHU, Varanasi.	IIT (BHU)
			2. International Conference on Advanced Material Technologies (ICAMT)-2016 organized by Elsevier Materials Today.	2. 27-28 Dec, 2016, Dadi Institute of Engineering and Technology (DIET), Anakapalli, Visakhapatnam, Andhra Pradesh,	
			3. International Oil & Gas Conference and Exhibition-The PETROTECH-2016.	3. 05-07 Dec 2016, New Delhi	
			4. National Workshop of Solar Rooftop, held during June, 2016, Vigyan Bhawan, New Delhi	4. June, 2016, Vigyan Bhawan, New Delhi	
			5. Renewable Energy India Expo.	5. Nov 2016 New Delhi	

			6. Next Generation workshop on 'Off-grid renewable energy solutions: in partnership with International Finance Corporation (IFC) and ET CSR. 7. Short Term Course on "Recent Advances in Control and Energy Systems (RACES-2017)" Sponsored by TEQIP-II.	6. June 2016 in New Delhi 7. 25th Feb- 03rd March, 2017 at Madan Mohan Malaviya University of Technology, Gorakhpur, India	
2	Moti ul reza	Research Scholar	PEDES- 2016, Trivandrum, Kerala	Trivandrum, Kerala	IIT (BHU)
3	Shailendra Kumar gupta	Research Scholar	1. PEDES-2016 , Trivandrum, Kerala 2. GIAN Course on "CONTROLS FOR RENEWABLE ENERGY AND MICROGRIDS"	1. Trivandrum, Kerala 2. Jamia millia islamia, New Delhi	IIT (BHU)
4	Praveen Kumar	Research Scholar	PEDES-2016	Trivandrum, Kerala	IIT (BHU)
5	M. Raghuram	Research Scholar	PEDES-2016	Trivandrum, Kerala	IIT (BHU)
6	Sachin Rastogi	Research Scholar	PEDES-2016	Trivandrum, Kerala	IIT (BHU)
7	Saif Ali Khan	Research Scholar	PEDES-2016	Trivandrum, Kerala	IIT (BHU)
8	Avneet K Chauhan	Research Scholar	PEDES-2016	Trivandrum, Kerala	IIT (BHU)
9	Ankit Sachan	Research Scholar	Workshop on IEEE Fall School on Sliding Mode Control (Sponsored by IEEE Control System Society)	IIT Bombay .26th-30th Oct 2016	IIT (BHU)
10	Mr. Satyendra Pratap Singh	Research Scholar	(i) 5th Int. Conference on Advances in Electrical Measurements and Instrumentation Engg. (EMIE 2016), (ii) 7th IEEE India International Conference on Power Electronics (IICPE-2016) (iii) Bikaner, Rajasthan, India, Nov.25-27, 2016. (iv) UPCON, IIT (BHU)	(i) Ernakulam, Kerala, India 14-15 May 2016. (ii) Patiala, Punjab, India 17-19 Nov. 2016, (iii) Bikaner, Rajasthan, India, Nov.25-27, 2016. (iv) Varanasi, India, 9-11 Dec. 2016,	IIT (BHU)
11	Mr. Shailendra Singh		(i) 19th National Power Systems Conference (NPSC), (ii) UPCON	(i) IIT Bhubaneswar, India Dec.19-21, 2016 (ii) IIT (BHU), Varanasi, India, 9-11 Dec. 2016	IIT (BHU)

12	Mr.Vijay Babu P.	Research Scholar	(i) 9th National Power Systems Conference (NPSC), IIT Bhubaneswar, India, Dec.19-21, 2016 (ii) UPCON, IIT (BHU)	(i) IIT Bhubaneswar, India, Dec.19-21, 2016 (ii) Varanasi, India, 9-11 Dec. 2016	IIT (BHU)
13	Mr.Amit Kumar	Research Scholar	(i) 19th National Power Systems Conference (NPSC), IIT Bhubaneswar, India, Dec.19-21, 2016, (ii) UPCON, IIT (BHU), Varanasi, India, 9-11 Dec. 2016, (iii) 1st International Conference on Power Engineering, Computing and CONtrol, (PECCON-2017), VIT University, Chennai Campus,India, March 2-4, 2017	(i) IIT Bhubaneswar, India, Dec.19-21, 2016 (ii) Varanasi, India, 9-11 Dec. 2016, (iii) VIT University, Chennai Campus, India, March 2-4, 2017	IIT (BHU)
14	Mr. Devesh Shukla	Research Scholar	(i) 19th National Power Systems Conference (NPSC), IIT Bhubaneswar, India, Dec.19-21, 2016, (ii) UPCON, IIT (BHU), Varanasi, India, 9-11 Dec. 2016, (iii) 7th Power India Int. Conf. (PIICON-2016), Bikaner, Rajasthan, India, Nov.25-27, 2016.	(i) IIT Bhubaneswar, India, Dec.19-21, 2016, (ii) Varanasi, India, 9-11 Dec. 2016 (iii) Bikaner, Rajasthan, India, Nov.25-27, 2016	IIT (BHU)
15	Ms. Shri Laxmi E.	Research Scholar	(i) 4th IEEE International Conference on Power, Control & Embedded Systems (ICPCES-2017) (ii) UPCON, IIT (BHU)	(i) Allahabad, India, March 9-11,2017 (ii) Varanasi, India, 9-11 Dec. 2016	IIT (BHU)
16	Tarun Maini		(i) a) A short term course on Computational Biology and Neuroscience, organised by Dept. of Computer Science and Engineering. (ii) b) A short term course on Fuzzy Logic with Applications, organised by	(i) IIT(BHU) Varanasi, 13-18 June 2016 (ii) Dept. of Mathematical Sciences IIT(BHU) Varanasi, 20-25 March 2017	IIT (BHU)
17	Abhishek Singh	15085004	Tech-Expo-2016	Guwahati -2016	IIT (BHU)
18	Ayush Kumar Goyal	15084005	Tech-Expo-2016	Guwahati -2016	IIT (BHU)
ABROAD					
1	Alok Jain	Research Scholar	International Conference on Power and Energy Systems	Paris, France, 15-18 November, 2016.	IIT BHU through (MHRD)

Names of students/scholars who got prizes and awards outside the Institute

S. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Er. Anand Kumar K.S.	Research Scholar	Best Research Award-2016 in Make in India Contest	Chennai (Tamilnadu) India: November 19, 2016.	Project Council of India
2	Piyush Choudhary	Research Scholar	Third prize for the technical paper on the topic "WSD 2016 : "Standards- World`s Common Language".	Delhi on Oct 13th 2016	Oil and Natural Gas Corporation (ONGC)

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Prof. S.N. Singh (Emeritus)	Power electronics and Drives
2	Prof. S. P. Singh	Power System, Electricity Markets and Deregulation, Operation and Dynamics, Distribution System Automation.
3	Prof. S. K. Nagar	Control Systems, AI Applications
4	Prof. A. K. Kapoor	Power Electronics, Microcomputer Applications, Control systems
5	Prof. D. N. Vishwakarma	Power Systems, Digital Protection, Microprocessor, Microcontroller AI Applications
6	Prof. R. K. Pandey	EHV AC & DC Transmission, FACTS Controllers Design & Analysis, Integrated Large Power System Operation & Control, Intelligent Grid Control, High Voltage DC Transmission Technology, Electricity Policy and Planning, Distribution System Planning & Automation, Distributed Energy Resources & Management
7	Prof. R. K. Srivastava	Electrical Machines & Drives – Linear Induction Motors, Special Machines, Permanent Magnets Motors & Generators. CAD / FEM analysis of Electrical Machines. Electromagnetic Fields
8	Prof. R. K. Mishra	Power Distribution Systems , AI and its pplication in Power Systems
9	Prof. R. Mahanty	Power Electronics
10	Prof. D. Singh	Power Systems, AI applications to Power Systems, Load Forecasting
11	Dr. M. K. Verma	Voltage stability Studies, Power System Dynamics Security Enhancement of Power Systems Application of FACTS controllers Power System Operation and Control
ASSOCIATE PROFESSORS		
1	Mr. Gopal Sharma	Systems Engineering
2	Dr. R. K. Saket	Reliability Engineering, Power System Reliability, Electrical Machines and Drives, Renewable Sources of Electrical Energy
3	Dr. (Mrs.) Kalpana Chaudhary	Power Electronics Electrical Machines & Drives

4	Dr. S. K. Singh	Power Electronics, Electric Drives
5	Dr. R. K. Singh	Power Electronics, Energy Storage System and Optimal Bidirectional Battery Chargers, Modeling , simulation, and control of Power Electronics System, Power Electronics for the Hybrid Renewable AC/DC micro-grid, Modeling and control for Point-of-load's, EV/PHEV interface with renewable energy and grid.
ASSISTANT PROFESSORS		
1	Dr. Manish Kumar	Renewable Energy Technologies Plasma Physics Coherent Radiation Generation, Terahertz Radiation Generation
2	Dr. V. N. Lal	Design and Control of Grid Connected Solar PV system, ANN application in Power Electronics and Power Forecasting, Electrical Power Distribution System
3	Mr. J. C. Pandey	Electromagnetic, Finite Element Finite Element Analysis of Electrical machines and Devices High Voltage Engineering.
4	Ms. Sobhita Meher	Computer Science
5	Dr. Sandeep Ghosh	Control System
6	Dr. Shyam Kamal	Control System

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	R. K. Srivastava	3rd International Conference of IEEE UP Section on Electrical, Computer & Electronics Engineering UPCON2016 financially sponsored by IEEE UP Section, IIT (BHU), Varanasi, Oil & Natural Gas Commission (ONGC), Govt. Of India, Science & Engineering Research Board (SERB), Govt of India.	09-11 Dec 2016
2	Sandeep Ghosh	QIP Sponsored Short Term Course on Advanced Topics in Robust and Nonlinear Control	14-20 Feb, 2017
3	Shyam Kamal	QIP Sponsored Short Term Course on Advanced Topics in Robust and Nonlinear Control	14-20 Feb, 2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	S. P. Singh	19th National Power Systems Conference (NPSC)	IIT Bhubaneswar, India, Dec.19-21, 2016
2	R. K. Saket	International Conference on Renewable Energy Technology-	Thammasat University, Klong Luang, Pathumthani, Bangkok, Thailand 23.01.2017.
3	S. K. Singh	QIP short term course on Advanced Topics in Robust and Nonlinear Control organised by the	Department of Electrical Engineering, IIT (BHU) Varanasi; 14-20 Feb 2017

		IEEE International conference on Power Electronics, Drives & Energy Systems conference	Trivandrum, Kerala
4	R. K Mishra	National Power Systems Conference, 2016	Bhubneshwar, Orisa
5	V.N. Lal	QIP short term course on Advanced Topics in Robust and Nonlinear Control	IIT (BHU) Varanasi
6	R.K. Singh	QIP short term course on Advanced Topics in Robust and Nonlinear Control	IIT (BHU) Varanasi
7	M. K.Verma	QIP short term course on Advanced Topics in Robust and Nonlinear Control	IIT (BHU) Varanasi

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	S. P Singh	Performance improvement of distribution networks using reconfiguration and capacitor placement" in Short Term course on, "Recent advances in Electrical Engineering and Renewable Energy system	MMM University of Technology, Gorakhpur	Aug 1-7, 2016
2	S. K. Singh	1. EKF based Sensorless Indirect Vector Control of IM	1. MMM University of Technology, Gorakhpur	1. 25Feb-7 March, 2017
		2. "Recent Trends in Hybrid Converters" at KNIT Sultanpur during Faculty Development Program on Recent advances in Renewable energy technologies and Smart Micro-grids	2. MMM University of Technology, Gorakhpur	2. 13th to 17th September 2016
		3. "Hybrid Switched Inductor Impedance Source Converter—A Decoupled Approach" at MMMUT Gorakhpur during Short term course on Recent Advances in Electrical Engineering and Renewable Energy System	3. MMM University of Technology, Gorakhpur	3. 1st to 7th August 2016

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	R. K. Saket	Thailand	31/01/2017	04/02/2017	to present the paper entitled: "Reliability Analysis of DFIG Based Wind Energy Conversion System"	
2	R K Srivastava	Portland (USA)	02/10/ 2016	06/10/ 2016	IEEE-IAS Annual Society Meeting	
3	R. K. Singh	Milwaukee, USA	16/09/2016	22/09/2016	To present research paper in IEEE International conference on energy conversion congress and exposition (ECCE 2016)	
4	R. Mahanty	Milwaukee, USA	16/09/2016	22/09/2016	To present research paper in IEEE International conference on energy conversion congress and exposition (ECCE 2016)	

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	R. K. Saket	Best Guide Award-2016, Make in India Contest, Project Council of India, Chennai (Tamilnadu) India: November 19, 2016.

Fellowships of academic and professional societies

S. No.	Name of Faculty Member	Details of Fellowship
1	R. K. Singh	IEEE Senior Member

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/member)	Name of Journal
1	R. K. Saket	Member	Engineering, Technology and Applied Science Research (Thomson Reuter's ESCI Journal)
2	R K Srivastava	Member, Publishing committee	e-Proceeding of UPCON2016

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	PSim 10.0-Pro with HEV and renewable suits	12
2	Programmable AC power Supply	5
3	Power Analyzer	4
4	Experimental Solar PV Array set-up	0.3
5	DigSilent Power Factory Software	2.6
6	GAMS Software	6

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	R. K. Saket	(i) TRINETRA: The Third Eye to Prevent Railway Accidents", Indian Patent, CBR No.: 36449, Patent Application Number : 201641045006, Date: December 30, 2016. (ii) "Green Energy Conversion System (GECS)", Indian Patent, CBR No.: 36444, Patent Application Number: 201641045002; Date: December 30, 2016. (iii) "Recyclable LED Street Light System", Indian Patent, CBR No.: 36440, Patent Application Number: 201641044998; Date: December 30, 2016.

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Fractional Order Modeling and Control of PEM Fuel Cell		CERD IIT (BHU)	1	Shyam Kamal
2	Development of photovoltaic system with distributed maximum point tracking		CERD IIT (BHU)	0.5	Shyam Kamal
3	A Hybrid Renewable AC/DC Distributed Generation for Low Power applications		IIT(BHU)	15 Lakh	R. K. Singh

Industrial consultancy projects

S. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	D. Singh and R.K. Mishra	Vetting of Technical Drawing of Proposed Terminal Buildind at	Gorakhpur Airport	0.28625
2	D. Singh and R.K. Mishra	Vetting of cost and Design of Academic and residential complex 33/11 kV substation cost Cost	Electrical Substation	2.49

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	Nil
2	Total Number of Papers Published in Refereed International Journals	17
3	Total Number of Papers Presented in National Conferences	13
4	Total Number of Papers Presented in International Conferences	29

(a) Refereed International Journals

1. SatyendraPratap Singh, S.P. Singh, "Optimal Cost WAMS Incorporating Communication Infrastructure", IET Generation, Transmission & Distribution.2017,(Accepted)
2. K. A. K. Reddy and S. P. Singh, "Congestion mitigation using UPFC," in IET Generation, Transmission & Distribution, vol. 10, no. 10, pp. 2433-2442, 7/ 7/2016.
3. P. Vijay Babu, S. P. Singh, "Optimal placement of DG in distribution network for power loss minimization using NLP & PLS technique", Energy Procedia, 90, 2016, pp. 441–454. Elsevier, ISSN: 1876-6102.
4. Deepak Kumar and Kalpana Chaudhary " Design of 5.8 GHz Rectenna for Satellite Solar Power Station" , Springer Lecture Notes in Electrical Engineering , Springer-C-CTP-09/2015, Vol: Advances in Electronics, Communication and Computing.
5. Deepak Kumar and Kalpana Chaudhary, "5.8 GHz antenna array design for satellite solar power station" Springer Lecture Notes in Electrical Engineering , Springer-C-CTP-09/2015" Vol: Advances in Smart Grid, Renewable Energy and Management.
6. Deepak Kumar and Kalpana Chaudhary, " Design Study of 5 GW Base Load Power Plant Drawn From Satellite Solar Power Station", Springer Lecture Notes in Electrical Engineering , Springer-C-CTP-09/2015, Vol: Advances in Power Systems and Energy Management.
7. Om Prakash Bharti, R. K. Saket and S. K. Nagar (2016), "Controller Design for DFIG Driven by Variable Speed Wind Turbine Using Static Output Feedback Technique", Engineering, Technology & Applied Science Research (Thomson Reuters ESCI Journal), Greece, volume: 6, issue: 4, pp: 1056-1061, August 2016, Web-site: http://www.etasr.com
8. B. B. Sagar, R. K. Saket and Gurmit Singh (2016), "Exponentiated Weibull distribution approach based inflection s-shaped software reliability growth model", Ain Shams Engineering Journal, Elsevier (Science Direct), Impact Factor: 1.287, Vol: 7, issue: 3, pp: 973-991, September 2016. Web-site: http://www.sciencedirect.com/asej.
9. Dwivedi A., Singh S.K., Srivastava R.K., "Comparative Study and Performance Evaluation of Analytical Methods for Surface Mounted Permanent Magnet Brushless Motors", IET Power Electron., Vol. 9, No. 11, pp. 2289-2297, 2016
10. Dwivedi A., Singh S.K., Srivastava R.K., "Analysis of Permanent Magnet Brushless AC Motor Using Two Dimensional Fourier Transform", IET-Electric Pow. Appl., Vol. 10, No. 6, pp. 539-547, 2016
11. Venkata R Vakacharla, M Raghuram, and Santosh Kr Singh, "Hybrid Switched Inductor Impedance Source Converter- A Decoupled approach", IEEE Transactions on Power Electronics, Vol. 31, No. 11, pp. 7509 – 7521, Nov 2016
12. S Bonala, B Subudhi, S Ghosh, 2017, On delay robustness improvement using digital Smith predictor for networked control lsystems, European Journal of Control, 34: 59-65.
13. Shyam Kamal, A. Chalanga, B. Bandyopadhyay, J. A. Moreno and L.Fridman (2016)'Continuous Terminal Sliding Mode Controller', Automatica, vol.69, pp.308-314.
14. R. Galvan-Guerra, L. Fridman, J.E. Velazquez-Velazquezb, Shyam Kamal and B. Bandyopadhyay'Continuous Output Integral SlidingMode Control for Switched LinearSystems', Nonlinear Analysis: Hybrid Systems, Vol.22, pp.284-305.

15. A. Chalanga, Shyam Kamal, B. Bandyopadhyay, J. A. Moreno and L.Fridman (2016)'Implementation of Super-Twisting Control: Super-Twisting and Higher OrderSliding Mode Observer Based Approaches', IEEE Trans. on Industrial Electronics,vol. 63, no. 6, pp. 3677-3685
16. I. Salgado, Shyam Kamal, B. Bandyopadhyay, I. Chairez and L.Fridman (2016) 'Controlof discrete time systems based on recurrent Super-Twisting-like algorithm', ISATransactions., vol.64, pp. 47-55
17. Mukul Garg, Rajeev Kumar Singh and R. Mahanty, "Magnetically coupled boost converter with enhanced ESR filter capacitor for DC microgrid" IET Power Electron., Vol. 9, Issue. 9, pp. 1943–1951, July 2016.

(b) Proceedings of International Conferences

1. 1. EktaPurwar, D. N. Vishwakarma and S. P. Singh, "Planning a Comprehensive Protection Scheme Considering Distributed Generation," 4th IEEE International Conference on Power, Control & Embedded Systems (ICPCES-2017), March9-11,2017[Venue: MNNIT Allahabad, India].
2. Sri Lakshmi.E and S.P.Singh,"Effect of Distributed Generation on Secondary Level Transmission System' 4th IEEE International Conference on Power, Control & Embedded Systems (ICPCES-2017), March 9-11,2017[Venue: MNNIT Allahabad, India].
3. SatyendraPratap Singh, A.K. Thakur, S.P. Singh, "PMU Placement for Maximum Observability of Power System under Contingencies", 1st International Conference on Power Engineering, Computing and CONtrol, (PECCON-2017), VIT University, Chennai Campus, March 2-4, 2017.Scopus Indexed Journal, Energy Procedia Elsevier)
4. D. Shukla, SatyendraPratap Singh and S.P. Singh, "Pseudo PMU for Quasi-Static Analysis of Power System", 13th IEEE Int. India Conference (INDICON-2016), Indian Institute of Science (IISc) Bengaluru, Dec. 16-18,2016.
5. S. Singh, D. Shukla and S. P. Singh, "Peak demand reduction in distribution network with smart grid-enabled CVR," 2016 IEEE PES Innovative Smart Grid Technologies - Asia (ISGT-Asia), Melbourne, VIC, Australia, Nov. 29-Dec 01, 2016, pp. 735-740.
6. SatyendraPratap Singh and S.P. Singh, "Synchronized PMU Placement Incorporating Communication Infrastructure", 7th IEEE India International Conference on Power Electronics (IICPE-2016), Dept. of Electrical and Instrumentation Engg. Thapar University, Patiala, Punjab, Nov.17-19,2016.
7. SatyendraPratap Singh and S.P. Singh, "Islanding Based Optimal Placement of Phasor Measurement Unit using MILP", 7th Power India Int. Conf. (PIICON-2016), Dept. of Electrical Engg., Govt. Engineering College Bikaner, Rajasthan, Nov.25-27, 2016.
8. DeveshShukla and S. P. Singh "PMU Emulation for Static Security Analysis of Power System"7th Power India Int. Conf. (PIICON-2016), Dept. of Electrical Engg., Govt. Engineering College Bikaner, Rajasthan, Nov.25-27, 2016.
9. SatyendraPratap Singh and S.P. Singh, "Placement of Synchronized Measurements in Power Networks for Redundant Observability", 5th Int. Conference on Advances in Electrical Measurements and Instrumentation Engg. (EMIE 2016), Ernakulam, Kerala, India, pp. 349-356, May14-15, 2016.
10. Deepak Kumar and Kalpana Chaudhary, "High efficiency rectenna design for satellite solar power station", UPCON-2016, 9-11 Dec 2016, Department of Electrical Engineering, I.I.T. (B.H.U.).
11. Deepak Kumar and Kalpana Chaudhary , "Analysis of satellite solar power station as base load power plant", UPCON-2016, 9-11 Dec 2016, Department of Electrical Engineering, I.I.T. (B.H.U.).
12. Tripurari Das Gupta, Deepak Kumar and Kalpana Chaudhary, " Modelling and Analysis of Grid Tied Fuel Cell System with Synchronous Reference Frame Control", 4th International Conference on Power, Control and Embedded Systems", (ICPCES-2017), MNNIT Allahabad, 9-11 March 2017.
13. O.P. Bharti, R.K. Saket, S.K. Nagar, "Reliability Analysis of DFIG Based Wind Energy Conversion System", International Conference on Renewable Energy Technology-2017; Thammasat University, Klong Luang, Pathumthani, Bangkok, Thailand, pp.: 1-5, 23. 01. 2017.
14. S. K. Gupta and R. K. Saket, "Observation of AODV Routing Protocol's Performance at Variation in ART Value for Various Node's Mobility", International Conference on Information and Communication

Technology for Intelligent Systems, Springer, 2016, pp: 419-427.

15. Dwivedi A., Singh S.K., Srivastava R.K., "Analysis and Performance Evaluation of Axial Flux Permanent Magnet Motors", IEEE-IAS Annual Society Meeting, Portland (USA), 2-6 October 2016 (presented) available in IEEE Xplore DOI: 10.1109/IAS.2016.7731877
16. K. V. Shivaramakrishna, Avneet K. Chauhan, M Raghuram, Santosh K. Singh "Sensorless Control of Induction Motor using EKF: Analysis of Parameter Variation on EKF Performance", IEEE PEDES 2016, Dec 14-16, 2016, Kerala
17. Sachin Rastogi, Raja Ram Kumar, and Santosh K Singh, "Design, Analysis and Optimization Of Permanent Magnet Synchronous Generator", IEEE PEDES 2016, Dec 14-16, 2016, Kerala
18. Saif Ali Khan, Naresh K Pilli, and Santosh K Singh, "Hybrid Split Pi Converter", IEEE PEDES 2016, Dec 14-16, 2016, Kerala
19. Avneet K Chauhan, M Raghuram, Santosh K Singh, "Extended boost Three Phase Matrix converter using Switched Capacitor Topology having Buck Boost Ability", IEEE PEDES 2016, Dec 14-16, 2016, Kerala
20. Venkata R Vakacharla, Avneet K Chauhan, M M Reza, and Santosh K Singh, "Boost Derived Hybrid Converter: Problem Analysis and Solution", IEEE PEDES 2016, Dec 14-16, 2016, Kerala
21. Avneet Kumar, M M Reza, M Raghuram, and Santosh K Singh, "High gain Buck-Boost Matrix Converter", IEEE PEDES 2016, Dec 14-16, 2016, Kerala
22. P. R. Sahoo, S. Ghosh, and A. K. Naskar, Characterization of approximate Decentralized Fixed Modes in terms of DFM radius, 11th International Conference on Intelligent Systems and Control (ISCO), 05 - 06 Jan 2017, Coimbatore, 71-76
23. Anish Ahmad, Rajeev Kumar Singh, R.Mahanty, "A Novel Non-Isolated Magnetically Coupled Based Bidirectional Quadratic Converter," accepted for publication in IEEE-PEDES, Trivandrum, India Dec.2016.
24. Anish Ahmad, Rajeev Kumar Singh, R.Mahanty, "Bidirectional Quadratic Converter for Wide Voltage Conversion Ratio," accepted for publication in IEEE-PEDES, Trivandrum, India Dec.2016.
25. Bussa Vinod Kumar, Rajeev Kumar Singh, and R. Mahanty, "A Modified Non-Isolated Bidirectional DC-DC Converter for EV/HEV's traction drive systems," accepted for publication in IEEE-PEDES, Trivandrum, India Dec.2016.
26. Abhinandan Routray, Rajeev Kumar Singh, and R. Mahanty, "A Novel GA optimized SHE PWM hybrid cascaded H-bridge multilevel inverter with capacitor voltage averaging for motor drive applications," accepted for publication in IEEE-PEDES, Trivandrum, India Dec.2016.
27. Bussa Vinod Kumar, Rajeev Kumar Singh, and R. Mahanty, "Minimum Phase PFC Boost Converter" accepted for publication in IEEE-IECON, Florence, Italy Oct.2016.
28. Anish Ahmad, Rajeev Kumar Singh, R.Mahanty, "Minimum Phase Hybrid Coupled Inductor Quadratic Boost Inverter" accepted for publication in IEEE-IECON, Florence, Italy Oct.2016
29. Amrita Sharma, Bura Pramod, Rajeev Kumar Singh, and R. Mahanty, "Interleaved Hybrid Boost Converter with Simultaneous DC and AC Outputs for Micro-Source Applications" accepted for publication in IEEE-ECCE, Milwaukee, WI, USA Sep 2016.

(c) Proceedings of National Conferences

1. S. Singh, A. K. Thakur and S. P. Singh, "Energy savings in distribution network with smart grid-enabled CVR and distributed generation," 19th National Power Systems Conference (NPSC), IITBhubaneswar, Dec.19-21, 2016, pp. 1-6.
2. P. Vijay Babu, Singh S. P. "Capacitor allocation in radial distribution system for maximal energy savings," 19th National Power Systems Conference (NPSC), IIT Bhubaneswar, Dec.19-21, 2016, pp. 1-6.
3. Tarun Maini, Abhishek Kumar, Rakesh Kumar Misra and Devender Singh, "Feature Selection with Intelligent Dynamic Swarm and Fuzzy Rough Set" in the proceeding of IEEE International Conference on Computing, Communication and Automation 2017(ICCCA 2017), Galgotias University, Greater Noida, 5-6 May 2017.

4. A.R. Shodan and Devender Singh "Observer Based Controller For Nonlinear Systems Using Takagi-Sugeno Fuzzy Model" 10th International Conference on Intelligent Systems and Control (ISCO), 2016.
5. Piyush Choudhary, Rakesh K Srivastava, Som Nath Mahendra & Saad Motahhir, "Sustainable Solution For Crude Oil And Natural Gas Separation Using Concentrated Solar Power Technology', International Conference on Advanced Material Technologies (ICAMT)-2016 organized by Elsevier Materials Today proceedings at Dadi Institute of Engineering and Technology (DIET), Anakapalli, Visakhapatnam, Andhra Pradesh, India during 27th & 28th December 2016.(Under publication)
6. Piyush Choudhary & Som Nath Mahendra, 'Feedback control and simulation of DC-DC Cuk converter for Solar Photovoltaic Array'3rd International Conference of IEEE UP Section on Electrical, Computer & Electronics Engineering UPCON2016 was organized on 09-11 Dec 2016 in Swatantrata Bhawan, BHU, Varanasi. Available on www. ieeexplore.ieee.org
7. Piyush Choudhary, 'International Solar Alliance: “a true game-changer” at The PETROTECH -2016, series of International Oil & Gas Conference and Exhibition held during 05-07 Dec 2016.
8. Shailendra Gupta and Rakesh Srivastava: “Experimental Evaluation of VF controlled Off-grid generating system”, 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 14-17 December 2016, Trivandrum, Kerala, India.
9. Praveen Kumar, M. M. Reza and R. K. Srivastava, “Performance Analysis and Comparison of Dual-Rotor Hybrid Permanent Magnet Induction Machine Topologies for Electric Vehicle Application”, 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 14-17 December 2016, Trivandrum, Kerala, India..
10. Praveen Kumar, M. M. Reza and R. K.Srivastava, “Effect of Relative Phase-Shift of Magnetic Field Axes on Armature Reaction and Performance of Hybrid Permanent Magnet Induction Machine”, 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 14-17 December 2016, Trivandrum, Kerala, India.
11. Praveen Kumar, A.Routray and R. K. Srivastava, “Magnetic Field Analysis and Comparison of Dual-Rotor Hybrid Permanent Magnet Induction Machine Topologies using FEM”, 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 14-17 December 2016, Trivandrum, Kerala, India.
12. M.M.Reza* , Avneet K. Chauhan, S.N.Mahendra and R.K.Srivastava, "No load Magnetic Field Prediction of Double-Sided Linear Permanent Magnet Machines”, 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 14-17 December 2016, Trivandrum, Kerala, India.
13. M.M.Reza, Avneet K. Chauhan, S.N.Mahendra and R.K.Srivastava," No-Load Magnetic Field Analysis Of Double-Sided Linear Tubular Permanent Magnet Synchronous Machine”, 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 14-17 December 2016, Trivandrum, Kerala, India.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

i. S.P. Singh and A.R. Rao, “Optimal allocation of capacitors in distribution systems using particle swarm optimization”, International Journal of Electrical Power and Energy Systems, pp. 1267–1275, vol. 43, 2012. (69)
ii. "Load type impact on distribution system reconfiguration," Singh, Devender; Misra, Rakesh K, International Journal of Electrical Power & Energy Systems, vol. 42, no. 1, pp 583-592, 2012, Elsevier
iii. RK Srivastava, S Kumar :” An alternative approach for calculation of braking force of an eddy-current brake”, 1/ 2009, 45, IEEE Transactions on Magnetics, 150-154
iv. Brijesh Singh, R. Mahanty and S.P. Singh, “Optimal power flow with benefit maximisation in coordinated bilateral power market”, Int. J. Power and Energy Conversion, pp. 268-277, vol. 4 (3), 2013.
v. Shyam Kamal, A. Raman, and B. Bandyopadhyay (2013) 'Finite Time Stabilizationof Fractional Order Uncertain Chain of Integrator: An Integral Sliding ModeApproach', IEEE Transactions on Automatic Control, vol. 58, no. 6, pp.1597–1602.(No. of Citations 40)

Other activities

Indian Faculty visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Shri Ramakrishna Kappagantu IEEE Board of Directors, Region10 (Asia-Pacific)	UPCON-2016	9-11 Dec. 2016, Varanasi, India.
2	Shri Bhanu Bhushan, Ex Director PGCI		
3	Prof. R. S. Gupta, Indraprastha University, New Delhi		
4	Dr. Devesh Dwivedi, Forum Chairs, Global Foundries, Bengaluru.		
5	Dr. J Ramkumar (IIT Kanpur)		
6	Dr. S. N. Singh (IIT Kanpur)		
7	Dr. Dilip Kumar Sharma (GLA University, Mathura)		
8	Dr. S. C Srivastava (IIT Kanpur)		
9	Dr. Satish K. Singh (IIIT Allahabad)		
10	Dr. Aseem Chandel (BSACET Mathura)		
11	Dr. R. K. Srivastava (IIT BHU)		
12	Dr. Kumar Vaibhav Srivastava (IIT Kanpur)		
13	Dr. Brajesh Kumar Kaushik (IIT Roorkee)		
14	Dr. D.D. Sharma (Ruhelkhand Univ., Bareilly)		
15	Dr. Amalendu Patnaik (IIT Roorkee)		
16	Dr. Rajat Kumar Singh (IIIT Allahabad)		
17	Dr. Anoop Singh (IIT Kanpur).		

Foreign Faculty Visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof Jih-Sheng (Jason) Lai, Virginia Polytechnic Institute, USA	UPCON-2016	
2	Prof Gaurav Sharma, Rochester University, USA		
3	Prof Ashwin M Khambadkone, NUS, Singapore		
4	Prof Akshay Kumar Rathore, University of Cancordia, Canada		
5	Prof R C Bansal, University of Pretoria, SA		

High Voltage Lab

Electrical Machine Lab

Power Electronics Lab

11. Department of Electronics Engineering

Year of Establishment: 1971

Head of the Department : Professor S. Jit

Brief Introduction of the Department :

Department of Electronics Engineering came into existence as an offshoot of Electrical Engineering Department in the year 1971 (when Banaras Engineering College, College of Mining and Metallurgy and College of Technology had been amalgamated to form the Institute of Technology. Our Institute was converted to IIT(BHU), Varanasi on June 29, 2012. The intake every year of the Department is 79 in the B.Tech. level and 47 (without sponsored category) in the M.Tech. level. Besides teaching students of our own discipline (Electronics Engineering), we also offer the basic courses in Electronics Engineering to almost all the Departments of the Institute of Technology, we also teach advanced-level courses to the students of Electrical Engineering and Computer Engineering Departments. We have a training and placement section in the Institute through which most of our students are professionally placed in various jobs.

Our current priority areas of specialization are (i) Communication Systems Engineering (ii) Digital Techniques & Instrumentation (iii) Microwave Engineering and (iv)Microelectronics. We are accordingly, running a doctoral programme under which about 8-10 research scholars would obtain their Ph.D. degree, every year, in these thrust areas. Presently, we have 21 teachers Professors - 8 including four (04) with reemployment, Associate Professor –7including two (02) with reemployment,and Assistant Professor – 6. Besides, we have now 3 Scientist/Scientific Officer/Research Assistant in the Department

Major areas of Research

Communication System Engineering
Digital Techniques & Instrumentation
Microwave Engineering
Microelectronics Engineering

Area of the Department/School (in square meters) : 77.25 x 46.10=3561.22 Sq. Mtr.

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	08
2	No. of Lecture Halls	01
3	No. of Laboratory	16
4	No. of Computers available for students in the Department/School/ School	25

Unique Achievement / Preposition of the Department/School

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	EC-431	Basic VLSI Design	9
2	EC-411	Wireless Communication	9
3	EC-412	Introduction to Complex Networks	9
4	EC-421	Advanced Digital Design	9
5	EC-422	Embedded System Design	9
6	EC-432	VLSI Technology	9

7	EC-442	Satellite Communication	9
8	EC-443	Microwave solid state devices	9
9	EC-444	Microwave communication systems	9

Students on Roll

(Please give No. of students only in respective years)

S. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	88	88	87	88	---
2	Dual Degree	---	---	---	---	---
3	M. Tech/ M. Pharm	4 (2014-15)	28 (2015-16)	34 (2016-17)	---	---
4	Ph. D (Under Institute Fellowship)	3	9	8	9	3
5	Ph. D (Under Project Fellowship)	---	---	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	2	1

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance
INDIA					
1	Gourav Modanwal	14091006	Short term course on computer vision pattern recognition & image analysis	3-7 October, 2016 NIT Durgapur	Research Support Grant
2	Gourav Modanwal	14091006	International workshop on pattern analysis and application	18-20 January, 2016 ISI Kolkata	Research Support Grant
3	Mayank Agarwal	14091011	104th Indian Science Congress (ISC)	Jan. 03-07, 2017, Tirupati, Andhra Pradesh	STGS, IIT (BHU), Varanasi
4	Mayank Agarwal	14091011	Asia Pacific Microwave Conference (APMC 2016) and International RF and Microwave Conference (IMaRC 2016) [co-located conference]	Dec. 05-09, 2016, New Delhi	STGS, IIT (BHU), Varanasi
5	Mayank Agarwal	14091011	Workshop on Electromagnetics and Antenna Design (WEAD 2016) using Ansys HFSS	April 9-10, 2016, Department of Electronics Engineering, IIT (BHU), Varanasi	--NA--

6	Mayank Agarwal	14091011	QIP short term course on "Design of Microwave Antennas and Passive Components"	Dec. 19-24, 2016, Department of Electronics Engineering, IIT (BHU), Varanasi	--NA--
7	Bhagirath Sahu	13091002	2016 IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics Engineering (UPCON), Varanasi, 2016, pp. 543-545. doi:10.1109/UPCON.2016.7894712	9-11 Dec. 2016, IIT (BHU) Varanasi	IIT (BHU) Varanasi
8	Ashutosh Mishra	12605EN002	International Conference on Industrial and Information Systems (ICIIS-2016)	December, 3 – 4, 2016, IIT Roorkee, Uttarakhand.	IIT (BHU), Varanasi
9	Hemant Kumar	13091005	Conference	19-23 December, 2016 ABV-IIITM, Gwalior	Institute
10	Hemant Kumar	13091005	Conference	01-04 December, 2016 IIT-Roorkee	Institute
11	Yogesh Kumar	13091012	Conference	19-23 December, 2016 ABV-IIITM, Gwalior	Institute
12	Deepak Kumar Jarwal	15091004	Workshop	Feb 20-21, 2017 IISC-Bengaluru	Media Lab Asia
13	Prince Kumar Singh	15091002	Workshop	Feb 20-21, 2017 IISC-Bengaluru	Media Lab Asia
14	Amit Kumar	15091005	Workshop	Feb 20-21, 2017 IISC-Bengaluru	Media Lab Asia
15	Ashwini Kumar Mishra	15091001	Workshop	Feb 20-21, 2017 IISC-Bengaluru	Media Lab Asia
16	Yogesh Kumar	13091012	Workshop	19 November 2016, IIIT Allahabad	Institute
17	Chandan Kumar	14091005	Workshop	19 November 2016, IIIT Allahabad	Institute
18	Prince Kumar Singh	15091002	Workshop	19 November 2016, IIIT Allahabad	Institute
19	Ashwini Kumar Mishra	15091001	Workshop	19 November 2016, IIIT Allahabad	Institute
ABROAD					
1	Subiman Chatterjee	14091003	IEEE 59th International Midwest Symposium on Circuits and Systems	Abu Dhabi, United Arab Emirates 16-19 October, 2016	Student Travel Grant Support

2	Mayank Agarwal	14091011	URSI Asia-Pacific Radio Science Conference (URSI AP-RASC 2016)	Aug. 21-25, 2016, Seoul, South Korea	Partially from STGS, IIT (BHU), Varanasi and Partially from Science and Engi. Research Board (SERB), DST, Gov. of India
3	Chandan Kumar	14091005	Conference	02-05 December 2016, NTUST, Taipai, Taiwan	Institute
4	Chandan Kumar	14091005	Workshop	28 May-03 June 2016, University of Alberta, Canada	IC-IMPACTs
5	Gopal Rawat	13091004	Workshop	28 May-03 June 2016, University of Alberta, Canada	IC-IMPACTs

Names of students/scholars who got prizes and awardsoutsidethe Institute

S. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Gourav Modanwal	14091006	India's top 51 innovation	18-19 October 2016 & New Delhi	Confederation of Indian Industry (CII) in partnership with DST and AICTE
2	Mayank Agarwal	14091011	Best Poster Award	Jan. 07, 2017, Tirupati, Andhra Pradesh	Indian Science Congress (ISC Association), Kolkata (during 104th ISC)

Names of scholars/students who won Convocation/Institute Day prizes

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Gourav Modanwal	14091006	Institute Innovation Award 2016	IIT(BHU), Varanasi
2	Gourav Modanwal	14091006	Navkriti Medal 2015	IIT(BHU), Varanasi
3	Gourav Modanwal	14091006	First Prize in Innovative Model Presentation	Dept. of Electronics Engineering, IIT(BHU), Varanasi
4	Mayank Agarwal	14091011	Institute Day, 2016 (department level, Ph.D. category in poster presentation event)	IIT (BHU), Varanasi
5	Hemant Kumar & Yogesh Kumar	13091005 & 13091012	First Prize of Institute Day, 2017 (Gold Medal)	IIT (BHU), Varanasi

Names of Students/Scholars who went for foreign Internship

Note : Individual faculty members should provide the data

S. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Mayank Agarwal	14091011	Raman-Charpak Fellowship 2016 Funded by Indo-French Center for the Promotion of Advanced Research (IFCPAR/CEFIPRA), New Delhi	Department of Electromagnetics, EXPOSE Research Group PIEM/ GEEPS, Centrale Supelec, Gif-sur-Yvette Cedex	France	09-02-2017 to 24-07-2017

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Prof. S.P. Singh (Institute Professor), Ph.D.	Bioelectromagnetics, Antennas, Microwave Circuits and Measurements
2	Dr. Anand Mohan (Institute Professor), Ph.D.	Digital Techniques & Instrumentation
3	Dr. R. R. Das (Institute Professor), Ph.D.	Digital Techniques & Instrumentation
4	Dr. K. P. Singh (Institute Professor), Ph.D.	Microwave Engineering
5	Dr. Satyabrata Jit, Ph.D.	Advanced CMOS Devices Thin Film Based Nanoelectronic Devices for Electronic, Gas Sensing and Optoelectronic Applications
6	Dr. P. Chakrabarti, Ph.D.	High Speed Semiconductor Devices Optoelectronic Devices Optical Communication
7	Dr. P. K. Jain, Ph.D.	Microwave Engineering
8	Dr. V. N. Mishra, Ph.D.	Microelectronics
ASSOCIATE PROFESSORS		
1	Dr. R. Dwivedi (Institute Associate Professor), Ph.D.	Microelectronics
2	Dr. R. U. Khan(Institute Associate Professor), Ph.D.	Microelectronics
3	Dr. Manoj Kumar Meshram, Ph.D.	Microwave antennas, Artificial materials, Microwave passive devices
4	Dr. N. S. Rajput, Ph.D.	Digital Techniques & Instrumentation
5	Dr. Amit Kumar Singh, Ph.D.	Microwave Engineering
6	Dr.. Amritanshu Pandey, Ph.D.	Communication System Engineering, Microelectronics
7	Dr. M. Thottappan	Microwave Engineering

ASSISTANT PROFESSORS		
1	Dr. Kishor P. Sarawadekar, Ph.D.	Algorithms and architectures for image/video signal processing, Image coding systems, VLSI based signal processing
2	Dr. K.V. Srinivas, Ph.D.	Communication System Engineering
3	Mr. M. K. Singh, M.Tech.	Communication System Engineering
4	Dr. Somak Bhattacharyya, Ph.D.	RF & Microwave Engineering
5	Dr. Smrity Dwivedi, Ph.D.	RF & Microwave Engineering
6	Dr. Aashish Mathur, Ph.D.	Communication Engineering

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	Dr. Manoj Kumar Meshram	Workshop on Electromagnetics and Antenna Design (WEAD 2016) using Ansys HFSS	April 9-10, 2016
2	Dr. Manoj Kumar Meshram	QIP short term course on "Design of Microwave Antennas and Passive Components"	Dec. 19-24, 2016
3	Dr. Manoj Kumar Meshram	3rd IEEE UP Section International Conference on Electrical, Computer and Electronics (IEEE UPCON 2016)	Dec.9-11, 2016

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr. Kishor P. Sarawadekar	13th International Conference on Computer and Robot Vision	June 1-3, 2016 Victoria, British Columbia, Canada
2	Dr. Kishor P. Sarawadekar	2016 IEEE 59th International Midwest Symposium on Circuits and Systems (MWSCAS),	October 16-19, 2016 Abu Dhabi, UAE,
3	Dr. Kishor P. Sarawadekar	Second ZOPP Workshop	21st-22nd October 2016 IIT Bombay
4	Dr. Manoj Kumar Meshram	16thMediterranean Microwave Symposium (MMS 2016)	Nov. 14 -16, 2016, Abu Dhabi, UAE
5	Dr. Manoj Kumar Meshram	3rd IEEE UP Section International Conference on Electrical, Computer and Electronics (IEEE UPCON 2016)	9-11 Dec 2016, IIT(BHU), Varanasi

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	Dr. Kishor P. Sarawadekar	VHDL Syntax and Applications	Jawaharlal Darda Institute of Engineering & Technology, Yavatmal, M.S.	June 13-18, 2016
2	Dr. Kishor P. Sarawadekar	FPGA based Image Processing	MIT College of Engineering, Pune, M.S.	June 27-30, 2016
3	Dr. Kishor P. Sarawadekar	Smart Embedded VLSI System and Hands on Training	Shivaji University, Kolhapur, MS	September 29 to October 5, 2016
4	Prof. S.P. Singh	Antenna Ranges and Measurement of Antenna Parameters	Madan Mohan Malaviya University of Technology (MMMUT), Gorakhpur	March 18, 2017
5	Prof. S.P. Singh	Microwave Measurement	IIT (ISM), Dhanbad, Jharkhand	January 11, 2017
6	Prof. S.P. Singh	Antennas for Medical Applications	IIT (ISM), Dhanbad, Jharkhand	January 12, 2017
7	Prof. S.P. Singh	Complex Permittivity Measurement of Bio-samples at Microwave Frequencies	Madan Mohan Malaviya University of Technology (MMMUT), Gorakhpur	July 04, 2016
8	Prof. Satyabrata Jit	ZnO and TiO2 Nanostructure Based Schottky and Heterojunction Diodes for Ultraviolet Detections	Department of Instrument Technology, College of Engineering, Andhra University, Visakhapatnam	08th March 2017
9	Prof. Satyabrata Jit	Fabrication and Characterization of p-Si/n-TiO2 Nanostructure Heterojunction Diodes for Ultraviolet Detections	Vignan University, Guntur, A.P	9th December 2016
10	Prof. Satyabrata Jit	Basic Concepts and Modeling of JFET, MESFET and MOSFET	Jadavpur University, Kolkata	30th November 2016
11	Prof. Satyabrata Jit	Electrical and Optical Properties of Metal Oxide Nanostructures Based Schottky and Heterojunction Diodes	Department of Electronics and Telecommunication Engi., Jadavpur University, Kolkata	29th July 2016
12	Prof. Satyabrata Jit	Advanced MOS Transistors for Future Generation Integrated Circuits: An Overview	United Institute of Technology, Allahabad	11th July 2016
13	Prof. Satyabrata Jit	Fundamentals of Field Effect Transistors: Basic Concepts and Modeling	United Institute of Technology, Allahabad	11th July 2016
14	Dr. Manoj Kumar Meshram	Embedded Antenna Design for Hand held Devices	MITS Gwalior	24th March 2017
15	Dr. Manoj Kumar Meshram	Meta Material and its Antenna	MMMUT	7th July 2016
16	Dr. Manoj Kumar Meshram	Reconfigurable Antenna	MMMUT	8th

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Kishor P. Sarawadekar	Canada	May 30, 2016	June 6, 2016	To attend CRV Conference	Visvesvaraya Young Faculty Fellowship, MeitY
2	Dr. Kishor P. Sarawadekar	Abu Dhabi	October 15, 2016	October 20, 2016	To attend MWSCAS Conference	Visvesvaraya Young Faculty Fellowship, MeitY
3	Dr. Manoj Kumar Meshram	Abu Dhabi	13/11/16	17/11/16	To present the paper at conference	CPDA

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Dr. Kishor P. Sarawadekar	Visvesvaraya Young Faculty Fellowship. Awarded for two years 2016-2018 by Ministry of Electronics and Information Technology, Government of India
2	Dr. Manoj Kumar Meshram	INSA-DFG Exchange of Scientist Programme 2017
3	Prof. S.P. Singh	Achieved status of Life Senior Member of IEEE: 01 Jan 2017
4	Dr. M. Thottappan	Outstanding Scientist Award 2016
5	Prof. Satyabrata Jit	National Jury in the 8th India Innovation Initiative: National Fair & Awards Ceremony 2016 held during 18-19 October, 2016.

Fellowships of academic and professional societies

S. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Manoj Kumar Meshram	INSA-DGF Fellowship 2017 to visit Germany for three months (1 June 2017 to 31 Aug 2017)
2	Dr. Manoj Kumar Meshram	Senior Member, IEEE
3	Dr. Manoj Kumar Meshram	Life Member, ISTE
4	Dr. Manoj Kumar Meshram	Life Member, IETE
5	Dr. M. Thottappan	UK Commonwealth Professional Fellowship-2016 (Fellowship Period: 1st March 2017 – 31st July 2017)
6	Prof. S.P. Singh	Life Fellowship, IETE (India) [Membership No.: F165587]
7	Dr. Kishor P. Sarawadekar	Member, IEEE
8	Dr. Kishor P. Sarawadekar	Life Member, ISTE

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/member)	Name of Journal
1	Dr. Kishor P. Sarawadekar	Editor, Since February 2014	Journal of Microprocessor Engineering and Applications
2	Dr. Manoj Kumar Meshram	Managing Editor	International Journal of Advances in Microwave Technology
3	Prof. Satyabrata Jit	Editor	Material Science Research India

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Six axes positioner for RF characterization up to 18.0 GHz is added in the updated anechoic chamber in the microwave laboratory of the department	18.00 Lakhs for Positioner 8.7 Lakhs for microwave absorbers
2	Thermal deposition unit (HHV, BC 300)	12.76 Lakhs
3	Hall measurement system (Ecopia, HMS-3000)	12.72 Lakhs
4	Photoluminescence measurement system (Edinburgh Photonics, F980)	28.03 Lakhs

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	Prof. P. K. Jain	A device with improved modulation cavity for high pulse microwave signal generation and method thereof, 2016 (Patent Appl. No. 201611032924). Applied

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Design and development of miniaturized pattern/frequency reconfigurable MIMO antennas and its performance improvement using artificial electromagnetic material	Feb 20, 2017 to Feb 19, 2020	SERB, New Delhi	43.0 Lakhs	PI: Manoj Kumar Meshram
2	Design Investigations of High Power mm-Wave W-Band Gyrotron	July 2016 - Continuing	DRDO	9.9 Lakhs	PI: P. K. Jain
3	Analytical Modeling, Design, PIC Simulation and Development of Gigawatt Range of Pulse HPM Oscillator Reltron	2017	IMPRINT Project	364.80 Lakhs	PI: P. K. Jain

4	Electromagnetic Analysis, Design and Simulation of an X-band Gyro-Twystron Amplifier,	October 2015, for 3 years	Science and Engineering Research Board (SERB), India	29.10 Lakhs	PI: M. Thottappan
5	Development of Polymer and Doped Quantum Dots Blended Tandem Solar Cells Using Low-Cost Solution Processed Method	3 Years	SERB, Govt. of India	44.8	Prof. Satyabrata Jit

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	01
2	Total Number of Papers Published in Refereed International Journals	63
3	Total Number of Papers Presented in National Conferences	05
4	Total Number of Papers Presented in International Conferences	06

(a) Refereed International Journals

1. Pouria Kamalvand, Gaurav Kumar Pandey, and Manoj Kumar Meshram, (2017)A Single Sided Meandered Dual Antenna Structure for UHF RFID Tags,International Journal of Microwave and Wireless Technologies. (DOI: https://doi.org/10.1017/S1759078716000866).
2. Hari Shankar Singh and Manoj Kumar Meshram, (2017) Effect of User Proximity on Internal Quad Band Mobile Phone, Wireless Personal Communication, vol. 95, no. 2, 1417-1431.
3. M. Agarwal, A. Kumar Behera, M. K. Meshram, (2017) MIMO-Configured WLAN Access Point Antenna With High Port Isolation,Journal of Electromagnetic Waves and Applications, vol. 31, no. 10, pp. 1007-1019.
4. M. Agarwal, A. K. Behera, and M. K. Meshram, (2016)Wide-angle quad-band polarization-insensitive metamaterial absorber, Electronics Letters, vol. 52, no. 5, pp. 340-342.
5. Mayank Agarwal, Ashis Kumar Behera, and Manoj Kumar Meshram, (2016) Dual Resonating C-Band with Enhanced Bandwidth and Broad X-Band Metamaterial Absorber, Applied Physics A, vol. 122 (166).
6. A.K. Behera, M. Agarwal, and M. K. meshram,(May 2016) A hepta-band frequency reconfigurable antenna for mobile handsets with impedance matching technique, International Journal of Advances in Microwave Techniques (IJAMT), vol.1, no.1, pp. 19-23.
7. Gaurav K. Pandey, Hari S. Singh, and Manoj K. Meshram, (August (2016)) Investigations of triple band artificial magnetic conductor back plane with UWB antenna,Microwave Optical Technology Letters, vol. 58, no. 8, pp. 1900-1906.
8. Gaurav Kumar Pandey, Hari Shankar Singh, and Manoj Kumar Meshram, (May 2016)Platform tolerant UWB antenna over multi-band AMC structure, Microwave Optical Technology Letters, vol. 58, issue 5, pp. 1052-1059.
9. Gaurav Kumar Pandey, Hari Shankar Singh, Pradutt Kumar Bharti, and Manoj Kumar Meshram, (July 2016)Design and Analysis of ? -Shaped UWB Antenna with Dual Band Notched Characteristics,Wireless Personal Communication, Vol. 89, issue 1, pp 79-92.
10. Pouria Kamalvand, Gaurav Kumar Pandey, and Manoj Kumar Meshram, (2016) RFID Tag Antenna for Ultra and Super High Frequency Band Applications,International Journal of RF and Microwave Computer-Aided Engineering, Vol. 26, Issue 7, 640-650.
11. A. Mishra, N. S. Rajput, and G. Han, (2017) NDSRT: An Efficient Virtual Multi-Sensor Response Transformation for Classification of Gases/Odors. IEEE Sensors Journal, 17(11): 3416-3421 ISSN: 1530-437X.
12. Situ Rani Patre and S. P. Singh (2017) Dielectric-loaded trapezoidal toothed log-periodic antenna Int J RF and Microwave Comp Aid Eng. 27 (3): Issue Online. Online ISSN: 1099-047X.

13. Manoj Kumar, Surya P. Singh and Chandra M. Chaturvedi (2016) Chronic nonmodulated microwave radiations in mice produce anxiety-like and depression-like behaviours and calcium- and no-related biochemical changes in the brain Experimental Neurobiology 25(6): 318-327. eISSN: 2093-8144, pISSN: 1226-2560.
14. Soni Singh and S. P. Singh (2016) Investigation on improved water-loaded diagonal horn applicators for hyperthermia Journal of Electromagnetic Waves andApplications (Taylor & Francis Publisher) 30 (14): 1836–1857. Print ISSN: 0920-5071, Online ISSN: 1569-3937.
15. Bhagirath Sahu, Pankaj Tripathi, Soni Singh, Manoj Kumar Meshram, and S. P. Singh (2016)Investigation on compact modified wideband interdigital bandpass filter with wide stopband using spurlines and defected ground structures Microwave and Opt. Tech. Letters 58 (11): 2634 - 2639.Online ISSN: 1098-2760, Print ISSN: 0895-2477.
16. Soni Singh, Bhagirath Sahu, and Surya Pal Singh (2016) Conformal microstrip slot antenna with an amc reflector for hyperthermia Journal of Electromagnetic Waves and Applications (Taylor & Francis Publisher) 30(12): 1603-1619. Print ISSN: 0920-5071, Online ISSN: 1569-3937.
17. Situ Rani Patre and Surya P. Singh (2016) Broadband multiple-input-multiple-output antenna using castor leaf-shaped quasi-self-complementary elements IET Microwaves, Antennas and Propagation 10 (15): 1673-1681. Online ISSN 1751-8733Print ISSN 1751-8725.
18. Situ Rani Patre and S. P. Singh (2016) Study of microstrip line-fed flower-shaped patch antenna providing enhanced bandwidth and radiation efficiency Microwave and Opt. Tech. Letters 58(9): 2041-2046. Online ISSN: 1098-2760, Print ISSN: 0895-2477.
19. M.Thottappan, Pradeep Singh, and P.K.Jain, (May 2016) Gyro-TWT using a Metal PBG Waveguide as its RF Circuit - Part I: Analysis and Design, IEEE Transactions on Electron Devices, vol. 63, no. 5, pp. 2118-2124. (Impact Factor=2.605).
20. M.Thottappan, Pradeep Singh, and P.K.Jain, (May 2016)Gyro-TWT using a Metal PBG Waveguide as its RF Circuit Part II: PIC Simulation and Parametric Analysis,IEEE Transactions on Electron Devices, vol. 63, no. 5, pp. 2125-2131, (Impact Factor=2.605).
21. Gargi Dixit and P. K. Jain,(Feb. 2016) Equivalent Circuit Analysis of the Disc-Loaded Coaxial Structure for MILO,IEEE Transactions on Plasma Science, vol. 44, no. 2, pp. 157-164, (Impact Factor=1.052)
22. Gargi Dixit, Arjun Kumar and P. K. Jain, 2017 Design Analysis and Simulation Study of an Efficiency Enhanced L-Band MILO, Physics of Plasmas, vol. 24, pp. 013113(1-11),.(Impact Factor=2.115)
23. M. Mahto and P. K. Jain, , May 2016. “Design and Simulation Study of the HPM Oscillator—Reltron,” IEEE Transactions on Plasma Science, vol. 44, no. 5, pp. 743–748 (Impact Factor=1.052)
24. M. Mahto and P. K. Jain, July 2016. “Oscillation Condition and Efficiency Analysis of the Reltron,” IEEE Transactions on Plasma Science, vol. 44, no. 7, pp. 1056-1062, (Impact Factor=1.052)
25. M. Mahto and P. K. Jain, , Sept. 2016. “Electromagnetic Analysis of the HPM Oscillator—Reltron,” Physics of Plasmas (AIP), vol. 23, p. 93118 (Impact Factor=2.115)
26. M. V. Swati, M. S. Chauhan, and P. K. Jain, 2016.“Time-Dependent, multimode interaction analysis of the Gyroklystron amplifier,” Physics of Plasmas, vol. 23, no.8, pp. 083124 (1-8), (Impact Factor=2.115)
27. M. V. Swati, M. S. Chauhan, and P. K. Jain, 2016. "Design Methodology and Beam–Wave Interaction Study of a Second Harmonic D-Band Gyroklystron Amplifier,"IEEE Transactions on Plasma Science, vol. 44, no. 11, pp. 2844-2851, (Impact Factor=1.052)
28. Amit Arora, M. Thottappan and P. K. Jain, Jan. 2017. “Particle-In-Cell Simulation of a Millimeter Wave Gyrotron Travelling Wave Amplifier,” International Journal of Microwave and Optical Technology, vol.12, no.1, pp.37-44,
29. Anshu Sharan Singh,S.Yuvaraj,and M.Thottappan, Oct. 2016. “Analytical and PIC Simulation Studies of a Mega-Watt Class Gyro-Twystron Amplifier,” IEEE Transactions on Electron Device, vol. 63, no. 10, pp. 4104-4112,
30. Amit Arora, M. Thottappan and P. K. Jain, Oct. 2016. “Design and Stability Studies of Second Harmonic Gyro-TWT Amplifier Using Wedge-Shaped Lossy Ceramic Rods Loaded Mode Selective RF Interaction Circuit,” IEEE Transactions on Plasma Science, vol. 44, no. 10, pp.` 2340 – 2347.

31. Amit Arora, M. Thottappan and P. K. Jain, Oct. 2016. "Particle-In-Cell Simulation of Uniformly Loaded W-band Gyro-TWT to Study its Multi-Mode Beam-Wave Interaction Behavior," International Journal of Microwave Applications, vol. 5, no. 5, pp. 41 – 47.
32. Sarthak Singhal and Amit Kumar Singh, Dec 2016 "Asymmetrically CPW-Fed Circle inscribed hexagonal super wideband fractal Antenna", Microwave and Optical Technology Letter, U.S.A Vol. 58,No. 12, ,pp 2794-2799.
33. Sarthak Singhal and Amit Kumar Singh,Sept 2016 "CPW-Fed Octagonal Super-Wideband fractal Antenna with defected ground structure", IET microwave, Antenna & propagation, U.K, , pp 1-16 .
34. Sarthak Singhal and Amit Kumar Singh, June 2016.CPW-Fed Hexagonal Sierpinski Super-Wideband fractal Antenna",IET microwave, Antenna & propagation, doi:10.1049/iet-map.2016.0154, www.ietdl.org.
35. Sarthak singhal, Pragya singh and Amit Kumar Singh, July 2016 "Asymmetrically CPW-fed Octagonal Sierpinski UWB fractal Antenna ", Microwave and Optical Technology Letter, U.S.A Vol. 58,No. 7, ,pp 1738-1745.
36. S. Kumar, E. Goel, K. Singh, B. Singh, P. K. Singh, K. Baral and S. Jit (2017) 2D Analytical Modeling of the Electrical Characteristics of Dual-Material Double-Gate TFETs with a SiO2/HfO2 Stacked Gate-Oxide Structure. IEEE Trans. Electron Devices 64(3): 960-968.
37. B. Singh, D. Gola, K. Singh, E. Goel, S. Kumar and S. Jit (2017) Two-Dimensional Analytical Threshold Voltage Model for Dielectric Pocket Double-Gate Junctionless FETs by Considering Source/Drain Depletion Effect. IEEE Trans. Electron Devices 64(3): 901 – 908.
38. Y. Kumar, H. Kumar, G. Rawat, C. Kumar, A. Sharma, B. N. Pal and S. Jit (2017) Colloidal ZnO Quantum Dots Based Spectrum Selective Ultraviolet Photodetectors. IEEE Photonics Technol. Lett. 29(4): 361 - 364.
39. G. Rawat, D. Somvanshi, Y. Kumar, H. Kumar, C. Kumar and S. Jit (2017) Electrical and Ultraviolet-A Detection Properties of E-Beam Evaporated n-TiO2 Capped p-Si Nanowires Heterojunction Photodiodes. IEEE Trans. Nanotechnology 16(1):49 – 57.
40. S. Singh, Y. Kumar, H. Kumar, S. Vyas, C. Periasamy, P. Chakrabarti, S. Jit, and Si-Hyun Park (2017) A study of hydrothermally grown ZnO nanorod-based metal-semiconductor metal UV detectors on glass substrates. Nanomaterials and Nanotechnology 7: 1-5.
41. Shaivalini Singh, S. Jit, and Si-Hyun Park (2017) Characterization of Ag/ZnO Nanorod Schottky Diode-based Low-voltage Ultraviolet Photodetector. Nano (World Scientific) 12: 1750063:1-7.
42. Ekta Goel, Sanjay Kumar, Balraj Singh, Kunal Singh, S. Jit (2017) Two-dimensional Model for Subthreshold Current and Subthreshold Swing of Graded-Channel Dual-Material Double-Gate (GCDMDG) MOSFETs. Superlattices and Microstructures 106:147-155.
43. E. Goel, K. Singh, B. Singh, S. Kumar, and S. Jit (2017) 2-D Analytical Modeling of Subthreshold Current and Subthreshold Swing for Ion-Implanted Strained-Si Double-Material Double-Gate (DMDG) MOSFETs. Indian Journal of Physics 91(9):1069–1076.
44. B. Singh, D. Gola, K. Singh, E. Goel, S. Kumar, and S. Jit (2017) Analytical Modeling of Subthreshold Characteristics of Ion-Implanted Symmetric Double Gate Junctionless Field Effect Transistors. Materials Science in Semiconductor Processing 58: 82-88.
45. Hemant Kumar, Yogesh Kumar, Kunal Singh, Sanjay Kumar, Gopal Rawat, Chandan Kumar, Bhola N. Pal, S. Jit (2017) Kink Effect in TiO2 Embedded ZnO Quantum Dot based Thin Film Transistors. IET Electronics Letters 53(4): 262 – 264.
46. E. Goel, B. Singh, S. Kumar, K. Singh, and S. Jit (2017) Analytical Threshold Voltage Modeling of Ion-Implanted Strained-Si Double-Material Double-Gate (DMDG) MOSFETs. Indian Journal of Physics 91(4): 383 – 390.
47. K. Singh, M. Kumar, Ekta Goel, S. Kumar, K. Singh, B. Singh and S. Jit (2017) Effects of Elevated Source/Drain and Side Spacer Dielectric on the Drivability Optimization of Non-Abrupt Ultra Shallow Junction Gate Underlap DG MOSFETs. Journal of Electronic Materials (JEMS) 46(1): 520–526.
48. K. Singh, M. Kumar, Ekta Goel, S. Kumar, K. Singh, B. Singh and S. Jit (2017) Subthreshold Current and Swing Modeling of Gate Underlap DG MOSFETs with Source/Drain Lateral Gaussian Doping Profile. Journal of Electronic Materials (JEMS) 46(1): 579–584.

49. A. B. Yadav and S. Jit (2017) Particle Size effects on the Hydrogen Sensing Properties of Pd/ZnO Schottky Contacts Fabricated by Sol-gel Method. Int. J. Hydrogen Energy 42: 786-794.
50. P. Singh, S. Srivasatva, P. Chakrabarti and S.K. Singh (2017). Nanosilica based electrochemical biosensor: A novel approach for the detection of platelet-derived microparticles. Sensors and Actuators B 240: 322-329.
51. S. Kumar, E. Goel, K. Singh, B. Singh, M. Kumar and S. Jit (2016) A Compact 2D Analytical Model for Electrical Characteristics of Double-Gate Tunnel Field-Effect Transistors with a SiO2/High-k Stacked Gate-Oxide Structure. IEEE Transactions on Electron Devices 63(8): 3291-3299.
52. M. Kumar, S. Kumar, E. Goel, K. Singh, B. Singh, and S. Jit (2016) Strain-Induced Plasma Radiation at Terahertz Domain in Strained-Si-on-Insulator MOSFETs. IEEE Trans. on Plasma Science 44(3): 245-249.
53. G. Rawat, D. Somvanshi, H. Kumar, Y. Kumar, C. Kumar and S. Jit (2016) Ultraviolet Detection Properties of p-Si/n-TiO2 Heterojunction Photodiodes Grown by Electron-Beam Evaporation and Sol-Gel Methods: A Comparative Study. IEEE Trans. Nanotechnology 15(2): 193-200.
54. E. Goel, S. Kumar, K. Singh, B. Singh, M. Kumar, and S. Jit (2016) 2-D Analytical Modeling of Threshold Voltage for Graded-Channel Dual-Material Double-Gate MOSFETs. IEEE Transactions on Electron Devices 63(3): 966-973.
55. B. Singh, D. Gola, K. Singh, E. Goel, S. Kumar and S. Jit (2016) Analytical Modeling of Channel Potential and Threshold Voltage of Double Gate Junctionless Field Effect Transistors with a Vertical Gaussian-Like Doping Profile. IEEE Transactions on Electron Devices 63(6): 2299-2305.
56. K. Singh, M. Kumar, E. Goel, B. Singh, S. Dubey, S. Kumar, and S. Jit (2016) Analytical Modeling of Potential Distribution and Threshold Voltage of Gate Underlap DG MOSFETs with a Source/Drain Lateral Gaussian Doping Profile. Journal of Electronic Materials 45(4): 2184-2192.
57. S. Tiwari, Ashutosh K. Dikshit, S. Jit, and P C Pandey (2016) Highly Sensitive Biochemical Sensor Based on Photonic Crystal Ring Resonator. Optoelectronics and Advanced Materials –Rapid Communications 10: 509-513.
58. P. K. Tiwari, V. R. Samoju, T. Sunkara, S. Dubey, S. Jit (2016) Analytical modeling of threshold voltage for symmetrical silicon nano-tube field-effect-transistors (Si-NT FETs). J. Computational Electronics 15 (2): 516-524.
59. B. Singh, D. Gola, E. Goel, S. Kumar, K. Singh and S. Jit (2016) Dielectric Pocket Double Gate Junctionless FET: A New MOS Structure with improved Subthreshold Characteristics for Low Power VLSI Applications. J. Computational Electronics 15(2): 502-507.
60. Lucky Agarwal, Shweta Tripathi and P. Chakrabarti (2016) Fabrication and characterization of Pd/Cu doped ZnO/Si and Ni/Cu doped ZnO/Si Schottky Diodes. Thin Solid Films 61(2): 259-266.
61. Pushpa Giri and P. Chakrabarti (2016) Effect of Mg doping in ZnO buffer layer on ZnO thin film devices for electronic applications. Superlattices and Microstructures 93: 248-260.
62. Satyendra Kumar Singh, Purnima Hazra, Shweta Tripathi and P. Chakrabarti, (2016). Performance analysis of RF-sputtered ZnO/Si heterojunction UV photodetectors with high photo-responsivity. Superlattices and Microstructures 91: 62-69.
63. Shaivalini Singh, C. Periasamy, Sumit Vyas, P. Chakrabarti and Si-Hyun Park (2016) Preparation and Characterization of Hydrothermally Grown ZnO Nanorods for Photoconductive Sensors Applications. Advance Physics Letter 3:12-14,2016

(b) Refereed National Journal

1. Soni Singh, Bhagirath Sahu, and S. P. Singh(2016) Direct-contact water-loaded metal-dielectric wall diagonal horn applicators for hyperthermia. IETE Technical Review, Published online: 14 Dec 2016.

(c) Proceedings of International Conferences

1. A. Mishra, N.S.Rajput, and K.P.Singh, 2016. Neurally Augmented Object Identification scheme for Hyperspectral Images. 11th IEEE International Conference on Industrial and Information Systems (ICIIS), IIT Roorkee, Uttarakhand. December 2016.

2. Hemant Kumar, Yogesh Kumar, Gopal Rawat, Chandan Kumar, Bhola N Pal, and Satyabrata Jit 2016. Optical Characteristics of Solution Processed MoO2 / ZnO Quantum Dots based Thin Film Transitor. IEEE-iNiS: 210–213, Gwalior, India, December 2016.
3. C. Kumar, G. Rawat, H. Kumar, Y. Kumar, R. Prakash, and S. Jit 2016. Photoresponse in Poly (3, 3'''-dialkylquarterthiophene) Based Metal-Semiconductor-Metal Structure. Optics & Photonics Taiwan, the International Conference (OPTIC 2016): 1-2, Taipai, Taiwan, December 2016.
4. Yogesh Kumar, Hemant Kumar, Gopal Rawat, Chandan Kumar, Bhola N Pal, S Jit 2016. Electrical and optical characteristics of Pd / ZnO Quantum dots based Schottky Photodiode on n-Si. IEEE-iNiS: 210–213, Gwalior, India, December 2016.
5. Hemant Kumar, Yogesh Kumar, Gopal Rawat, Chandan Kumar, Bhola N Pal, and Satyabrata Jit 2016. Electrical and optical characteristics of Pd/ZnO Quantum dots based Schottky Photodiode on n-Si. IEEE-ICIIS, Roorkee, India, December 2016.
6. Mayank Agarwal, Ashis K. Behera, and Manoj K. Meshram, "Annular ring based metamaterial absorber for S- and C-band applications," 16th Mediterranean Microwave Symposium (MMS 2016), Abu Dhabi, UAE, Nov. 14-16, 2016.

(d) Proceedings of National Conferences

1. Mayank Agarwal and Manoj Kumar Meshram, 2017. Four-element highly isolated MIMO antenna system for 5 GHz WLAN applications, 104th Indian Science Congress (ISC), Tirupati, AP, (Jan. 3-7, 2017).
2. Mayank Agarwal and Manoj Kumar Meshram, 2016. A subwavelength microwave absorber with five resonating modes," Asia Pacific Microwave Conference (APMC 2016), New Delhi, (Dec. 5-9, 2016).
3. Braj Veer Singh, Mayank Agarwal, and Manoj K. Meshram, 2016. F-shaped monopole based MIMO antenna for WLAN applications, 3rd IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics (UPCON 2016), IIT (BHU), Varanasi, (Dec. 9-11, 2016).
4. Ashis Kumar Behera, Mayank Agarwal, and Manoj K. Meshram, 2016. Frequency reconfigurable triple band antenna for handheld device," International Conference on Emerging Trends in Electrical, Electronics and Sustainable Energy Systems (ICETEESES-16), KNIT Sultanpur, UP, India, (Mar. 11-12, 2016).
5. Ashis Kumar Behera, Mayank Agarwal, Gaurav Pandey and Manoj K. Meshram, 2016. A hepta-band Frequency-reconfigurable antenna for handheld device using PIN diode," National Conference on Recent Advancement in Communication Engineering and Microelectronics (RACEM-2016), MMMUT Gorakhpur, UP, India, (Mar. 09-10, 2016).

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. Manoj Kumar Meshram, RK Animeh, AT Pimpale, NK NIkolova, A Novel quad-band diversity antenna for LTE and Wi-Fi applications with high isolation . IEEE Transactions for Antennas and Propagation 60 (9), 4360-4371. [No. of citations: 54]
2. Saba Shahin, Vineet Prakash Singh, Ritesh K. Shukla, Alok Dhawan, Ravi Kumar Gangwar, Surya Pal Singh, Chandra Mohini Chaturvedi, "2.45 GHz microwave irradiation –induced oxidative stress affects implantation or pregnancy in mice, Mus musculus," Appl Biochem Biotechnol, Vol. 169, Issue 5, 2013, pp. 1727-1751. DOI: 10.1007/s12010-012-0079-9 [No. of citations: 45]
3. S Tiwari, AK Singh, L Joshi, P Chakrabarti, W Takashima, K Kaneto, Poly-3- hexylthiophene based organic field-effect transistor: Detection of low concentration of ammonia.Sensors and Actuators B: Chemical 171, 962-968 9 [No. of citations: 42]
4. S Singh, P Chakrabarti, Comparison of the structural and optical properties of ZnO thin films deposited by three different methods for optoelectronic applications. Superlattices and Microstructures 64, 283-293 [No. of citations: 33]
5. S Sharma, S Vyas, C Periasamy, P Chakrabarti, Structural and optical characterization of ZnO thin films for optoelectronic device applications by RF sputtering technique. Superlattices and Microstructures 75, 378-389. [No. of citations: 31]

Indian Faculty visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Dr. Shiv Narayan	Institute Talk at QIP Program	24/12/2016 Electronics Engineering, IIT (BHU)
2	Dr. Hari Shankar Sharma	Institute Talk at QIP Program	Dec. 19-24, 2016 Electronics Engineering, IIT (BHU)
3	Dr. V. S. Gangawar	Institute Talk at QIP Program	Dec. 19-24, 2016 Electronics Engineering, IIT (BHU)

Foreign Faculty Visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Karu Essele	Invited Talk	Oct. 11, 2016
2	Prof. Akhilesh Lakhtakia	GIAN Course	Dec. 19-27, 2016

Photoluminescence (PL) measurement setup (F980) from Edinburgh Photonics, UK. This setup can provide PL from 200-800 nm.

Vaccum evaporation and deposition systems (FL 300 and BC 300) from Hind High vac, Bangalore, India. These setup works with e-beam evaporation (FL 300) and thermal evaporation (FL 300 and BC 300) for depositing thin films.

An "anechoic chamber" ("an-echoic" meaning non-reflective, non-echoing or echo-free) is a room designed to completely absorb reflections of either sound or electromagnetic waves. They are also often isolated from waves entering from their surroundings. (Anechoic Chamber with 6 axis position for RF Characterization (upto 20GHz))

12. Department of Humanistic Studies

Year of Establishment : 2015

Head : Professor Rakesh Kumar Misra

Brief Introduction of the Department :

The Department of Humanistic studies is newly established at IIT (BHU)in 2015. Banaras as it is recognized for teaching, learning and research needs such department to bring sustainable development in society through pursuit of humanities at IIT (BHU). The department plays many roles in this institute as well as for this country. One of the important roles this department plays is that, this department convened four harmony workshops in which many faculty members and students of this institute and from other institutes participated and gained knowledge about Jivan Vidya. Second, the department creates a platform for creative activities in which students of many different engineering streams participate to show their creative activity. For example: creative writing, music .Third, the department provides scope in performing arts in which students learn about painting, drawing and making sculpture. Forth, the department invited many eminent scholars who could make our students notice how human being is a creator of many social and environmental problems and understood that science and technology should be used in the humanitarian way. Another important role this department plays in teaching different humanistic subjects like History, Sociology, Philosophy, Education, Linguistics and Literature.

The important purpose of this department is to educate people to recognize themselves as worthy citizens and recognize their own values as well as values of others in a country like ours. The department strives to be a centre of moral technology regarding human thinking, human conduct and human aspirations for the future; so that people pursuing science and technology can use their knowledge for human development in wholesome manner.

The goal of this department is to develop the understanding of students so that they can feel their responsibility in family, society and nature and they can see harmony in these levels. Department wants to see its students do justice in their relationship , becoming creator of their own life, feeling prosperity, becoming compassionate and getting internal bliss. To achieve this goal and purpose it houses study of many different courses like Universal Human Values-1, Universal Human Values -2, Study of Development of Society, Study of History of Civilization, Study of Introductory Philosophy and Study of Education. Students of UG, PG and PhD obligatorily pursue these courses. This Department also makes research in many different disciplines like Computational Linguistics, English Language and Literature, Philosophy, History and Sociology. The Department has only two faculty members including one visiting faculty. Now the department proposes for a separate building in which classrooms and office can be created.

Major areas of Research : Computational Linguistics, English, History, sociology and Philosophy.
Area of the Department/School (in square meters):Not defined

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	-----
2	No. of Lecture Halls	01
3	No. of Laboratory	-----
4	No. of Computers available for students in the Department/School/School	03

Unique Achievement / Preposition of the Department/School

This department wishes to propagate that right understanding about anything is an important asset of human beings which can help them about what they should do and what they should not. In year last this department arranged many different programs regarding how we can get right understanding in which students and faculties participated and viewed that there are many changes in their thinking, behaviour, conduct and decision making. We noticed that people participating in these programs are able to solve their own problems alongwith becoming more appropriate in their work and relationship.

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	MME-303	Law And Engineering	
2	HSL-317	Introduction to Women's and Gender Studies	
3	HCl-319	Making of Indian Culture	
4	HPH-304	Nyaya Logic Epistemology	
5	LLT-303	Elements of Literature	
6	LLN-307	Language and Linguistics	
7	HVE-315	Universal Human Conduct	
8	HSL-316	Gender Culture and Development	
9	HSl-318	Advance Course in Peace Research	
10	HPL-306	Contemporary India in Globalized Era: Challenges of Democracy and Development	

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	---	---	---	---
2	Dual Degree	---	---	---	---	---
3	M. Tech/ M. Pharm	---	---	---	---	---
4	Ph. D (Under Institute Fellowship)	02	01	03	---	---
5	Ph. D (Under Project Fellowship)	---	02	---	---	---
6	Ph. D (Under Sponsored Category)	01	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Mr. Veeru Rajbhar	15191001	Field-work on Kabir	20.10.2016 Gorakhpur	Institute
2	Mr. Veeru Rajbhar	15191001	Field-work on Kabir	25.11.2016 Jaunpur	Institute

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Professor P.K. Panda	English Literary Theory, Professional Communication, Creative Writing
VISITING FACULTY MEMBERS		
1	Dr. Sanjaya Kumar Lenka	Morphosyntax, Language & Communication, Academic Writing & Speaking

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	P. K. Panda	1. Key speaker in International Seminar on Claiming the Difference: Literatures and Cultures. "Rethinking English Literary Studies in Academic Context: from Artistic Appreciation to Appropriation of Theories".	Mizoram University. Mizoram. 26th to 28th Oct 2016.
2	P. K. Panda	11th. International Writers' Festival-India (An International Conference of Poets, Writers & Scholars) India. Delivered a talk: "The Present of Literary Studies in the contemporary English Departments of India".	October, 14-15, 2016 at Mohanlal Sukhadia University, Udaipur. Rajasthan.
3	P. K. Panda	National Workshop on The Politics of Post: Theory, Literature and Culture. "Literature Studies Beyond Theories in Practice: Thinking about Post Perspectives".	25th-31stMarch 2017.Mahila Mahavidyalaya, BHU. Varanasi

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	P K Panda	"Future of Literary Criticism: New Perspectives".	Berhampur University, Brahmapur	21st. Feb. 2017.

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/member)	Name of Journal
1	P K Panda	Member Editor	IOSR Journals of Humanities and Social Sciences (International Organization of Scientific Research) e-ISSN-2279-0837, p-ISSN-2279-0845
2	P K Panda	In the editorial board	Journal of Research and Innovation in Social Sciences (ISSN -2394-0123)
3	P K Panda	Editor-in- Chief	Nuances: (A Journal of Humanistic Inquiry) (ISSN NO 2395-0943)
4	P K Panda	the advisory Board of	Platform: A Bi-Lingual Magazine Based on Literature and Culture (ISSN- 2347-5242)

Faculty members' participation with other universities under MoUs

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	-----
2	Total Number of Papers Published in Refereed International Journals	-----
3	Total Number of Papers Presented in National Conferences	-----
4	Total Number of Papers Presented in International Conferences	-----

Refereed National Journal

1. Panda, P.K. 2015.An Analysis of Pitfalls in Professional Communication Courses in Engineering Institutions in India.Professionalization of Education, ed O.N. Singh. Bharati Publication. New Delhi.2015
2. India: The future is now by Sashi Thoroor. Wisdomtree New Delhi 2013. In Nuances Vol -1 No. 1. Jan-July 2015.

13. Department of Mechanical Engineering

Year of Establishment : 1919

Head of the Department : Prof. A. K. Agrawal

Brief Introduction of the Department :

The Department of Mechanical Engineering came into existence in 1919 under the leadership of Professor Charles A. King, the first Head of the Department and Principal of the erstwhile Banaras Engineering College. Over the last ninety nine years, the department has grown four folds to become the largest department in IIT (BHU), Varanasi. The post-graduate and doctoral program in the department is well-established and infrastructural facilities exist for studies and research for a range of specialisations such as Machine Design, Thermal and Fluid Engineering, Production Engineering and Industrial Management.

Major areas of Research

Fracture mechanics, Vibrations and dynamic analysis, Smart materials, Tribology, Heat Transfer, Fluid dynamics, Metal forming/joining, Machining, Micro-Machining, Welding engineering, Supply Chain Management.

Area of the Department/School (in square meters)

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	08
2	No. of Lecture Halls	04
3	No. of Laboratory	14
4	No. of Computers available for students in the Department/School/School	250

Unique Achievement / Preposition of the Department/School

In the last five years, the department has produced graduates with 461 B.Tech., 74 Integrated Dual Degree, 171 M.Tech. degree. Apart from this, the department has to its credit 14 Ph.D.s awarded during the last five years.

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	DE.ME 523.14	Introduction to Micro Electro Mechanical Systems (MEMS)	9
2	DE. ME 524.14	Introduction to Nanomechanics	9

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	133	110	109	106	---
2	Dual Degree	20	22	22	19	20
3	M. Tech/ M. Pharm	41	22	01	---	---
4	Ph. D (Under Institute Fellowship)	20	16	14	12	08
5	Ph. D (Under Project Fellowship)	02	01	---	---	---
6	Ph. D (Under Sponsored Category)	---	01	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Ajeet Kumar		Hybrid and Composite Materials, Chemical Processing	25-27th October 2016, Hyderabad, Telangana	RSG Grant IIT(BHU)
2	Ashish Srivastava	13131504	NMD-ATM'16	November 11-14, 2016 IIT Kanpur, India	Self + Department
3	Avinash Ravi Raja	12606 E004	NMD-ATM'16	November 11-14, 2016 IIT Kanpur, India	Department
4	Deepak Kumar	15132019	NMD-ATM'16	November 11-14, 2016 IIT Kanpur, India	Self
5	Avinash Ravi Raja	12606 EN004	International conference on Advances in Materials and manufacturing	December 8-10, 2016, Hyderabad, INDIA	Department
6	Gaurav Kumar Gugliani	13131506	8th National Conference on Wind Engineering	16-17 December, 2016, IIT(BHU), Varanasi	Self
7	Rishikesh Kumar Singh	15131014	International Conference on Challenges in Sustainable Development from Energy and Environment Perspective	24-25 March, 2017, Madan Mohan Malviya University of Technology, Gorakhpur	Self
8	Bharat S. Patel	12606 EN005	National Conference on cultural heritage & management	May 28-29, 2016	Self
9	Anand Jaiswal	13101001	National conference on convergence of technology and management for advancing India	25-26 Feb.2017	Self
10	Manish Kr.	13101002	International Conference on Business Research and Policy-2017, CIMP, Patna	2017, March	Self
11	Vinaytosh M	14101003	Fifth Biennial Supply Chain Management Conference	15-16 December 2016	IIT (BHU)
12	Abhishek. S	14101001	Workshop on Fuzzy logic with applications	20-26 March 2017	IIT (BHU)
13	Manish Kr.	13101002	International Conference on Advances in Computing, Communications and Informatics (ICACCI), 2016, Jaipur	21-24 Sept.	IIT (BHU)
14	Bharat S. Patel	12606 EN005	Lean Six Sigma Certification Course (Six Sigma Green Belt)	Sept 9-12, 2016, IIT(BHU)	IIT (BHU)
15	Anand Jaiswal	13101001	International Conference on Design, Materials & Mfg. Concerns in Production of Quality Engineering Goods	March 27, 28 & 29, 2017	Self
16	Ambuj Sharma		ICTIMCAMS BHU, Varanasi, India.	December 14-17, 2016,	
17	Kumar Kaushik Ranjan		ICTIMCAMS BHU, Varanasi, India.	December 14-17, 2016,	

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Prof. J.P.Dwivedi	Solid Mechanics, Process Plasticity and Vibrations
2	Prof. V. P. Singh	Vibrations, Solid Mechanics
3	Prof. A.K. Agrawal	Quality Control, Six Sigma, Optimization, Industrial Engineering, Operation Management, Supply Chain Management
4	Prof. A.K.Jha	Manufacturing process and Manufacturing System
5	Prof. V.K.Srivastava	NDT of Composites, Delaminating of Fibre Composites, Fracture, Toughness and interface of Fibre Composites, Metal-Matrix Composites, Ceramic Fibre Composites, Biocomposites, Glass Composites,NanoComposites.
6	Prof Santosh Kumar	Metal Forming/CAD-CAM-RP & Manufacturing Automation/Machine tools & Unconventional Manufacturing
7	Prof. S.P. Tewari	Production Engg., Welding
8	Prof A.P.Harsha	Tribology, Bio-Tribology, Machine Design
9	Prof. Sandeep Kumar	Computational Mechanics(Wavelets, FEM, Meshless)
10	Prof. K. S.Tripathi	Mechanisms, Vibrations
11	Prof. S. K. Sinha	CNC
12	Prof. Rajesh Kumar	Tribology, MEMS Reliability, Optimization
13	Prof. Prashant Shukla	Thermal and Fluid Sciences
14	Prof. Pradyumna Ghosh	Heat Transfer and CFD, Nanofluids
15	Prof. S.K.Shukla	Solar Thermal Engineering, Energy and Resources, Alternate Fuels
16	Prof. Rajnesh Tyagi	Materials Development and Tribology, Manufacturing Engineering, Machine Design
ASSOCIATE PROFESSORS		
1	Dr. S.K.Panda	Failure Analysis and Reliability Design, Finite Element Analysis, Impact Dynamics and Ballistics, Advanced Composite Structures, Rolling Element Bearings
2	Shri S. K. Shah	Production Engg.
3	Dr. Prabhas Bhardwaj	Cellular Manufacturing System, Supply Chain Management, Production Systems
4	Dr. Mohd Zaheer Khan Yusufzai	Welding, Materials
5	Dr. Meghanshu Vashista	Machining, Grinding, Material Characterization
6	Dr. Swasti Sunder Mondal	Thermal Engg.
7	Dr. Jahar Sarkar	Heat Transfer, Refrigeration, Thermodynamics
8	Dr. Arnab Sarkar	Wind Climate Modelling, Renewable Energy, Fluid Dynamics
9	Dr. Debashis Khan	Computational Mechanics, Fracture Mechanics
10	Dr. Rakesh Kumar Gautam	Tribology, Composite Materials, Contact Modeling
11	Dr. O. P. Singh	CFD, Heat and mass transfer, Design and Innovation

ASSISTANT PROFESSORS		
1	Dr. Jeewan Vachan Tirkey	1. SI and CI Engine Design simulation 2. Alternate fuel
2	Dr. Cherian Samuel	Industrial Engg. & Management, Operations Management, Supply chain Management
3	Dr. Nilanjan Mallik	Smart materials and structures including nanostructures, finite element method, composites, fatigue
4	Dr. Amit Tyagi	Machine Design
5	Dr. U. Srinivas Rao	Modeling and Simulation, Micro-machining, Machining, Tool Condition Monitoring
6	Mrs. Rashmi Rekha Sahoo	IC Engine, Automobile Engineering (Radiator cooling system), Combustion Technology and Combustion generated pollution.
7	Shri Prakash Chandra Mani	Tribology and Maintenance Engineering
8	Dr. Amitesh Kumar	Turbulence Modeling, High Mach Number Flows, Cryosurgery

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	Prof. Anil Kumar Agrawal	Project Management for Organisational Excellence	22/08/2016 to 02/09/2016
2	Prof. Santosh Kumar	Making of Solar Cookers	3-5 July, 2016
3	Prof. Santosh Kumar	Essence on Vipassana Meditation for Achieving Concentration	Sep. 03, 2016
4	Prof. Santosh Kumar	MOODLE for TA/FACULTY	Sep. 17-18, 2016
5	Prof. Santosh Kumar	Teaching-Learning Best Practices	Dec. 12-16, 2016
6	Prof. Santosh Kumar	QIP Short term course on Additive Manufacturing : Theory & Practice	March 16-22, 2017
7	Prof. Santosh Kumar	Research Methodology for Research students & Faculty members	Mar. 24-29, 2017
8	Prof. A P Harsha and Prof. Rajnesh Tyagi	"Materials Tribology: Fundamentals and Recent Advances"	23-29 March 2017
9	Prof. Rajnesh Tyagi (Organizing Secretary) Prof. A P Harsha	National Tribology conference 2016. Theme Tribology for Sustainable Development	08-10 December 2016
10	Prof.S.K.Shukla	Workshop on Making of Solar Cookers	July 03-05, 2016
11	Dr. Arnab Sarkar (Organizing Secretary)	8th National Conference on Wind Engineering	16-17 December, 2016
12	Dr. Om Prakash Singh	Product Design and Innovation using CFD and FEM	27-31 December, 2016
13	Dr. U. Srinivas Rao	Workshop on Micro-Machining Technology (MMT 2016)	June 17-18, 2016
14	Prof. Rajesh Kumar	Alumni MEET 2017	27 Feb 2017 to 01 March 2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prof. J P Dwivedi	7th Int Conf on Material Processing & Characterization (ICMPC-2017),	17-19th March, Dept of Mech Engg, GR Inst of Engg & Technology, Hyderabad.
2	Prof. V P Singh	7th Int Conf on Material Processing & Characterization (ICMPC-2017),	17-19th March, Dept of Mech Engg, GR Inst of Engg & Technology, Hyderabad.
3	Prof. Santosh Kumar	6th World Conf. 2017 on 'Solar Cookers International'	Jan 16-18, 2017, Muni Seva Ashram, Goraj Vadodara (Gujrat)
4	Prof. Santosh Kumar	Symposium on 'Teaching-Learning in Higher Technical Education'	Jan 22-23, 2017, TLC IIT Madras (TN).
5	Prof. Santosh Kumar	6th Int. Conf. on 'Human Values in Higher Educatio'	Feb 10-12, 2017, IIT Kanpur (UP)
6	Prof. Santosh Kumar	Nat. workshop on 'Pandit Madan Mohan Malaviya National Mission on Teachers & Teaching (PMMMNMTT)'	Dec 16-17, 2016, SGTB Khalsa College , Univ. of Delhi (MHRD organised) New Delhi.
7	Prof. S.P. Tewari (Chaired forenoon session of the conference on 25/03/2017)	International Conference on Innovations and Developments in Mechanical Engineering-2017	24 -25, March, 2017 Mech. Engg. Dept. KNIT, Sultanpur
8	Prof. S.K. Shukla	All India Workshop on Skilling in Renewable Energy Sector	March 04-05, 2017, Engineers Bhavan, Institution of Engineers, State Centre, Lucknow
9	Prof. S.K. Shukla	STC on Alternate Energy (RAAEST 2016), December 05-10 , 2016	December 05-06, 2016, National Institute of Technology, (NIT), Goa
10	Prof. S.K. Shukla	International Conference on GO GREEN-2017	January 12-13, 2017 at C.T. Bora College, Pune University
11	Dr. Mohd Zaheer Khan Yusufzai	NMD-ATM'16	November 11-14, 2016 IIT Kanpur, India
12	Dr. Mohd Zaheer Khan Yusufzai	International Conference on Human Values in Higher Education	10-12 Feb, 2017 IIT Kanpur, India
13	Dr. Om Prakash Singh	Conference on Fluid mechanics and fluid power	15-17 December, NIT Allahabad
14	Prof. Anil Kumar Agrawal	Project Management for Organization Excellence	Aug.22- Sept 02, 2016, IIT (BHU), Varanasi
15	Dr. U. Srinivas Rao	International Conference on Emerging Trends in Materials and Manufacturing Engineering (IMME17)	10 - 12 Mar 2017 NIT Tiruchirapally
Meetings			
1	Prof.S.K.Shukla	17th meeting of Renewable Energy Sectional Committee, MED 04 in joint session with 10th meeting of Solar Thermal Energy Subcommittee, MED 04:1, Bureau of Indian Standard, New Delhi	October 17 2016, Conference Hall, Manak Bhavan Bureau of Indian Standards, New Delhi 110002

2	Prof.S.K.Shukla	Meeting on Proposal for COE in Renewable Energy for Skilling in Eastern Region, Green Jobs Sector Skill Council	Sep 21, 2016 , Green Jobs Sector Skill Council, Central Board of Irrigation & Power, Malcha Marg, Chanakyapuri, New Delhi – 110021
3	Dr. Mohd Zaheer Khan Yusufzai	Festival of Innovation	8th March 2017 Rashtrapati Bhawan, New Delhi
4	Dr. Arnab Sarkar	Eleventh Meeting of Cyclone Resistant Structures Sectional Committee	2.3.2017, BIS, New Delhi

Special lectures delivered by faculty members in other institutions

S. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Prof Anil Kumar Agrawal	Six Sigma for Productivity Improvement	MITS, Gwalior	20/02/2017
2	Prof. Santosh Kumar	Additive Manufacturing : Theory & Practice	QIP Centre IIT(BHU)	March 16-22, 2017
3	Prof. S.P. Tewari	Weldability of Engineering materials	Gujarat Technological University Chandkheda Campus, Ahmedabad	5th April 2016
4	Prof. S.P. Tewari	Welding of Ferrous and Non-Ferrous Metals and Alloys	Madhav Institute of technology & Sciences. Gwalior-474005	27th march 2017
5	Prof. A.P.Harsha	Bio-Tribology	Indian Institute of Science (8th Summer school, Organized by Tribology Society of India)	25-29 July 2016
6	Prof. A.P.Harsha	Friction, wear and lubrication of artificial joints	IIT Delhi QIP Short Course ("Tribology of Soft-Matters: Bio-Tribology, Microsystems and Automotive applications")	07-11 Nov. 2016
7	Prof. A.P.Harsha	Wear of artificial Joints	MMMUT, Gorakhpur Short Term Course on Advances in Design & Manufacturing	04-10 July 2016
8	Prof. A.P.Harsha	Lubrication and Wear in Human and Artificial Joints	NIT Karnataka 2-DAY workshop on tribology frontiers in design and manufacturing	October 24-25 2016
9	Prof. Sandeep Kumar	Numerical Solution of Partial Differential Equations using Wavelets	INS Workshop, BARC, Mumbai	Aug 2, 2016
10	Prof. Rajesh Kumar	Boundary Lubricated Wear – Challenging Tribological Issues at Micro and Nano Level	Department of Mechanical Engineering, IIT(BHU) Varanasi,	17-18 June 2016
11	Prof. Rajesh Kumar	Boundary Lubrication	IIT(BHU) Varanasi	23-29 March 2017
12	Prof. Rajesh Kumar	Boundary Lubricated Wear	IIT(BHU) Varanasi	23-29 March 2017

13	Prof.S.K.Shukla	Renewable Energy and Future Needs of Electricity	NIT , Goa	December 05, 2016
14	Dr. Mohd Zaheer Khan Yusufzai	Advances in welding: Friction Stir Welding of Steel	MMMUT Gorakhpur	8th July 2016
15	Dr. Mohd Zaheer Khan Yusufzai	Manufacturing of Automobiles: Use of Welding Technology	ITM Gorakhpur	18th October 2016
16	Dr. Meghanshu Vashista	Surface integrity in manufacturing	MMMUT Gorakhpur	6th July 2016
17	Dr. Meghanshu Vashista	Advance characterization technique in manufacturing engineering	Dr. K. N. Modi University Newai, Tonk, Rajasthan	22nd Feb., 2017
18	Dr. Jahar Sarkar	Recent advances in compression refrigeration/heat pump systems	MMMUT, Gorrakhpur	28.02.2017
19	Dr. Rakesh Kumar Gautam	Composites Materials and its Tribological Properties	KNIET, Sultanpur	Key Note Lecture on 24.03.2017 International Conference on Innovations and Developments in Mechanical Engineering-2017 (24-25, March, 2017)
20	Dr. Om Prakash Singh	CFD and innovation	Department of Mechanical Engineering, SRMS CET, Bareilly,UP	01/08/2016 to 05/08/2016
21	Dr. U. Srinivas Rao	Modelling of force in micro-machining	EGS Pillay Engineering College, Nagapattinam-611002.	13.03.2017
22	Dr. U. Srinivas Rao	Edge radius effects in micro-machining	NIT Karaikal, Puduchery	14.03.2017
23	Dr. Rashmi Rekha Sahoo	Improvements in Automotive Radiators	Ashoka Institute of Technology, Varanasi	05.11.2016

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Prof. Sandeep Kumar	Nottingham, UK			NDT 2016, 55th Annual Conference, 12-14 Sept 2016	CPDA
2	Prof. Prashant Shukla	Canada	13.08.2016	01.09.2017	To attend ICTAM 2016 (International Congress of theoretical and Applied Mechanics), 21th August-26th August, Toronto, Canada	CPDA
3	Prof. Pradyumna Ghosh	USA	25th May 2016	30th June, 2016	visiting faculty at University of Wisconsin	CPDA

4	Prof. Rajnesh Tyagi	China	May 30, 2016	July 3, 2016	Research Collaboration	CPDA MHRD
5	Dr. Debashis Khan	Netherlands	31/07/16	29/10/16	Collaborative Research	IIT (BHU) Varanasi and Zernike Institute of Advanced Materials, University of Groningen

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Prof Anil Kumar Agrawal	D L Shah Silver Quality Award given by Quality Council of India
2	Prof. Pradyumna Ghosh	Nominated from India by ISRO for Frank J Malina Astronautics Medal(ASI), 2016

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	Prof.S. K. Sinha	CNC Programming Skills: Understanding G32, G34, G76 and G92 on a Fanuc Lathe	Kindle Book published through amazon.com
2	Prof.S. K. Sinha	CNC Programming Skills (Volume 1-6)	Printed book published through CreateSpace, Charleston SC
3	Prof.A.P.Harsha	Chapter 11, "Solid particle erosion behaviour of polymers and their composites" The handbook of polymer tribology, pp 391-434, Editor: Dr S.K.Sinha, IIT Delhi	World Scientific Publishing Co. Pte. Ltd., 5 Toh Tuck Link, Singapore 596224 (In Press)
4	Prof. Pradyumna Ghosh	Principles of Temperature Measurement with Temperature Probes in Bioheat Transfer Applications in the book Theory and Application of Heat Transfer in Cells and Organs, Edited by Devashish Shrivastava	John Wiley, 2017

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof Anil Kumar Agrawal	Editor	International Journal-Journal of Engineering and Science
2	Prof. Santosh Kumar	Reviewer	Journal of IE(I) Kolkata, March 1, 2017
3	Prof. S.P. Tewari	Editorial board Member	International Journal of Research Innovations in Mechanical Engineering (IJRIME)
4	Prof. S.P. Tewari	Editorial board Member	International Journal on Current Research in Mining, Material & Metallurgical Engineering

5	Prof. S.P. Tewari	Editorial board Member	International Journal of Engineering Research in Mechanical and Civil Engineering (IJERMCE)
6	Prof. Pradyumna Ghosh	Editorial board member	American journal of nanoscience and engineering, Recent Advances in fluid Mechanics
7	Dr. Mohd Zaheer Khan Yusufzai	Reviewer	"International Journal of Advanced Manufacturing Technology" Springer
8	Dr. Mohd Zaheer Khan Yusufzai	Editorial board member	International Journal of Production Engineering
9	Dr. Mohd Zaheer Khan Yusufzai	Editorial board member	International Journal of Metallurgy
10	Dr. Meghanshu Vashista	Reviewer	Materials Performance and Characterization – Scholar One Manuscript, ASTM International
11	Dr. Meghanshu Vashista	Reviewer	International Journal of Systems Assurance Engineering and Management (IJSA) Springer
12	Dr. Meghanshu Vashista	Reviewer	"International Journal of Advanced Manufacturing Technology" Springer
13	Dr. Meghanshu Vashista	Editorial board member	International Journal of Production Engineering
14	Dr. Meghanshu Vashista	Editorial board member	International Journal of Metallurgy
15	Dr. Jahar Sarkar	Editorial Board Member	International Journal of Applied Engineering Research
16	Dr. Jahar Sarkar	Editorial Board Member	Journal of Advanced Research in Mechanical Engineering and Technology
17	Dr. Arnab Sarkar	Reviewer	"International Journal of Civil Engineering" Springer

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	High Temperature Erosion Test Rig, Tribology Lab	16
2	Pin-on Disc Micro-tribometer	12.45
3	Barkhausen Noise Analyzer	14
4	Temperature PID controller in Dynamics Lab	6
5	Treadmill	19
6	Design and Fabrication of All Terrain Vehicle with modified version. (Suspension system, Transmission system, Wheel rim, Gear casing, new material roll cage for light weight and Ergonomics) Participated in BAJA SAE competition in Feb.14,2017 at Indore. Positioned 1st rank in virtual round among all IITS and also stand in top 10 teams of 150 participating teams.	3.00

7	Design, fabrication and installation of wind tunnel based Radiator Experimental Set up. To perform the Radiator Performance analysis with various base fluid, nanofluids and hybrid nanofluids as coolants.	0.70
8	Mitutoyo Surface roughness tester	10

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	Prof. Santosh Kumar	'Incremental Sheet Hydro forming Machine" at Indian patent office New Delhi (Application no. : 3312/DEL/2014) (published in 2016)
2	Prof. Santosh Kumar	'Sheet Hydro forming setup for producing the Titanium material for cup shape products" at Indian patent office New Delhi (Application no. : 1667/DEL/2014) (published in 2016)
3	Prof. Santosh Kumar	'Robot Assisted High Speed Incremental Sheet Hydro forming Machine" at Indian patent office New Delhi (Application no.: 201711011951), (Docket no 22990), 2017.

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Design and Development of portable green solar cooker	2016-17	Project Varanasi	5.60	Prof. Santosh Kumar
2	Fabrication of a Machine for 3D printing filament production & Show casing of 3D printing Technology	2016-17	DIC, IIT(BHU)	2.00	Prof. Santosh Kumar
3	Design Development of an Incremental Sheet Hydro forming Machine Setup	2015-17	DST	49	Prof. Santosh Kumar
4	Technology Development and fabrication of Tabletop Tube hydro forming Machine	2015-17	BRNS Mumbai	48	Prof. Santosh Kumar
5	Development of Rubber based Sheet hydro forming Setup	2016-18	DRDL Hyderabad	9.84	Prof. Santosh Kumar
6	Setting of 'Teaching Learning Centre (Technical)' under PMMMNMTT scheme	2016-18	MHRD	793	Prof. Santosh Kumar
7	Quenching behaviour of dry heated rod in Nanofluids	2014-March 18	BRNS, DAE	37	Prof. Pradyumna Ghosh
8	Design of high temperature facility for graphite dust formation and transport	October 2014-Dec 2017	BRNS	55.00	Prof. P.Shukla Prof.R.S.Singh, Chemical Engineering, IIT(BHU)

9	Assessment of residual stress upon friction stir welding of steel	2014-2017	DST, India	45 lacs (sanctioned)	Mohd Zaheer Khan Yusufzai
10	Heat Transfer and Flow Characteristics of Hybrid Nanofluids in Mini-Micro-channels	2016-2018	IIT (BHU)	15	Dr. Jahar Sarkar
11	Study on Wind Climatology on Slender Structures Using Weibull and Generalized Extreme Value Distribution	2 years	BRNS, Department of Atomic Energy, Govt. of India	28.46	PI: Dr. Arnab Sarkar Co PI: Dr. S. K. Panda
12	Harvesting of Renewable Energy through Gasification of Biomass	2 years	CERD, IIT (BHU), Varanasi	8.00	PI: Dr. Arnab Sarkar Co PI: Dr. J.P. Chakraborty
13	Identification of Pollution levels on the streets of Varanasi and developing a traffic routing model for an environment optimized traffic flow strategies	1 year	IRP, IIT (BHU)	8.60940	Dr. Cherian Samuel
14	Characterisation and validation of Schlieren imaging technique for capturing shock wave	2017-2019	DRDO	17.85	Dr. Amitesh Kumar

Faculty members' participation with other universities under MoUs(Ongoing only)

Conducting collaborative research with Dr. Om Prakash Khatri, Sr. Scientist from Indian Institute of Petroleum, Dehradun in the form of joint Ph.D. research guidance.

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	Nil
2	Total Number of Papers Published in Refereed International Journals	65
3	Total Number of Papers Presented in National Conferences	7
4	Total Number of Papers Presented in International Conferences	22

(a) Refereed International Journals

1. Sakendra Kumar S. P. Tewari, (2017) Metallurgical and Mechanical characterization of A319 Aluminum Alloy Casting Solidified Under Mold Oscillation. American Foundry Society, Springer International Publishing, SCI, DOI: 10.1007/s40962-017-0135-x, ISSN 1939-5981,Online ISSN2163-3193,pp 1–8
2. Sakendra Kumar S. P. Tewari, (2016) Evolution of Microstructure of A356 Aluminum Alloy Casting prepared Under Vibratory Conditions during the Solidification. Indian Academy of Sciences, Sadhana, SCI, Vol. 41, No. 10, October 2016, pp. 1203–1208
3. A.P.Harsha, P.K.Limaye, Rajnesh Tyagi, & Ankit Gupta, 2016. Development of Tribological Test Equipment and Measurement of Galling Resistance of Various Grades of Stainless Steel. Transaction of ASME Journal of Tribology, Vol.138(2) pp.024501-1 – 024501-6, ISSN : 0742-4787
4. A.P.Harsha, P.K.Limaye, Rajnesh Tyagi, & Ankit Gupta, 2016, Effect of temperature on galling behavior of SS 316, 316 L and SS 416 under self-mated condition, Journal of Materials Engineering and Performance, Vol. 25(11), pp.4980-4987.ISSN :1059-9495
5. A.Kashyap, & A.P.Harsha, 2016, Tribological studies on chemically modified rapeseed oil with CuO and CeO2 nanoparticles, Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, Vol. 230(12), pp.1562-1571. ISSN : 1350-6501

6. R.N.Gupta, & A.P. Harsha, 2017, Synthesis, characterization, and tribological studies of calcium–copper–titanate nanoparticles as a biolubricant additive. Transaction of ASME Journal of Tribology, Vol.139(2), pp.021801-1-021801-11,ISSN : 0742-4787
7. A.P.Harsha, R.Wäsche, & M. Hartelt, 2017, Friction and wear studies of polyetherimide composites under oscillating sliding condition against steel cylinder, Polymer CompositesVol.38 (1)January pp. 48–60, DOI 10.1002/pc.23559, ISSN : 0272-8397
8. Vinay Jaiswal, Kalyani, Sima Umrao, Rashmi B. Rastogi, Rajesh Kumar, and Anchal Srivastava, (2016)Synthesis, Characterization, and Tribological Evaluation of TiO_2-Reinforced Boron and Nitrogen co-Doped Reduced Graphene Oxide Based Hybrid Nanomaterials as Efficient Antiwear Lubricant additives,ACS Appl. Mater. Interfaces, 8, 18,11698–11710
9. Anil P M, Rajesh Kumar, Sethuramiah A, (2017) Effect of initial roughness and oxidation on the running-in wear of machined surfaces under dry sliding, Int. J. of Surface Science and Engineering, 11, 1 45-64
10. Nirupama Patra, Vivek Gupta, Ravi Singh, Pradyumna Ghosh, R.S.Singh, Arun Nayak (2017) "An Experimental Analysis of Quenching of Continuously heated vertical rod with aqueous Al2O3 nanofluid" Resource-Efficient Technologies
11. B. Singh & S.K. Shukla (2016) Experimental analysis of combustion characteristics on a variable compression ratio engine fuelled with biodiesel (castor oil) and diesel blends, Biofuels, 7:5, 471-477, DOI: 10.1080/17597269.2016.1163210
12. Sunil Kumar and S.K. Shukla, A Review on Recent Gasification Methods for Biomethane Gas Production, International Journal of Energy Engineering,6(1A),32-43, 2016.
13. Sunil Kumar and S.K. Shukla,(2016) Performance of cyclone separator for syngas production in downdraft gasifier, International Journal of Advances in Energy Research,4(3), 223-237. DOI: http://dx.doi.org/10.12989/eri.2016.4.3.223
14. Ajeet Kumar, S.K.Shukla and J.V.Tirkey (2016), A review of Research and Policy on Using Different Biodiesel oils as Fuel for I.C.Engine, Energy Procedia 90(C),292-304
15. Shalin and S.K.Shukla "Synthesis of Tio2 Nanoparticle Using Sol-Gel Route And Testing Its Photovoltaic Performance In Dye-Sensitized Solar Cell" has been accepted for publication 4th issue of 2016 in Applied Solar Energy (Springer).
16. S.K.Shukla and R.K.Khandal (2016), Design Investigations on Solar Cooking Devices for Rural India, Distributed Generation and Alternative Energy, 31(1), 29-65.
17. B.Singh, S.K.Shukla and J.V.Tirkey,(2016) Performance and Emission Characteristics of VCR Engine with Castor Oil Biodiesel, International Journal of Power and Energy System, Acta Press, 36(3) 96-103.
18. Arun Kumar and S.K.shukla (2016), Analysis and performance of ORC based solar thermal power plant using benzene as a working fluid Procedia Technology 23, 454 – 463
19. Sunil Kumar, Kunal Kanoi, Shweta Kumari and S.K. Shukla, (2106) An Investigation On Tar Reduction In Producer Gas In Downdraft Gasifier Sysyem, Journal of Solid Waste Technology and Management, 42(1) 721-729.
20. Yang Li, PhD, Guy R. Fogel, Zhenhua Liao, PhD, Rajnesh Tyagi, PhD, Gaolong Zhang, PhD and Weiqiang Liu, PhD, (2017) "Biomechanical Analysis of Two-Level Cervical Disc Replacement With a Stand-Alone U-Shaped Disc Implant" SPINE, Vol. 42. Wolters Kluwer Health, Inc. DOI: 10.1097/BRS.0000000000002128.
21. Pushkar Jha, R.K. Gautam, Rajnesh Tyagi (2017) "Friction and wear behavior of Cu-4 wt. % Ni –TiC composites under dry sliding conditions" Accepted, FRICTION, Springer, ISSN: 2223-7690.
22. Pushkar Jha, R.K. Gautam, Rajnesh Tyagi, and Devendra Kumar (2016) "Sliding Wear Behavior of TiC-Reinforced Cu-4 wt.% Ni Matrix Composites" Journal of Materials Engineering and Performance, 25:4210–4218.
23. Awani Bhushan,S. K. Panda,Debashis Khan,Abhinav Ojha,K. Chattopadhyay,H. S. Kushwaha and I. A. Khan (2016) Weibull Effective Volumes, Surfaces and Strength Scaling for Cylindrical Flexure Specimens having Bi-modularity; ASTM (American Society of Testing of Materials); J of Testing and Evaluation. 2016; Vol 44 (5); pp. 1978 -1997

24. Saumya Shah and S K Panda (2017) Bimodularity of interface layer and curing stress coupling effects on mixed mode fracture behaviour of functionally graded tee joint; International Journal of Adhesion and Adhesives: 2017; Vol 75: pp 74-87
25. M. Vashista, S. Paul (2016) Effect of process parameters on convective heat transfer coefficient of fluid and heat partitioning in high efficiency deep grinding with water based coolant, International Journal of Machining and Machinability of Material, Vol. 18, Nos. 5/6, 2016, pp. 572-585 Inderscience Publisher
26. Sarkar J, Joshi D. Extended exergy analysis based comparison of subcritical and transcritical refrigeration systems, International Journal of Air-Conditioning and Refrigeration, 2016; 24(2): No. 1650009.
27. Sarkar J, Joshi M. Advanced exergy analysis of transcritical CO_2 heat pump system based on experimental data, Sadhana (Indian Academy of Sciences), 2016; 41(11): 1359-1356.
28. Mishra S, Sarkar J. Performance analysis of refrigerants based on ejector expansion technology, International Journal of Mechanical And Production Engineering, 2016; 4(3): 40-43.
29. Sarkar J. Comprehensive study on the role of eco-friendly working fluid properties on ORC performances, International Journal of Thermodynamics, 2016; 19(4): 198-204.
30. Mishra S, Sarkar J. Performance characteristic of low-GWP R134a alternative refrigerants in ejector expansion refrigeration system, Archives of Thermodynamics, 2016; 37(4): press.
31. Sarkar J. Performance analyses of novel two-phase ejector enhanced multi-evaporator refrigeration systems, Applied Thermal Engineering, 2017; 110: 1635-1642.
32. Sahoo RR, Ghosh P, Sarkar J. Energy and exergy comparisons of water based optimum brines as coolants for rectangular fin automotive radiator, International Journal of Heat and Mass Transfer, 2017; 105: 690–696.
33. Sarkar J. Property-based selection criteria of low GWP working fluids for organic Rankine cycle, Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2017; 39(4): 1419-1428.
34. Sahoo RR, Ghosh P, Sarkar J. Performance enhancement for wavy fin automotive radiator using optimum PG brine based nanofluids, Heat Transfer - Asian Research, 2016; press.
35. Sahoo RR, Sarkar J. Heat transfer performance characteristics of hybrid nanofluids as coolant in louvered fin automotive radiator, Heat and Mass Transfer, 2016; press.
36. Sahoo RR, Ghosh P,Sarkar J. Performance analysis of a louvered fin automotive radiator using hybrid nanofluid as coolant, Heat Transfer - Asian Research, 2016; press.
37. Sarkar J. Improving thermal performance of microchannel electronic heat sink using supercritical CO_2 as coolant, Thermal Science, 2017; press.
38. G.K. Gugliani, A. Sarkar, S. Mandal and V. Agrawal (2017) Location wise comparison of mixture distributions for assessment of wind power potential: A parametric study. International Journal of Green Energy. ISSN: 1543-5075. IF: 1.6 (Accepted with minor revisions)
39. Arnab Sarkar, Gaurav Gugliani and Sneh Deep (2017) Weibull Model for Wind Speed Data Analysis of Different Locations in India. KSCE Journal of Civil Engineering DOI: 10.1007/s12205-017-0538-5. ISSN: 1226-7988. IF: 0.6
40. Shah, S., Panda, S. K. and Khan, Debashis (2016) Weibull Analysis of H-451 Nuclear-Grade Graphite, Procedia Engineering, Vol 144, pp. 366- 373
41. Khan, Debashis, Singh, Shushant, and Needleman, A. (2017) Finite Deformation Analysis of Crack Tip Fields in Plastically Compressible Hardening-Softening-Hardening Solids, Acta Mechanica Sinica, Vol. 33, No. 1, pp. 148-158.
42. Manvandra Kumar Singh, Rakesh Kumar Gautam,"Synthesis of copper metal matrix hybrid composites using stir casting technique and its mechanical, optical and electrical behaviors". Transactions of the Indian Institute of Metals ISSN: 0975-1645.
43. Manvandra Kumar Singh, Rakesh Kumar Gautam."Mechanical and electrical behaviour of developed copper based hybrid composites". Materials Today: Proceedings ISSN: 2214-7853.
44. Manvandra Kumar Singh, Rakesh Kumar Gautam."Mechanical and tribological properties of plastically deformed copper metal matrix nano composite". Materials Today: ProceedingsISSN: 2214-7853.
45. N. Kumar, G. Gautam, R. K. Gautam, A. Mohan, S. Mohan."A Study on Mechanical Properties and Strengthening Mechanisms of AA5052/ZrB_2 insitu Composite",Journal of Engineering Mat. and Technol.-

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46. N. Kumar, G. Gautam, R. K. Gautam, A. Mohan, S. Mohan."High Temperature Tribology of AA5052/ZrB_2 PAMCs",Journal of Tribology-Transaction of ASME 139 (2017) pp. 011601-1-011601-12.
47. Pushkar Jha, R.K. Gautam, Rajnesh Tyagi, and Devendra Kumar, Sliding Wear Behavior of TiC-Reinforced Cu-4 wt.% Ni Matrix CompositesJournal of Materials Engineering and Performance 4210—Volume 25(10) October 2016
48. G. Gautam, N. Kumar, A. Mohan, R. K. Gautam,S. Mohan,"Synthesis and Characterization of Tri-aluminide insitu Composites", Journal of Material Science 51 (2016) pp. 8055-8074.
49. G. Gautam, N. Kumar, A. Mohan, R. K. Gautam, S. Mohan,"High Temperature Tensile and Tribological Behaviour of Hybrid (ZrB_2+Al_3Zr)/AA5052 insitu Composite", Metallurgical and Materials Transactions A 47A (2016), pp. 4709-4720.
50. G. Gautam, N. Kumar, A. Mohan, R. K. Gautam, S. Mohan,"Strengthening Mechanisms of (Al_3Zrmp+ZrB_2np)/AA5052 Hybrid Composites", Journal of Composite Materials (2016) DOI 10.1177/0021998316631811.
51. N. Kumar, G. Gautam, R. K. Gautam, A. Mohan, S. Mohan."Wear, Friction and Profilometer Studies of insitu AA5052/ZrB_2 Composites", Tribology International 97 (2016), pp. 313–326.
52. Anita Mohan, Gaurav Gautam, Narendra Kumar, Sunil Mohan, R. K. Gautam,"Synthesis and tribological properties of AA5052 base insitu composites", Composite Interfaces 23(6) (2016) pp.503-518
53. S. Mohan, G. Gautam, N. Kumar, R. K. Gautam, A. Mohan, A. K. Jaiswal,"Dry sliding wear behaviour of Al-SiO_2 composites",Composite Interfaces 23(6) (2016) pp.493-502
54. G. Gautam, N. Kumar, A. Mohan, R.K. Gautam,S. Mohan,"Tribology and surface topography of tri-aluminide reinforced composites",Tribology International 97 (2016) pp. 49–58.
55. Abhishek Kumar, R. K. Gautam, Rajnesh Tyagi, Dry Sliding Wear of in-situ Synthesized Al-TiC Composites, Composite Interfaces, 2016, http://dx.doi.org/10.1080/09276440.2016.1148434.
56. Faria Rehman, Manoj Dhiman, O. P. Singh, (2016) Effect of eigenvalue solution on characteristics of double diffusive salt fingers, J. Mech. Sci. Technol., 30(6) (Springer, impact factor: 0.761).
57. Bharat Singh Patel, Cherian Samuel, and S.K. Sharma (2017), 'Evaluation of agility in supply chain: a case study of an Indian manufacturing organization',Journal of Manufacturing Technology Management, Vol. 28, No. 2, pp. 212-231.
58. Kumar, M., & Samuel, C. (2017). Selection of best Renewable Energy Source by using VIKOR Method. Technology and Economics of Smart Grids and Sustainable Energy, (Accepted).
59. Bharat Singh Patel, Cherian Samuel, and S.K. Sharma (2017), 'Analyzing interactions of agile supply chain enablers in Indian manufacturing context',International Journal of Services and Operations Management, accepted and in production.
60. Kumar, M., & Samuel, C. (2017). Wind energy potential estimation with prediction of wind speed distribution. International Journal of Intelligent Systems Technologies and Applications, (Accepted).
61. R.R.Sahoo,(2016) Heat transfer performance characteristics of hybrid nanofluidas coolant in louvered fin automotive radiator, Heat Mass Transfer, 2016,DOI 10.1007/s00231-016-151-x.
62. R.R.Sahoo, P.Ghosh , J. Sarkar (2017) Performance Analysis of a Louvered Fin Automotive Radiator Using Hybrid Nanofluid as Coolant Heat Transfer - Asian Research, 2016; in press.
63. R.R.Sahoo, P.Ghosh , J. Sarkar (2015) Performance comparison of various coolants for louvered fin tube automotive radiator, Thermal Science, 2015; in press.
64. R.R.Sahoo, Experimental study on thermal performance of optimum propylene glycol brine as coolant for Rectangular fin Radiator, Heat Transfer - Asian Research,2017, in press.
65. Sarvesh Kumar Mishra; U. Srinivas Rao and Sandeep Kumar (2016) Tool wear prediction by using wavelet transform International Journal of Precision Technology, Vol.6 Issue3/4, 216-230. ISSN: 1755-2060, eISSN: 1755-2079

(b) Proceedings of International Conferences

1. RK Lal, VK Choubey, JP Dwivedi & VP Singh (2017) Residual stress analysis of equilateral Triangular

sectioned bar of linear work-hardening materials under torsional loading", 7th Int Conf on Material Processing & Characterization (ICMPC-2017), 17-19th March, Organised by Dept of Mech Engg, GR Inst of Engg & Technology, Hyderabad.

2. " Residual stress analysis of triangular cross-sectioned bar of linear work-hardening materials under torsional loading", RK Lal, VK Choubey, JP Dwivedi & VP Singh, 7th Int Conf on Material Processing & Characterization (ICMPC-2017), 17-19th March, Organised by Dept of Mech Engg, GR Inst of Engg & Technology, Hyderabad.
3. Devendra Kumar Sinha and Santosh Kumar, 'Studies on Effect of Extrusion Shoe Groove Length in Continuous Extrusion Process',Proc. of 6th Int. Conf. & 27th AIMTDR-2016, at CEP, Maharashtra, INDIA, Dec. 16-18, 2016 (ISBN: 978-93-86256-27-0), pp 109-1813.
4. Ambuj Sharma and Sandeep Kumar , "Modelling of Ultrasonic Guided Waves for Circular Cylindrical Structures using Finite Element Approach and Selection of Noise Filtering Technique" , NDT 2016, 55th Annual Conference, 12-14 Sept 2016, Nottingham , UK.
5. Ajeet Kumar, S.K.Shukla and J.V. Tirkey. Life Cycle Assessment for the Production of Biodiesel in India, International Conference on Environmental systems and Sustainable Development ESSD16 (15-16th January 2016 Pune). ISSN: 2350- 0905, pp. 254-258.
6. XLI. Ajeet Kumar, S.K.Shukla and J.V. Tirkey. An experimental investigation on the performance and emissions characteristics of Neem biodiesel blends in constant speed VCR engine, Hybrid and Composite Materials, Chemical Processing, 25-27th October 2016, Hyderabad, Telangana pp. 147-153
7. Srivastava MV, Yadav A, Kumar A, Shukla SK, Tirkey JV. Performance and Emission Characteristics of VCR Engine using Coconut Biodiesel as a Fuel, International Conference on Go Green, 2017held at CT Bora College Shirur, Pune, January 12-13, 2017, Vol.(3) pp.01-10, ISSN 2350-0905.
8. Pushkar Jha, R. K. Gautam and R.Tyagi (2017) "Modeling the dry sliding wear behavior of Cu-4wt%Ni-TiC composites using response surface methodology" 7th International conference on Materials Processing and Characterization- 2017 (ICMPC – 2017) held during 17-19th March 2017 at Hyderabad, India.
9. Avinash Ravi Raja, M. Z. Khan Yusufzai, M. Vashista, Characterization of advancing and retreating weld of friction stir welding of aluminium, International Conference on Advances in Materials & Manufacturing, (8-10 December 2016), Hyderabad, INDIA selected for Publication in Materials Today: Proceedings of Elsevier
10. Sahoo RR, Sarkar J. Performance analysis of radiator by using optimum PG brine based nanofluids as coolant (TE159), 1st Int & 18th ISME Conference, Feb 23-25, 2017, NIT Warangal, India.
11. Bhattad A, Sarkar J, Ghosh P. Energetic and exergetic performances of plate heat exchanger using brine based hybrid nanofluid for milk chilling application (TE106), 1st Int & 18th ISME Conference, Feb 23-25, 2017, NIT Warangal, India.
12. Singh SK, Sarkar J. Numerical Simulation of shell and tube type condenser for Rankine power cycle using hybrid nanofluids (TE162), 1st Int & 18th ISME Conference, Feb 23-25, 2017, NIT Warangal, India.
13. Rishikesh Kumar Singh, Arnab Sarkar and Jyoti Prasad Chakraborty. 2017. A Review on Gasification of Torrefied Biomass, International Conference on Challenges in Sustainable Development from Energy and Environment Perspective (CSDEEP), Gorakhpur, India, March 2017.
14. Singh, Shushant, Khan, Debashis and Panda, S. K. (2016) A Numerical Study of Crack Tip Hydrostatic Stress Fields in Plastically Compressible Hardening Solids, Proceedings of the International Conference on Advances in Functional Materials (AFM 2016), August 08-11, 2016, ICC, Jeju Island, South Korea.
15. Faria Rehman, O. P. Singh, (2016) Salt finger convection at neutral buoyancy ratio, 6th Int. & 43rd national Conf. on Fluid Mechanics and Fluid Power (FMFP), MNNIT Allahabad (India),15-17 Dec, India.
16. Vinaytosh Mishra, Cherian Samuel, S K Sharma Supply Chain Partnership Assessment of a Diabetes Clinic: An Indian Example, Fifth Biennial Supply Chain Management Conference 2016, IIMB, 15-16 December 2016.
17. Kumar, M., & Samuel, C. (2016, September). Statistical analysis of load demand distribution at Banaras

Hindu University, India. In Advances in Computing, Communications and Informatics (ICACCI), IEEE, 2016 International Conference on (pp. 2318-2323).

18. Vinaytosh Mishra, Cherian Samuel, S K Sharma ,Visualization of Perceived Expensiveness of Diabetes-Fuzzy MDS Approach, 016 Conference of IEEE UP Section on Electrical, Computer & Electronics Engineering ,9-11 December 2016 at IIT(BHU),Varanasi
19. A Jasiwal[1], C Samuel[2], V Mishra[3], K Singh, Green Supply Chain Impact Over The Rising Trend of Air Pollution Presented at International Conference on Design, Materials & Manufacturing Concerns in Production of Quality Engineering Goods at HBTU, Kanpur, UP, March 27, 28 & 29, 2017
20. Kumar, M., & Samuel, C. (2017, March). A Multi-criteria Group Decision-Making Model for selection of Professional institute in India: Students perspective. International Conference on Business Research and Policy-2017, Chandragupt Institute of Management Patna (CIMP), Patna, 2017, March
21. Vinaytosh Mishra, Anand Jaiswal , Cherian Samuel, S K Sharma Use of Wireless Technologies and IoT in Management of Diabetes, ICBRP-2017,CIMP ,Patna, 9-10 March 2017
22. Rashmi Rekha Sahoo and Jahar Sarkar.2017.PERFORMANCE ANALYSIS OF RADIATOR BY USING OPTIMUM PG BRINE BASED NANOFLUIDS AS COOLANT,1st International Conference and 18th ISME Conference.NIT Warangal, Feb. 2017

(c) Proceedings of National Conferences

1. G. Gugliani, A. Srivastava, K. D. Singh, N. Narwal, A. Sarkar and S. Mandal (2016) Time series analysis of wind speed data: a stochastic approach (16-17 December 2017) , IIT (BHU) organized by ISWE
2. Bharat Singh Patel, Debashish Khan, and S.K. Sharma (2016), Towards Holistic Management in Corporate Sectors: Wisdom from Bhagavad Gita.National Conference on Cultural Heritage and Management (NCCHM), Department of Mechanical Engineering, IIT (BHU), Varanasi, May, 28-29.
3. 2. Kumar, M., & Samuel, C. (2016, May). Modern Green Building Concept in India: A New Face of Ancient Methodologies with Novel Features. National Conference on Cultural Heritage and Management-2016, Indian Institute of Technology (Banaras Hindu University), Varanasi
4. 3. Anand Jasiwal[1], Cherian Samuel[2], Manish Kumar, Impact of Green Supply Chain Management with trend analysis of air pollution Presented at National Conference on Convergence of Technology and Management for Advancing India on the dates of 25th & 26th February, 2017
5. 4. Cherian Samuel and Bharat Singh Patel (2016), Facets of Indian Culture and Heritage considerable to Agility Management. National Conference on Cultural Heritage and Management (NCCHM), Department of Mechanical Engineering, IIT (BHU), Varanasi, May, 28-29.
6. Ambuj Sharma, Kumar Kaushik Ranjan, Amit Tyagi (2016) Multi-scale simulation of Lamb waves containing harmonics ICTIMCAMS December 14-17, 2016, BHU, Varanasi, India.
7. Kumar Kaushik Ranjan, Sandeep Kumar, Amit Tyagi, Ambuj Sharma (2016) Customized second generation finite element wavelets for linear elastostatic problems, ICTIMCAMS December 14-17, 2016, BHU, Varanasi, India.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

S. No.	Details	Citations
1	Sarkar J. Ejector Enhanced Vapor Compression Refrigeration and Heat Pump Systems - A Review, Renewable & Sustainable Energy Reviews, 2012; 16(9): 6647-6659.	81
2	Sarkar J,Ghosh P, Adil A. A Review on hybrid nanofluids: Recent research, development and applications,Renewable & Sustainable Energy Reviews, 2015; 43: 164-177.	66
3	Tiwari AK, Ghosh P, Sarkar J. Performance comparison of the plate heat exchanger using different nanofluids, Experimental Thermal and Fluid Science, 2013; 49: 141-151.	52

4	Tiwari AK, Ghosh P, Sarkar J. Heat transfer and pressure drop characteristics of CeO_2/water nanofluid in plate heat exchanger, Applied Thermal Engineering, 2013; 57(1-2): 24-32.	50
5	Tiwari AK, Ghosh P, Sarkar J.Solar water heating using nanofluids - A comprehensive overview and environmental impact analysis,International Journal of Emerging Technology and Advanced Engineering, 2013; 3(3): 221-224.	35

Top 5 papers (published any time) with maximum citations in last 5 years (2012-2016)

S. No.	Details	Citations
1	Sarkar J, A critical review on convective heat transfer correlations of nanofluids, Renewable & Sustainable Energy Reviews, 2011; 15(6): 3271-3277.	153
2	Sarkar J, Bhattacharyya S, Ramgopal M. Optimization of a transcritical CO_2 heat pump cycle for simultaneous cooling and heating applications. International Journal Refrigeration 2004; 27(8); 830-838.	110
3	Sarkar J. Ejector Enhanced Vapor Compression Refrigeration and Heat Pump Systems - A Review, Renewable & Sustainable Energy Reviews, 2012; 16(9): 6647-6659.	81
4	Sarkar J. Optimization of ejector-expansion transcritical CO_2heat pump cycle, Energy, 2008; 33(9): 1399-1406.	72
5	Bhattacharyya S, Mukhopadyay S, Kumar A, Khurana, Sarkar J. Optimization of a CO_2-C_3H_8 cascade system for refrigeration and heating, Int J Refrigeration, 2005; 28(8): 1284-1292.	71

Distinguished Visitors

S. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Dr R.Wäsche, Head, Division of wear protection, BAM, Berlin	08-10 December 2016	To give key note address in NTC 2016

Any other Information

Prof. S. P. Tewari

- Working as Chairman Senate library Committee IIT(BHU)
- Participated as an external expert in research week-2017 of Gujarat Technological University Chandkheda Campus, Ahmedabad.
- External Member of Board of Studies of Mech. Engg. Dept. of Shri Ramswaroop Memorial University, Barabaki
- External Member of Board of Studies of Mech. Engg. Dept. of VBS Purvanchal University, Jaunpur

Dr. Arnab Sarkar

Alternate member of CED 57, BIS and member of code revision committee of IS: 15498 for design of cyclone resistant structures

14. Department of Metallurgical Engineering

Year of Establishment : 1923

Head of the Department: Professor Rajiv Kumar Mandal

Brief Introduction of the Department/School:

The Department of Metallurgical Engineering, established in the year 1923 has pioneered metallurgical education and research in the country. The far-sighted vision of Mahamana Pandit Madan Mohan Malaviyaji has helped this to attain such a recognition. This is now a part of IIT (BHU). The UG programme began soon after in the year 1923 and the first ever undergraduate and doctoral degrees in metallurgy in the country were awarded by this Department in the years 1927 and 1955 respectively. This is one of the first two Departments in the country to confer a postgraduate degree in metallurgy in the year 1959. The foundation of this educational edifice was laid by Professor N.P. Gandhi and nurtured by Professors DayaSwarup and T.R. Anantharaman who were the first three successive Heads of this Department. Subsequently, illustrious successive Heads of the Department have continued to do their utmost to enhance the levels of excellence that the Department is known for. The Department celebrated its Golden Jubilee in the year 1973, Diamond Jubilee in 1983 and Platinum Jubilee in the year 1998 in a befitting manner.

The current faculty strength consists of 6 Professors, 9 Associate Professors and 2 Assistant Professors. In addition, we have Prof. S. Lele as Distinguished Professor, Prof. Vakil Singh as Emeritus Professor, Prof. T. R. Mankhand and Prof. S.N. Ojha, as Institute Professor. Prof. A.K. Ghose andProf. S.N. Tiwarihas been kind enough to engage the classes of our students in this and last semester.

Dr.BratindraNath Mukherjee and ShriGangeshwar Singh are continuing their services as DST Inspired Faculty and Visiting Faculty respectively. The members of staff have been actively engaged in research and have undertaken many research/consultancy projects. The current research activities span over wide - ranging fields e.g. synthesis and characterization of nanomaterials, quasicrystals, spray forming, powder metallurgy, modeling of phase diagrams by cluster variation method, ultra-fine grained materials, phase transformations in steels and nonferrous alloys and structure property correlations, creep and fatigue behaviour of materials, thermodynamics of semiconducting intermetallics and ternary alloys, pyrometallurgy of sulphide minerals, hydrometallurgy, bioleaching, preparation of molycarbide, processing of ferrous and non-ferrous alloys, Beneficiation and agglomeration of iron ore , Mn ore, chromite ore, Reduction smelting behaviour of agglomerates, waste fines of chromite ore, slime, CCR etc, Nitrogen bearing stainless steel preparation and their characterization towards bio implants, high temperature applications etc, foundry and welding, wear studies of composites, waste utilization and energy management etc.

Our Departmental Library is enriched with over 13,000 technical books, 76 non-technical books and 3886 periodicals. Online access to several journals and periodicals is also available through our IIT Main Library and Central Library of BHU.

Major areas of Research

1. Microstructural, Structural and Chemical Characterization
2. Mechanical Behavior, Deformation Processing and Failure Analysis
3. Phase Equilibria and Phase Transformation
4. Non-Equilibrium Processing of Advanced Materials
5. Ultra-Fine Grained and Nano-Structured Material
6. Metallurgical and E-Waste Utilization
7. Design and Development of Advanced Steels
8. Tribology and Surface Engineering
9. Thermodynamics and Kinetics of Metallurgical Processes
10. Advanced Structural and Functional Materials
11. Biomaterials

Area of the Department/School (in square meters):

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	04
2	No. of Lecture Halls	03
3	No. of Laboratory	10 labs+1 workshop
4	No. of Computers available for students in the Department/School/School	40

Unique Achievement / Preposition of the Department/School

The Department of Metallurgical Engineering has so far produced 2523 graduates, 479 postgraduates (including M.Tech dual degree) and 172 Ph.D. degree holders. The first one is a record for any Metallurgy Department in the country. The outstanding research contributions of the Department have resulted in its recognition as a Centre of Advanced Study (CAS) in Metallurgy by the UGC in 1980, the first-ever Engineering Department to be so recognized in the country and the first one in our University. The Department has a unique distinction of receiving special assistance under CAS for four consecutive phases, the fourth phase starting from the year 2005. The Department successfully completed the FIST level II. The Department is also recognized as a Centre for Quality Improvement Programme of MHRD/AICTE from the year 1981. The Department has received special assistance under the COSIST programmes of UGC and also as a National Electron Microscopy Facility (NELMIF) from DST in 1982. Govt. of India approved setting up Advanced Research Centre for Iron and Steel, in the Institute which will be located in the Department.

Members of the staff, research scholars and students have won a very large number of awards and distinctions in recognition of their outstanding contributions. These include Medals, Prizes, Awards and Fellowships from many prestigious national and international professional societies and other organizations. Some of the above recognitions pertain to John Taylor Gold Medal, Henry C. Sorby Award, Howe Medal, Alexander von Humboldt Fellowships, Al Kharazmi Award, S.S. Bhatnagar prizes of CSIR, S.S. Bhatnagar Medal of INSA, Platinum Medal, Tata Gold Medal and Prizes, G.D. Birla Award, National Metallurgists' Day Awards, MRSI Medals, Young Metallurgists' Awards, INSA Medals for Young Scientists, ISCA Young Scientist Awards, Dr. R.H. Kulkarni Memorial Fellowships, Prof C.N.R. Rao Award besides several best paper Awards. The faculty members have distinctions of receiving Fellowships (FNA, FASc, FNASc, FNAE, FAPM, FIIM, FIE, EMSI) of various professional societies such as INSA, IASc, NASc, INAE, APAM, IIM, IE (I) and EMSI.

Academic Programmes offered

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	59	56	54	---
2	Dual Degree	---	18	16	21	15
3	M. Tech/ M. Pharm	19	22	---	---	---
4	Ph. D (Under Institute Fellowship)	13	08	09	02	13
5	Ph. D (Under Project Fellowship)	---	---	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	---	---

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Dr. G.V.S. Sastry, B.Tech.(Met.), M.Tech.(Met.), Ph.D.(Met.)	Physical Metallurgy, Rapid Solidification, Electron Microscopy, Ni-Base Superalloys, Quasi Crystals, Nanomaterials
2	Dr. R.K. Mandal, BSc (Phys., Hons), M.Sc.(Phys.) M.Tech, Ph.D.	Quasicrystals, Nanostructured Materials, Phase Transformations, Microstructural Evoluation
3	Dr. N.K. Mukhopadhyay, B.E.(Met.), M.E., Ph.D.	Physical Metallurgy, Mechanical Alloying, Nanoindentation
4	Dr. Sunil Mohan, B.E.(Met.), M.E., Ph.D.	Alloy Development, Tribology
5	Dr. N.C. SanthiSrinivas B.E.(Met.), M.Tech.(Met), Ph.D.	Physical/Mechanical Metallurgy-Phase Transformations, Deformation and Fracture, Failure Analysis and Low Cycle Fatigue
6	Dr. B.N. Sarma, B.E. (Met.), M.Tech.(Met.), Ph.D.	Phase Equilibria, Phase Transformations, Computational Thermodynamics
ASSOCIATE PROFESSORS		
1	Dr. K. K. Singh, B.Sc. Engg (Met.Engg), M.Sc. Engg(Process Met), Ph. D (Met Engg.). PGDBA (BHU)	Extractive Metallurgy, Electronic waste treatment
2	Dr. O. P. Sinha, B.Sc. Engg. (Met.Engg.),M.Tech (Iron& Steel),Ph.D.(Met.Engg.)	Ferrous Process Metallurgy, N_2 bearing Special Steels, Industrial wastes utilization, Plasma Technology
3	Dr. I. Chakrabarty, B.E., M.E., Ph.D	Foundry Metallurgy, Phase Transformations, Wear of metals, Failure Analysis
4	Dr.JoysuryaBasu B.E. (Metallurgy), Ph.D. (Metallurgy)	Electron Microscopy, Energy and Electronic Materials, Complex Structures and Phase Transformation in Metals and Ceramics
5	Dr. C. K. Behera, B. E , ME , PhD	Extractive Metallurgy, Experimental Thermo-lead free solder, nitrogen steel
6	Dr.Rampada Manna, B. E , M.E , Ph. D	Heat Treatments of Metals, Ultra Fine Grained Metals, Severe Plastic Deformation, Phase Transformation
7	Dr.Vikas Jindal, B. Tech, M.Sc.(Engg.), Ph.D.	Computational Thermodynamics, Advanced Materials
8	Dr.KuashikChattopadhyay, B.E., M. Tech., Ph.D.	Mechanical Metallurgy, Structure-Property Relationship of Materials, Oxidation of Metals and Alloys, Powder Metallurgy, Fatigue & Fracture
9	Dr. G.S. Mahobia, B.E. (Met.Engg), M.Tech. (Met.Engg.), Ph.D.	Welding Engineering, Heat-Treatment, Ferrous Metallurgy, Corrosion Fatigue& Fracture, Hot Corrosion

ASSISTANT PROFESSORS		
1	Dr. J. K. Singh, B.ScEngg (Met. Engg.), M.Tech (Foundry Forge Technology), Ph.D (Met Engg)	Foundry Metallurgy, Transport Phenomena
2	Dr. N. K. Prasad, B.Sc.Engg. (Met. Engg.), M. Tech., Ph.D.	Physical Metallurgy, Magnetic Materials, Nanomaterials and Biomaterials
INSTITUTE PROFESSORS		
1	Dr. S.N. Ojha B.Sc.(Met), M.Tech.(Met.), Ph.D.	Rapid Solidification Processing, Undercooling of Metallic Melts, Atomisation and Spray Deposition Processing, Directional Solidification of Binary Alloys, Physical Metallurgy of Alloy Steels
2	Dr. T. R. Mankhand, B.Sc.(Met.), M.Sc.(Met.), Ph.D.	Extractive Metallurgy, Sulphide & Oxide Reduction, Utilization of Metallurgical Waste, Bioleaching
DISTINGUISHED PROFESSOR		
1	Dr. S. Lele Ph.D.	Physical Metallurgy and Materials Engineering
EMERITUS PROFESSOR		
1	Dr.Vakil Singh, B.Sc.(Met), Ph.D.	Mechanical Behaviour of Metals and Alloys Fatigue, Fracture, and Environmental Effects Bio-implant Materials
GUEST FACULTY		
1	Dr. A.K. Ghose, B.Sc.(Met), M.Sc.(Met), Ph.D.	Foundry Technology & Welding Technology
2	Dr. S.N. Tiwari Ph.D.	Foundry Metallurgy
VISITING FACULTY		
1	ShriGangeshwar Singh B.Tech (Met.), M.Tech (Met.)	Ferrous Metallurgy, Alloy Steel Technology, Hot Rolling & Heat Treatment of special steels
DST-INSPIRE FACULTY		
1	Dr.Bratindranath Mukherjee B.Sc., M.S., Ph.D	Nanomaterials for Energy Applications

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Coordinator	Title	Period
1	Prof. R.K. Mandal	EMSI-2016	30th May-04th June 2016
2	Dr. R. Manna	QIP Short Term Course (STC) and Continuing Education Programme (CEP) on Steel Technologies	02-09 March, 2017
3	Dr. O P Sinha	ETEM-2016	July8-10, 2016

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prof. Vakil Singh	Unusual Fracture behavior of Modified 9Cr-1Mo stainless steels	Department of Materials Science and Metallurgical Engineering, IIT-KGP, November 2016
2	Prof. S.N. Ojha	Invited Lecture	IMMT, Bhubaneswar (January 2017)
3	Prof. R.K. Mandal	Keynote Lecture in International Conference on Nanoscience and Technology	Department of Chemistry (BHU) (December, 2016)
4	Prof. R.K. Mandal	Invited Lecture in NMD-ATM 2016	IIT-Kanpur (November 11-14, 2016)
5	Prof. N.K. Mukhopadhyay	Invited Lecture in International Conference on Metals and Materials Research (ICMR 2016),	IISC, Bangalore, (June 20-22, 2016)
6	Prof. N.K. Mukhopadhyay	Invited Lectures in in Workshop on Materials Characterization: Principles and Practices	IIEST, Shibpur (July 25-August 5, 2016)
7	Prof. N.K. Mukhopadhyay	Invited Lecture in NMD-ATM 2016	IIT Kanpur (November 11-14, 2016)
8	Prof. N.C. SanthiSrinivas	Dynamic Strain Ageing Behaviour of Modified 9Cr-1Mo Steel under Monotonic and Cyclic Loading	University of Malaya, Kuala Lumpur, Malaysia, November 08-11, 2016
9	Dr. K.K. Singh	Recycling of EAF duct through hydrometallurgical route	Berlin, Germany
10	Dr. I. Chakrabarty	World Foundry Congress 2016	Nagoya, Japan May 2016
11	Dr. I. Chakrabarty	Indian Foundry Congress 2017	Kolkata February 2017
12	Dr. R. Manna	Development of Ultra High Strength Steel Processed by Severe Plastic Deformation Methods	NIFFT, Ranchi Nov 25-26, 2016
13	Dr.KausikChattopadhyay	Invited lecture delivered in ICAMMP-IV	IIT Kharagpur5-7th November 2016
14	Dr. N. K. Prasad	ICMAGMA 2017	Hyderabad India, February 1-3, 2017
15	Dr. N. K. Prasad	ABSMSNW-2017	IIT(BHU), Varanasi, February 19 – 23, 2017.
Meetings			
1	Prof. Sunil Mohan	Invited as expert member purchase committee	NIT Srinagar on 20th Feb 2017 at New Delhi.

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	Prof. Vakil Singh	Cyclic Deformation Behavior of Modified 9Cr-1Mo Steel at Elevated Temperatures, Mechanical and Creep Behavior of Advanced Materials: A SMD Symposium Honoring Prof. K. LingaMurty, TMS 2017.	San Diego USA,	Feb 26-March 03, 2017
2	Prof. N.K. Mukhpadhyay	IIM G.D. Birla Gold Medal Lecture in NMD-ATM 2016	IIT Kanpur	November 11-14, 2016

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Prof. N.K. Mukhopadhyay	IIM-G.D. Birla Gold Medal-2016 Award by Indian Institute of Metals at IIT Kanpur in NMD-ATM 2016, November 14, 2016
2	Prof. T.R. Mankhand	MISRA Award from Indian Institute of Mineral Engineer for the best paper in Hydro-Electro-Bioprocessing Area in Chemical Engineering Journal, Vol. 281 (2015): Date of Award: February 2017
3	Prof. T.R. Mankhand	Received TAMOTA Award from Indian Institute of Mineral Engineers for the best paper on Environmental Issues related to Mineral Processing, presented in IIME International Seminar held at Chennai in February 2017

Fellowships of academic and professional societies

S. No.	Name of Faculty Member	Details of Fellowship
1	Prof. N.K. Mukhopadhyay	Asia Pacific Academy of Materials (APAM)

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	Dr. I. Chakrabarty	Heat Treatment of Cast Iron	Elsevier

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. R.K. Mandal	Member	CMC-Transtech
2	Prof. N.K. Mukhopadhyay	Key-Reader	Metallurgical and Materials Transactions A (USA) (2007-continuing)
3	Prof. N.K. Mukhopadhyay	Editor	Journal of Institution of Engineers, Metallurgical and Materials: Series D : (Springer) (2010-continuing)
4	Prof. N.K. Mukhopadhyay	Member	Transactions of The Indian Institute of Metals, (Springer)

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Tinkering Lab	10.00
2	RigakuMiniflex (600 HP)	39.8
3	Thermocal C software with latest version, Dictra software latest version, TC Prisma Latest version TCFE8 Database MOBFE3 database (ARCIS)	15.70
4	JMATPRO Software for Fe-Base Alloy (ARCIS)	13.16182
5	Computer Server Model X3650-M5, Desk tops and UPS(ARCIS)	7.1839
6	Electropulsing Unit-20kV capacity- CCPS, Capacitor banks etc (BRNS+Institute Fund)	34.575
7	CO_2 Incubator (Thermo Scientific)	3.60
8	Twin cooling refrigerator (Samsung)	0.92
9	Tissue culture microscope (Olympus)	3.01
10	Vertical Laminar flow (Clean Air)	0.88
11	Ultra Pure water filter (Millipore)	2.45

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Setting up of Advanced Research Center for Iron and Steel at IIT (BHU), Steel Development Fund	2016-2021	Ministry of Steel, GOI	3098	Dr. R. Manna
2	Development of Electropulsing facility for Synthesis of Bulk Nanostructured Materials	2015-2017	BRNS	26.484	Dr. R. Manna
3	Studies on Improvement in Stiffness of Aluminum Alloy Fibers	2016-17	DRDO, Govt. of India	40.11	Dr. R. Manna
4	Development of Ni-Free Austenitic Stainless Steel for Biomedical Application	2016-19	Ministry of Steel	284	Dr. G.S. Mahobia
5	Design and Development of Hot Corrosion Test Facility to Study Hot Corrosion Behaviour of Metals used in Marine Environment	2016-17	DIC, IIT (BHU)	3.00	Dr. G.S. Mahobia
6	Alloy design, phase and microstructural stability of advanced amorphous, nanocrystalline alloys and composites	2016-2018	Seed Grant, Indian Institute of Technology (BHU)	11 .00	Dr.JoysuryaBasu

7	Development and structural characterization of Bi2-xMxO3+x(y-3)/2 (M=Fe, Cr, Mn) coating for protection against liquid coolant and sensors	UGC-DAE-CSR	18.00	Dr. Joysurya Basu (PI) and Dr. N. K. Prasad (Co-PI)
8	70 lakh SoUL Project	Ministry of New and Renewable Energy and Other Organisations	280.92	Dr. K.K. Singh (Principal Investigator cum Zonal Manager)

Industrial consultancy projects

S. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Dr. O.P. Sinha & Dr. J.K. Singh	Assisting NCL in short listing of vendors under - Make in India, for import substitution and establishing an indigenous supply chain for replacement of HEMM spares and reduce the reliance on overseas sources for supply of high value HEMM spares	NCL, Singrauli	20.40
2	Prof. T.R. Mankhand & Dr. K.K. Singh	Review a Hydrometallurgical Technology developed for Hindustan Copper Ltd.	Hindustan Copper Limited	0.57

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	82
2	Total Number of Papers Published in Refereed International Journals	---
3	Total Number of Papers Presented in National Conferences	---
4	Total Number of Papers Presented in International Conferences	09

(a) Refereed International Journals

1. LS RAO, AK Jha, SN Ojha (2017) Tribology and surface topography of Al-10Cu-Fe alloy produced by rheocasting process, Materials Research Express
2. LS Rao, AK Jha, SN Ojha (2017) Solidification of Liquid Distributed in its Primary Matrix Phase of Al-10Cu-Fe Alloy and Their Tribological Characteristics, Journal of Materials Engineering and Performance 26 (2), 601-610
3. R. K. Singh, M. Srivastava, N. K. Prasad, P. H. Shetty and S. Kannan (2017), Hyperthermia effect and Antibacterial efficacy of Fe^{3+}/Co^{2+} co-substitutions in -Ca3(PO4)2 for bone cancer and defect therapy, J. Biomed Mater. Res.: Part B – Appl. Biomat..DOI 10.1002/jbm.b.33921.
4. R. K. Singh, M. Srivastava, N. K. Prasad, S. Awasthi, A. K. Dhayalan and S. Kannan(2017), Iron doped b-Tricalcium phosphate: Synthesis, Characterization, Hyperthermia effect, Biocompatibility and Mechanical evaluation, Mater. Sc. Engg. C 78: 715–726.
5. S.K. Shaw, S.K. Alla, S.S. Meena, R.K. Mandal, N.K. Prasad(2017), Stabilization of temperature during magnetic hyperthermia by Ce substituted magnetite nanoparticles, J. Magn. Magn.Mater. 434 181–186.

6. U. B. Gawas, M. M. Kothawale, Rajesh Pednekar, S. S. Meena, N. K. Prasad and S. K. Alla(2017), Investigation of Resistivity, Magnetic Susceptibility and Dielectric Properties of Nanocrystalline Ni-Mn-Zn Ferrites, J Supercond. Nov. Magn. 30:1287.
7. S. K. Alla, K. K. Devarakonda, E.V.P. Komarala, R. K.Mandal, N.K. Prasad(2017), Ferromagnetic Fe-substituted Cerium Oxide Nanorods: Synthesis and Characterization, Maters. Des. 114 584–590.
8. M. M. Kothawale, R. Pednekar, U. B. Gawas, S. S. MeenaN.K. Prasad, S. Kumar, Characterization of Nano-Particle $Co_{1-x}Zn_xFe_2O_4$ Synthesized Using Alove Vera Gel, J Supercond. Nov. Magn. 2017, 30, 395–399.
9. N. K. Prasad, K. M Agrawal, J. Ranwa, S. S. Meena, S. M. Yusuf and N. K. Mukhpadhyay(2016), The effect of Mn on the structural and magnetic behaviour of Fe-6Si-8B alloy produced by high energy ball Milling, Transaction on IIM, DOI:10.1007/s12666-016-0939-z.
10. S. K. Alla, R.K.Mandal and N.K. Prasad(2016), Optical and Magnetic properties of Mg^{2+} doped CeO_2 nanoparticles, RSC Adv., , 6, 103491–103498.
11. P. Goyal and N. K. Prasad (2016), In-situ composites of -$Co_xFe_{2-x}O_3$ with -$Co_xFe_{2-x}O_3$ or with Co-Fe alloys having different morphology and better magnetic behavior, IEEE Trans. Magnet., 52, 2300906.
12. S. K. Alla, V. Yeddu, E. V. Prasadrao, R. K. Mandaland N. K. Prasad(2016), Concentration dependent saturation magnetization of Cr-Substituted CeO_2 nanoparticles, Mater. Chem. Phys. 280-286.
13. S. K.Alla, A. D. Verma, Vinod Kumar, R.K.Mandal, I. Sinha, N. K. Prasad(2016), Solvothermal synthesis of CuO-MgOnanocomposite particles and their catalytic applications, RSC Adv.,6, 61927 –61933.
14. PratimaMeshram, HemantSomani, BanshiDharPandey, Tilak Raj Mankhand, HaciDeveci, Abhilash(2017), Two stage leaching process for selective metal extraction from spent Nickel metal hydride batteries, Journal of Cleaner Production, 157 pp 322-332
15. HimanshuRanjanVerma, Kamalesh K. Singh, Tilak Raj Mankhand(2017), Comparative study of printed circuit board recycling by cracking of internal layers using organic solvents- dimethyl formamide and dimethyl lactamide, Journal of Cleaner Production, 142(4)1721-1727
16. HimanshuRanjanVerma, Kamalesh K. Singh, Tilak Raj Mankhand,(2017)Liberation of metal clads of waste printed circuit boards by removal of halogenated epoxy resin substrate using dimethyl acetamide, Waste Management,60 652-659
17. HimanshuRanjanVerma, Kamalesh K. Singh, Tilak Raj Mankhand(2016), Dissolution and separation of brominated epoxy resin of waste printed circuit boards by using di-methyl formamide, Journal of Cleaner Production ,139586-599
18. M. Sinha, S.N. Nistala, S. Chandra and T.R. Mankhand(2016), Thermodynamic study of evaluation of sintered phases at different alumina level.Iron Making and Steel Making, 43 (3) 92-99
19. PratimaMeshram , Abhilash, BanshiDharPandey ,Tilak Raj Mankhand and HaciDeveci(2016), Comparison of different reductants in leaching of spent lithium ion batteries , JOM, 68 (10) 2613
20. PratimaMeshram ,Abhilash, BanshiDharPandey, Tilak Raj Mankhand and HaciDeveci(2016), Acid baking of spent lithium ion batteries for selective recovery of major metals: A two-step process, Journal of Industrial and Engineering Chemistry, 43 117-126
21. PratimaMeshram , B.D. Pandey, T.R. Mankhand(2016), Process optimization and kinetics for leaching of rare earth metal from the spent Ni-metal hydrides batteries, Waste Management, 51 196–203
22. SS Mishra, S Mukhopadhyay, TP Yadav, RM Yadav, R Romero-Aburto, N.K. Mukhopadhyay (2017)Structural and magnetic properties of rapidly solidified Ni45Fe5Mn40Sn10 alloy ribbon, Journal of Advanced Physics 6 (3), 389-396
23. D Verma, NK Mukhopadhyay, GVS Sastry, R Manna (2017), Microstructure and Mechanical Properties of Ultrafine-Grained Interstitial-Free Steel Processed by ECAP, Transactions of the Indian Institute of Metals 70 (4), 917-926
24. A Khare, SS Yadava, P Gautam, NK Mukhopadhyay, KD Mandal(2017), Effect of sintering on the dielectric properties of 0.5 BaTiO3–0.5 Bi2/3Cu3Ti4O12 nanocomposite synthesized by solid state route, Journal of

Materials Science: Materials in Electronics 28 (7), 5523-5530
25. NK Mukhopadhyay(2017) Electron Microscopy, Current Science 112 (1), 17-19 26.RB Singh, NK Mukhopadhyay, GVS Sastry, R Manna(2017), Development of High-Strength Bulk Ultrafine-Grained Low Carbon Steel Produced by Equal-Channel Angular Pressing, Metallurgical and Materials Transactions A, 1-18
27. RB Singh, NK Mukhopadhyay, GVS Sastry, R Manna(2017) Recovery of Ductility in Ultrafine-Grained Low-Carbon Steel Processed Through Equal-Channel Angular Pressing Followed by Cold Rolling and Flash AnnealingMetallurgical and Materials Transactions A 48, 1189-1203
28. D Verma, SA Pandey, A Bansal, S Upadhyay, NK Mukhopadhyay(2016),Bulk Ultrafine-Grained Interstitial-Free Steel Processed by Equal-Channel Angular Pressing Followed by Flash Annealing, Journal of Materials Engineering and Performance 25 (12), 5157-5166 29.
29. AK Chaubey, P KondaGokuldoss, Z Wang, S Scudino, N.K. Mukhopadhyay(2016) Effect of Particle Size on Microstructure and Mechanical Properties of Al-Based Composite Reinforced with 10 Vol.% Mechanically Alloyed Mg-7.4% Al Particles, Technologies 4 (4), 37
30. A Khare, SS Yadava, K Mandal, NK Mukhopadhyay(2016,) Dielectric Studies of 0.5 BaTiO3-0.5 Bi2/3Cu3Ti4O12 Nano-Composite, Nanomaterials and Energy 5, 1-9
31. A Khare, SS Yadava, KD Mandal, NK Mukhopadhyay(2016),Effect of sintering duration on the dielectric properties of 0.9 BaTiO 3–0.1 CaCu 3 Ti 4 O 12 nanocomposite synthesized by solid state route, Microelectronic Engineering 164, 1-6
32. NK Mukhopadhyay(2016), Metals and Materials ResearchCurrent Science.111 (6), 969-97133.MR Basariya, NK Mukhopadhyay, S Sripathi, KA Padmanabhan (2016)Grain size softening effect in intermetallics, Journal of Alloys and Compounds 673, 199-204
34. MR Basariya, VC Srivastava, NK Mukhopadhyay(2016) Inverse Hall–Petch like behaviour in a mechanically milled nanocrystalline Al5Fe2 intermetallic phase, Philosophical Magazine 96 (23), 2445-2456
35. AK Chaubey, S Scudino, NK Mukhopadhyay, J Eckert(2016), Processing, microstructure and mechanical properties of Al-based metal matrix composites reinforced with mechanically alloyed particles, Journal of Materials Research 31 (9), 1229-1236
36. D Verma, NK Mukhopadhyay, GVS Sastry, R Manna (2016),Ultra-High-Strength Interstitial-Free Steel Processed by Equal-Channel Angular Pressing at Large Equivalent Strain, Metallurgical and Materials Transactions A 47 (4), 1803-1817
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(b) Proceedings of International Conferences

1. S. K. Alla, R. K. Mandal and N. K. Prasad, Correlation of defects induced by Mg2+ doping with magnetic properties of CeO2 nanoparticle, International Conference on Magnetic Materials and Applications

ICMAGMA 2017, Hyderabad India, February 1-3, 2017.

2. M. Srivastava, S. S. Meena, R. K. Mandal, S. M. Yusuf, N. K. Prasad, HfxFe3-xO4 based Ferrofluidsfor Hyperthermia Application, International Conference on Magnetic Materials and Applications ICMAGMA 2017, Hyderabad India, February 1-3, 2017.
3. S. K. Alla, R. K. Mandal and N. K. Prasad, Optical and magnetic properties of Mg2+ or Cr3+ doped CeO2 nanoparticles, International Conference on Advances in Biological Systems and Materials Science in NanoWorld, ABSMSNW-2017, IIT(BHU), Varanasi, February 19 – 23, 2017.
4. AsnitGangwar, R. Kumar, P. Rajput and N. K. Prasad, Evaluation of suitability of ?-AlxFe2-xO3 based ferrofluids for bio-applications, International Conference on Advances in Biological Systems and Materials Science in NanoWorld, ABSMSNW-2017, IIT(BHU), Varanasi, February 19 – 23, 2017.
5. Subham Kumar Shaw, S. K. Alla, R. K. Mandal and N. K. Prasad, CexFe3-xO4, 0 _ x _ 0.5 magnetic nanoparticles: an in-vivo switch during magnetic hyperthermia, International Conference on Advances in Biological Systems and Materials Science in NanoWorld, ABSMSNW-2017, IIT(BHU), Varanasi, February 19 – 23, 2017.
6. V. Ramya, N. K. Mukhopadhyay and N. K. Prasad, Fe/Fe3O4 nanocomposites by high energy ball milling, International Conference on Advances in Biological Systems and Materials Science in NanoWorld, ABSMSNW-2017, IIT(BHU), Varanasi, February 19 – 23, 2017.
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9. R.S. Rajpurohit, ,N.C. SanthiSrinivas, V. Singh, Ratcheting Strain Accumulation due to asymmetric cyclic loading of Zircaloy-2 at room temperature, Procedia Structural Integrity, 2 (2016), 2757-2763

Any other Information

Instruments

Transmission Electron MicroscopeTecnai G^2 20 S-Twin.

Scanning Electron Microscope: Quanta 200F

X-Ray Diffractometer-Rigaku D-Max III.

15. Department of Mining Engineering

Year of Establishment : 1923

Head of the Department : Professor S K Sharma

Brief Introduction of the Department :

The Department of Mining Engineering a well conceived dream of the founder of this university PANDIT MADAN MOHAN MALVIYAJI and the oldest Mining Engineering Department in the country, came into existence as early as 1923, as a section of the Department of Geology, Mining and Metallurgy. Later, in the year 1944, separate departments of Mining and Metallurgy were constituted under the College of Mining and Metallurgy.

The first Ph.D. degree in Mining Engineering in the country was awarded from this department in the year 1964. This lead was further strengthened by introducing the First Post- Graduate course in 1966 leading to M.Sc. degree in Mining Engineering n Metal Mining and Coal Mining, respectively and later the M.Sc. degree in Mine Planning was introduced in 1972. Since, 1995-96 the department offers M.Tech. degree in Mine Environment, Mine Planning and Rock Mechanics.

The Department of Mining Engineering, BHU was one of the first in the country to receive UGC Assistance under COSIST and SAP Programme in 1984. Subsequently, the Department was upgraded as a Centre of Advanced Study in the area of Rock Mechanics and Ground Control in 1984.

The Department of Mining Engineering, IIT (BHU) occupies a pioneering position in the field of mining education and research. It has many firsts to its credit. The first Bachelor, Postgraduate and Doctoral degrees in mining engineering in India have been awarded by this department. Today's Mineral Industry is being run by many of its illustrious alumni who are holding key positions within the country and abroad. Senior faculty members have been recognized by the mining and allied industries as experts in the respective fields and are members of the important decision making bodies associated with CIMFR, NIRM, UGC, ISMU, NCL, CCL, SCCL, CIL, HZL, UCIL etc. The Department received generous grants to accelerate its research and developmental activities.

The Department is divided into six divisions with laboratories that are well equipped with the conventional and modern facilities. Facilities have also been developed for research in collaboration with mining industry to deal with their practical problems, these laboratories are also equipped to undertake fundamental research in the field of mining.

The above divisions consist of 19 laboratories. The Department is also provided with an Underground Experimental Model Mine well equipped for demonstration, experimental and research purposes particularly in the field of underground mechanised transport systems, mine ventilation and mine surveying experiments.

Major areas of Research

- Rock Mechanics & Ground Control and numerical modelling
- Mine Environment, Mine Ventilation, Mine Safety, Water Soluble Polymer
- Mining Geology, Mine Water Management & Environmental Pollution
- Mining Methods, Production and Productivity analysis of Mining Machines
- Design of Structure in Rock, Mine Planning, Mine Environment
- Reliability Analysis and and Slope stability
- Environmental Economic, GIS and Remote Sensing, Operations Research
- Mine Surveying, Mine economics, Mine legislation and Computer Applications in Mining
- Mine Safety, Risk Analysis, Reliability and Rock Cutting Technology
- Rock Fragmentation Engineering, Rock Mechanics, Surveying
- Coal Analysis, Mineral Beneficiation

Area of the Department/School (in square meters):

Ground floor (including Model Experimental of Underground Mine) = 5815.0826 m^2

Ground Floor Open Space & Workshop & Laboratories = 1829.179 m^2

First Floor = 3219.4264 m^2
Second Floor = 505.3867 m^2

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	03
2	No. of Lecture Halls	01
3	No. of Laboratory	18
4	No. of Computers available for students in the Department/School/ School	32

Unique Achievement / Preposition of the Department

- Special Assistance Programme
- COSIST
- FIST Assistance
- MODROB
- Centre of Advanced Study in the area of Rock Mechanics & Ground Control and Geo-Environment

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	MN413	Mine Reclamation	09
2	MN441	Rehabilitation & Resettlement (Open Elective)	09
3	MN 5207	Data Analytics	11

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	97	85	70	76	---
2	Dual Degree	20	19	07	12	19
3	M. Tech/ M. Pharm	24	24	---	---	---
4	Ph. D (Under Institute Fellowship)	07	16	10	04	---
5	Ph. D (Under Project Fellowship)	02	04	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	03	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	M Mutyal Rao	16152009	International Conference On Deep Excavation, Energy Resource and Production	24 - 26 January 2017 & IIT Kharagpur	R & D, IIT (BHU)
2	Vivekanand Kumar	15151013	Workshop (GIAN-Project Management for Organizational Excellence)	August 22,2016 to September 02, 2016 IIT(BHU)	Contingency
3	Vivekanand Kumar	15151013	Workshop (Green Belt program on Lean Six Sigma Certification)	September 09-12, 2016 IIT(BHU),	Contingency
4	Vivekanand Kumar	15151013	Workshop (Author Workshop of Springer Nature)	October 07,2016 IIT(BHU),	Free
5	Vivekanand Kumar	15151013	Workshop (Statistical Methods in Biomedical Research)	January 04-06, 2017,NIOH, Ahmedabad	Contingency
6	Vivekanand Kumar	15151013	Workshop (Research Methodology & Data Analysis for Research Scholars)	February06-12, 2017 IMS,BHU,	Contingency
7	Vivekanand Kumar	15151013	Symposia (Research Methodology for Research Students & Faculty Members)	March 24-29, 2017 TLC, IIT (BHU)	Free
8	Shailendra Chawla	15151014	Int. Conf. on Deep Excavation, Energy Resources and Production (DEEP-2017),	24 26 January 2017, IIT Kharagpur	STGC & Deputy. Special fund.
9	.Rizwan Hasim	14151008	Recent Advances in Rock Engineering (RARE 2016)	16–18 November 2016	STGC & Deputy. Special fund.
10	Mohd. Maneeb Masood	15152010	NxGnMiFu 2017 International Conference on Next Generation Technologies	15-17th February 2017	Contingency Fund
11	Ankush Galav	15152003	NxGnMiFu 2017 International Conference on Next Generation Technologies	15-17th February 2017	Self
12	Ankush Galav	15152003	Recent Advances in Rock Engineering (RARE 2016)	16–18 November 2016	Self
13	Ankush Galav	15152003	Int. Conf. on Deep Excavation, Energy Resources and Production (DEEP-2017),	24 26 January 2017, , IIT Kharagpur	STGC & Deputy. Special fund.
14	Bhaskara Behera	15151002	Recent Advances in Rock Engineering (RARE 2016)	16–18 November 2016	R&D and Dept. of Mining
15	Bhaskara Behera	15151002	SMP NIT-Roukela	2-4 Dec, 2016	R&D and Dept. of Mining

16	Sandeep Kumar Sahoo	15151009	Int. Conf. on Deep Excavation, Energy Resources and Production (DEEP-2017),	24 26 January 2017, IIT Kharagpur	R&D and Dept. of Mining
17	Sandeep Kumar Sahoo	15151009	Recent Advances in Rock Engineering (RARE 2016)	16–18 November 2016	R&D and Dept. of Mining
18	Ajeet Yadav	16151002	INDOROCK-16	Feb. 2016, IIT Bombay	R&D and Dept. of Mining

Names of scholars/students who won Convocation/Institute Day prizes

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Ankush Galav	15152003	Best Research Project Award	IIT (BHU)

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Dr. B.K. Shrivastava	Mining Machinery, Rock Mechanics & Ground Control
2	Dr. N.C. Karmakar	Mine Environment,Mine Ventilation,Mine Safety,Water Soluble Polymer
3	Dr. A. Jamal	Mining Geology,Mine Water Management & Enviromental Pollution
4	Dr. Piyush Rai	Mining Methods, Production and Productivity analysis of Mining Machines, Fragmentation and Blasting
5	Dr. S.K. Sharma	Design of Structure in Rock, Mine Planning, Mine Environment
6	Dr. S. Gupta	Reliability Analysis,Mine Ventilation
ASSOCIATE PROFESSORS		
1	Shri R. P. Singh	Mine fire, Mine mechanization & Planning
2	Dr. Ashok Jaiswal	Rock Mechanics & Ground Control
3	Dr. Rajesh Rai	Rock Mechanics and Slope stability
4	Dr. A Kumar	Environmental Economic, GIS and Remote Sensing, Operations Research
5	Dr. G.S.P. Singh	Rock Mechanics and Ground Control
6	Dr. S. K. Palei	Mine Safety, Risk Analysis, Reliability and Rock Cutting Technology
ASSISTANT PROFESSORS		
1	Shri Tarun Verma	Mine Environment, Mine Ventilation, Mine Surveying, Mine economics
2	Dr. Suresh Kumar	Rock Fragmentation Engineering, Rock Mechanics, Surveying
3	Dr. Nawal Kishore	Mine planning, draggling and surface continuous miner

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	Prof B K Shrivastva Dr Ashok Jasiwal	Social Cost Benefit Analysis of a Project	11 -14 Nov, 2016
2	Prof B K Shrivastva Dr Ashok Jasiwal	Application of Numerical Modelling in Strata Control	09-14 May, 2016
3	Prof B K Shrivastva Dr. Rajesh Rai	Rock Mechanics and Ground Control	19 -24 Aug, 2016
4	Prof. S K Sharma, Dr. GSP Singh and Dr. T Verma	Rock Support and Reinforcement for Strata Control in Underground Mining Structures	22-19 December 2016
5	Prof. A Jamal and Dr. Nawal Kishore	Coal beneficiation-2016	12-17th December, 2016

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr Rajesh Rai	Economic Evaluation of Air Pollution from Opencast Mining	2-4 Dec, 2016 NIT-Roukela
2	Dr Rajesh Rai	Economic Impact Analysis of Coal Mining on Regional Economy	24-26 January 2017, IIT Kharagpur, India
3	Dr Rajesh Rai	Effect of Fly ash and clay on geotechnical properties of dump and its stability	Effect of fly ash and clay on geotechnical properties of dump and its stability

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	GSP Singh	Instrumentation for Effective Strata Control in Longwall Workings – The Way Ahead	DGMS Dhanbad	20 January 2017

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	GEOVIA Surface Sentinel	18.51059 Lakh

Research and Consultancy

Sponsored research projects

Note : Sponsored project name is to be given only in case a faculty member is Project Incharge

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Development of a modeling approach for three dimensional simulation of progressive roof caving in longwall workings,	2016-17	IIT (BHU)	8.2225	G S P Singh

Industrial consultancy projects

S. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Sanjay K Sharma, G S P Singh, T Verma and N Kishore	Determination/Formulation of SOR (schedule of Rates) for Outsourcing Work of Removal of Overburden, Loading of coal into Tippers/trucks, transportation of coal, wagon loading, drilling in coal strata, crushing of coal by mobile crusher and extraction of coal by surface miner etc. in SECL	South Eastern Coalfields Limited	34.5 lkh
2	G S P Singh and Sanjay K Sharma,	Scientific Study of behaviour of roof rock over long standing galleries in Tandsi UG of Kanhan Area, WCL, February 2017	Western Coalfields Limited	5.00 lakh
3	Sanjay K Sharma, G S P Singh, T Verma and N Kishore	Consultancy Service for "Study of Slope Stability and Analysis of Existing Internal and External OB Dump of the 05 Opencast projects of NCL	Northern Coalfield Limited	10 lakh
4	G S P Singh	Scientific study of stability of the barrier pillars between longwall panels in Moonidih XV Seam	Gayatri Projects Limited	3.42 lakh
5	Prof. B.K. Shrivastva & Dr. Ashok Jaiswal		MMD, Kolkata, India	57,500.00
6	Prof. B.K. Shrivastva & Dr. Ashok Jaiswal	Scientific investigation in the panel no. 77x, churcha R.O. west	SECL, Churcha R.O. Colliery	22,90,000.00
7	Prof. B.K. Shrivastva & Dr. C. S. Singh	Evaluation of material	NTPC, Sikkim	57,500.00
8	Prof. B.K. Shrivastva & Dr. Ashok Jaiswal		MMD, Kolkata, India	74,750.00
9	Prof. B.K. Shrivastva	Subsidence Practices	Usha Martin Limited, Ranchi	5,75,000.00
10	Prof. B.K. Shrivastva	Subsidence Predictive for Kondapuram Mine	SCCL, Singaraini	7,47,442.00

11	Prof. A. Jamal, Prof. S.K. Sharma & Dr. A.K. Singh	Investigation of grade of coal	Adani Power Rajasthan Limited, Achalraj, Ahmedabad, Gujarat	34,040.00
12	Prof. A. Jamal, Prof. S.K. Sharma Dr. A.K. Singh Prof. S. Ratan	To investigate the grade of a coal along with proximate analysis	NCL, Krishnashila Project, Sonebhadra	25,530.00
13	Prof. A. Jamal, Prof. S.K. Sharma Dr. A.K. Singh Prof. S. Ratan	To investigate the grade of a coal along with proximate analysis	NCL, Bina Project, Sonebhadra	1,06,375.00
14	Prof. A. Jamal, Prof. S.K. Sharma Dr. A.K. Singh Prof. S. Ratan	To investigate the grade of a coal along with proximate analysis	NCL, Jayant Project, Singrauli	38,295.00
15	Prof. A. Jamal, Prof. S.K. Sharma Dr. A.K. Singh Prof. S. Ratan		LANCO, Sonebhadra	8,510.00
16	Prof. A. Jamal, Prof. S.K. Sharma Dr. A.K. Singh Prof. S.Ratan	To investigate the grade of a coal along with proximate analysis	NCL, Dudhichua Project, Sonebhadra	17,020.00
17	Prof. A. Jamal, Prof. S.K. Sharma Dr. A.K. Singh Prof. S. Ratan		NCL, Amlohri Project, Singrauli	4,255.00
18	Prof. A. Jamal, Prof. S.K. Sharma Dr. A.K. Singh Prof. S. Ratan	(to investigate the grade of a coal along with proximate analysis	NCL, Nigahi Project, singrauli	46,805.00
19	Prof. B.K. Shrivastva, Dr. Rajesh Rai & Dr. Ashok Jaiswal	(Design and built shoring system for Rajiv Gandhi Cancer Research Institute, New Delhi	Indigo Infra Project Pvt. Ltd, New Delhi	172,500.00
20	Prof. B.K. Shrivastva, Dr. Rajesh Rai	To assess the once burden slope stability for Amelia (North) Coal mine	JP Industries, Noida	6,90,000.00
21	Prof. S.K. Sharma, Prof. A. Jamal & Dr. A.K. Singh	Sampling and analysis of all coal seams of all the coal mines & Grading of coal for 2016-17	NCL, Singraouli Colliery, MP	11,54,400.00
22	Prof. S.K. Sharma, Dr. G.S.P. Singh, Dr. T. Verma & Dr. N. Kishore	Study of slope stability and analysis of existing internal and external OB dump of the five opencast project of NCL	NCL, Singraouli Colliery, MP	10,00,000.00
23	Prof. B.K. Shrivastva, Dr. Rajesh Rai & Dr. Ashok Jaiswal	Stability Design and built of shoring system for FOB foundation at DLF Cyber City	Indigo Infra Project Pvt. Ltd, New Delhi	1,43,750.00
24	Prof. S.K. Sharma Prof. A. Jamal	Proximate and GCV analysis cost of coal sample	NTPC, Vindhyachal, Singrauli-486885, M.P.	5,175.00

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	03
2	Total Number of Papers Published in Refereed International Journals	06
3	Total Number of Papers Presented in National Conferences	04
4	Total Number of Papers Presented in International Conferences	11

(a) Refereed International Journals

1. Mohammadi Mousa, Rai Piyush and Gupta Suprakash, Performance Evaluationof Bucket Based Excavating, Loading and Transport (Belt) Equipment – An OEEApproach, Arch. Min. Sci. 62 (2017), 1, 105-120.
2. Upadhyay Rahul and Gupta Suprakash, Equipment Specific Optimum Blast-Design Using Genetic Algorithm, International Journal of Scientific & Technology Research Volume 5, Issue 10, October 2016, PP 12-17.
3. Kumar Pramod, Gupta Suprakash, Agarwal Mudit and Umesh Singh, Categorization and standardization of accidental risk-criticality levels of human error to develop risk and safety management policy, Safety Science 85(2016) 88-98.
4. Mohammadi Mousa, Rai Piyush and Gupta Suprakash, Improving productivity of dragline through enhancement of reliability, inherent availability and maintainability, Acta Montanistica Slovaca Volume 21 (2016), number 1, 1-8.
5. Singh, G S P and Singh, U K (2017) , "Assessment of Caving Behaviour of Strata and Powered Support Requirement for Safe Longwall Extraction Under Difficult Caving Strata Condition", ISRM India Journal, Half Yearly Technical Journal of Indian National Group of ISRM, Volume 6, Issue 1, pp 10-20
6. D.C.Jharia, T.Kumar,Gobi Nath.M, P.Diwan and N.Kishore (2016), Assessment of Ground Water Potential Using Remote Sensing, GIS and Multi-criteria Decision Analysis, Geological Society of India (SCI Journal)

(b) Refereed National Journal

1. Shailendra Chawla, Ashok Jaiswal, B K Shrivastva, (2016), "Stability of Pillars in Bord and Pillar Method of Thick Seam by Multi-lift System", Minetech. Vol 37 (3), pp 28-40
2. Prasoon Garg, Ashok Jaiswal, (2016), "Estimation of Modulus of the Caved Rock for Underground Coal Mines by Back Analysis using Numerical Modelling", Journal of the Institute of Engineering (India) Series, October 2016, Volume 97, Issue 2, pp 269–273
3. Alok, N.Kishore, Patel R K and Rao M Mutyal (Accepted, 2017), Cost and Economics Analysis of Continuous Surface Miner in Major Opencast Coal Mines- A Case Study. The Institution of Engineers (India),(SCI Journal)

(c) Proceedings of International Conferences

1. Rajesh Rai, Ashok Jaiswal and B K Shrivastva, (2017), Economic Impact Analysis of Coal Mining on Regional Economy, Int. Conf. on Deep Excavation, Energy Resources and Production, DEEP16, 24- 26 January 2017, IIT Kharagpur, India
2. Ankit Narayan, Rajesh Rai and B.K. Shrivastva, (2017), Effect of fly ash and clay on geotechnical properties of dump and its stability, NexGen Technologies for Mining and Fuel Industries, ISBN 978-93-85926-40-2
3. Shailendra Chawla, Ashok Jaiswal and B. K. Srivastva, (2017), "Effect of Sand Stowing on Coal Pillar Strength", Int. Conf. on Deep Excavation, Energy Resources and Production (DEEP-2017), 24- 26 January 2017, IIT Kharagpur, India
4. Yadev Pawan and Gupta Suprakash, Performance measurement of miningequipment–state of the art, in the proceeding of International Conference on Deep Excavation, Energy Resources and Production, January

24-26, 2017, IIT Kharagpur, India.
5. Mishra A., Palei S. K., Gupta S. A Reliability based Study for Estimating Equivalent Age of Dragline, in the proceeding of International Conference on Deep Excavation, Energy Resources and Production, January 24-26, 2017, IIT Kharagpur, India.
6. Raju Gunda Yuga and Gupta Suprakash Simulation-based Human Reliability Modelling for Safer Mining Operation, in the proceeding of International Conference on Deep Excavation, Energy Resources and Production, January 24-26, 2017, IIT Kharagpur, India.
7. Galav, A, Sahoo, S K, Singh, G S P and Sharma, S K (2017), "Study of Strata Behaviour in a Contiguous Seam Depillaring working", International Conference on Deep Excavation, Energy Resources and Production, IIT Kharagpur
8. Sahoo, S K, Galav, A, Behera, B, Sharma, S K and Singh, G S P (2016), "Strata control monitoring in a contiguous seam depillaring working", RARE 2016, Bangalore, 348-352
9. Yadav, A and Singh G S P (2016), "Assessment of Chain Pillar Stability in Complex Longwall Workings", INDOROCK 2016, IIT Mumbai.
10. Singh N P, Jamal A, Singh R P and Kishore N, (2017) Impact of Coal Quality on Longevity of Picks of Surface miner- A Case Study, DEEP16, International Conference held from 24 – 26 January,2017, IIT Kharagpur.
11. Rao M Mutyal, Patel R K and Kishore N., (2017) Planning and Deployment of Continuous Surface Miner at Moderate Depth Opencast Mine- A Blast Free Excavation Technique, DEEP16, International Conference held from 24 – 26 January,2017, IIT Kharagpur.

(d) Proceedings of National Conferences

1. Gaurav K Waretwar, Roshan Kumar Patel, S K Palei and Rajesh Rai, (2016), "Economic Evaluation of Air Pollution from Open Cast Mining", National conference on "National Conference On Sustainable Mining Practices" ,2-4 Dec, 2016 NIT-Roukela.
2. S.Snehal, Rajesh Rai, Ashok Jaiswal, K .Ram Chandar (2016), "Assessment on Statistical Prediction of Uniaxial Compressive Strength of Rocks" INDOROCK 2016: 6th Indian Rock Conference 17-18 June 2016.
3. Rizwan Hasim, Ashok Jaiswal and BK Shrivastva, (2016), "Numerical simulation of roof bolt system during depillaring operation in bord and pillar panel", Recent Advances in Rock Engineering (RARE 2016), 16 – 18 November 2016, Bengaluru, India, pp 69-73
4. Behera, B, Singh, G S P and Sharma, S K (2016), "Understanding Longwall Geo- mechanics for Improved Planning and Design of Longwall Workings – A Review", Proceedings of the National Conference on Sustainable Mining Practices, NIT Rourkela

16. Department of Pharmaceutical Engineering & Technology

Year of Establishment : 1932

Head of the Department : Dr. S.K. Singh

Brief Introduction of the Department :

Department of Pharmaceutics is a pioneer in Pharmaceutical education in India at University level. It was started in July 1932 by Prof. Mahadev Lal Schroff under the auspicious guidance of Mahamana Madan Mohan Malaviya Ji. A two-year course was introduced in 1934 for the degree of B.Sc. (Pharmaceutical Chemistry). The department has expanded academically by the inception of B.Pharm. in 1937, M.Pharm. in 1941, Ph.D. in 1945 and integrated dual degree (IDD) in 2006 as its regular programmes. The Department has produced over 2126 B.Pharm., 1184 M.Pharm., 52 M.Pharm.(Dual Degree) and 102 Ph.D. (as on May 2017) students who enjoy leading positions in industry, academia, drug administration, research institutes and contemporary pharmacy practice worldwide. The Department has also hosted many events at the National level and to name a few are the 17th, 34th & 59th editions of Indian Pharmaceutical Congress in the years 1965, 1982 & 2007 in conjunction with Silver Jubilee, Golden Jubilee and Platinum Jubilee of the Department, respectively.

Major areas of Research

The department is actively involved in the following broad research areas.

i. Drug discovery – Identification and optimization of new chemical agents from natural and synthetic origin for the treatment of diabetes, epilepsy, depression, pain, Alzheimer's, cancer, tuberculosis and other infectious diseases etc.

ii) Drug formulation design and development – Design and development of new drug delivery systems with improved pharmacokinetic and pharmacodynamic profiles.

Area of the Department (in square meters):

Total area of the Department: 62,677 Square feet

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	07
2	No. of Lecture Halls	01
3	No. of Laboratory	36
4	No. of Computers available for students in the Department/School/School	40

Unique Achievement / Preposition of the Department

Department of Pharmaceutics is the pioneer department to start the degree level pharmacy education in the Country and in South-east Asia. This department is known for its enormous contribution to the growth and expansion of pharmaceutical education and research across the country. In pursuit of achieving its goal, the department has been continuously imparting quality education to produce pharmacists befitting to the requirements of industry and society. Recently the department introduced a research based undergraduate and integrated dual degree curriculum to impart innovative research skills and expertise among the students.

On the research front, the department has been actively engaged in the cutting edge research areas of drug discovery and development. Apart from institute funded research projects, extramural research funding to the tune of about two crores has been generated during the last two years. On an average the faculty members of the department publish around 60 peer-reviewed research papers annually.

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	BO301	Microbiology and Biotechnology	9
2	PH311	Pharmaceutical Technology	11
3	PH331	General Pharmacotherapeutics	9
4	PH341	Natural Drugs and Excipients	8
5	PH301	Pharmaceutical Jurisprudence	6
6	PH321	Chemistry of Synthetic Drugs	9
7	PH312	Hospital and Clinical Pharmacy	9
8	PH322	Chemistry of Natural Drugs	9
9	PH332	Neuropharmacology	9
10	PH342	Industrial Pharmacognosy	9

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	49	39	14	13	---
2	Dual Degree	15	9	4	11	15
3	M. Tech/ M. Pharm	33	27	---	---	---
4	Ph. D (Under Institute Fellowship)	12	06	12	11	2
5	Ph. D (Under Project Fellowship)	---	2	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Rayala Swetha	15162009	DDNPTM 2016	18 to 20 November, 2016. NIPER Mohali	IIT BHU
2	Chandrim Gayen	15162013	23rd ISCB International Conference	February 8-10, 2017, Chennai	IIT BHU
3	Devendra Kumar	15161001	Cell culture workshop	International centre for stem cell, cancer and biotechnology, pune	Project (DBT)

4	Satheesh kumar S	13161011	2nd International conference on regulatory network Architecture in Bacteria	December 16-18, 2016, SASTRA University, Thanjavur	IIT BHU
5	Meraj Anjum	15161004	Indian Pharmaceutical Congress (IPC)	18/12/16-Vizag	IIT BHU
6	Bhavya Surekha	15162003	Indian Pharmaceutical Congress 49th	18/12/16-Vizag	IIT BHU
7	Uddipak Rai	14161013	Inadian Pharmacological Society	21-23rd oct 16	IIT BHU
8	Swati Prakash	14161011	49th Inadian Pharmacological Society	21-23rd oct 16	IIT BHU
9	Rinki Verma	12421 EN010	Indian Pharmaceutical Congress	18/12/16-Vizag	IIT BHU
10	Snehlata Rai	12421 EN008	Indian Pharmaceutical Congress	18/12/16-Vizag	IIT (BHU)
11	Swapnil G. Patil	16162033	Indian Pharmaceutical Congress	16, 17, 18-12-2016 Andhra university, Visakhapatnam (AP).	IIT (BHU) Varanasi.
12	Tarkeshwar Dubey	15162029	5th Biennial Conference DDNPTM-2016	18-20 November 2016 NIPER, S.A. S. NAGAR, MOHALI	IIT (BHU)
13	K. Bhanukiran	15162025	5th Biennial Conference DDNPTM-2016	18-20 November 2016 NIPER,S.A.S. NAGAR, MOHALI February 14-16, 2017, BHU	IIT, BHU
14	Vishnu M S	13164007	RACCB, International workshop on “Recent Developments in Chemistry, Biology and Applications of Carbohydrates”	February 14-16, 2017, BHU	IIT (BHU)
15	Vipin Sharma	16162037	Indian Pharmaceutical Congress	16-18, Dec 2016 Visakhapatnam (AP).	IIT BHU, Varanasi.
16	Nitin Kundu	15162005	DDNPTM 2016	18-20 Nov, 2016 NIPER Mohali	Self
17	Pooja Mittal	13161008	Conference	3-4 March, 2017, Jaipur	IIT (BHU)
18	Ramoji Kosuru	12621 EN004	Golden Jubilee Celebrations of Indian Pharmacological Society Eastern Region Conference	24-25 March, 2017 & Vijayawada, Andhra Pradesh	Student Travel Grant Support
19	Naveen Shivavedi	13161006	Indian Pharmacological Society Conference-2016	October 20-23, 2016, PGIMER, Chandigarh	IIT (BHU), Varanasi
ABROAD					
1	Srabanti Jana	14161009	52nd InternationalConference on Medicinal Chemistry (RICT-2016)	6-8 July 2016, Caen, France	IIT (BHU)
2	Pooja Mittal	13161008	Conference	17-20 July, 2016. Seattle, USA	DST and IIT BHU

Names of students/scholars who got prizes and awards outside the Institute

S. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Bhavya Surekha	15162003	1st prize in poster presentation	18-20 Dec. 2016	IPC
2	Nitin Kundu	15162005	1st prize in poster presentation	Departmental Level Prize on institute day held on 2nd April, 2016	
3	Nitin Kundu	15162005	2nd prize in working model	Departmental Level Prize on institute day held on 2nd April, 2016	
4	Pooja Mittal	13161008	WF-Young Scientist Award	3-4 march, 2017, jaipur	SPER
5	Priyanka Sharma	13161501	Prof V. Subba Rao 1st prize for excellence in national level power point competition 2016	POWER (Pharmacist's Organization for Women Empowerment and Research)	University of California, Riverside
6	Juhi Singh	13164003	2nd prize in Poster Presentation	Visakhapatnam	68th IPC
7	Ramoji Kosuru	12621 EN004	Prof. Govind Achari Award	25 March, 2017 & Vijayawada, Andhra Pradesh	Indian Pharmacological Society

Names of scholars/students who won Convocation/Institute Day prizes

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Mr.Abhishesh Kr Mehata Supervisor: Dr M S Muthu	15162001	PG level – 2nd Prize, Institute Day, IIT-BHU, 2017.	Dean R & D, IIT BHU.

Names of Students/Scholars who went for foreign Internship

S. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Ramoji Kosuru	12621 EN004	University of Hong Kong	Hong Kong	China	One year
2	Karan Arya	13164004	DAAD WISE 2016	University of Wuerzburg	Germany	May 11 - Aug 02, 2016
3	Juhi Singh	13164003	University of Leipzig	Leipzig	Germany	11th May 2017 to 31st July 2017
4	Ramoji Kosuru	12621 EN004	The University of Hong Kong	Hong Kong	Hong Kong	1 year

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Brameshwar Mishra (M.Pharm., Ph. D.)	Pharmaceutics - Rate Controlled Novel Drug Delivery Systems Nanotechnology based drug formulations Pharmacokinetics and Pharmacodynamics
2	Sushil Kumar Singh (M.Pharm., Ph.D.)	Pharmaceutical Chemistry - Chemistry of Natural Drug Products, Synthetic Analogues and Evaluation of their Biological Activity
3	Sanjay Singh (M.Pharm., Ph.D.)	Pharmacology - Nanomedicine, PK/PD Modeling, Stress and Diabetic Pharmacology
4	Sushant Kumar Shrivastava (M.Pharm., Ph.D.)	Pharmaceutical Chemistry - Rational Drug Design and Molecular Modeling
ASSOCIATE PROFESSORS		
1	A.K.Srivastava (M.Pharm.)	Pharmaceutics - Newer Drug Delivery System especially Oral Controlled Release Solid Dosage Form
2	S. Hemalatha (M.Pharm., Ph.D.)	Pharmacognosy - Pharmacognostical and Pharmacological Evaluation of Indian Medicinal Plants
3	Dr.Sairam, K (M.Pharm., Ph.D.)	Pharmacology - Neuropharmacology, Mitochondrial Medicine, New Drug Discovery, Organelle Targeted Drug Development
4	Senthil Raja A (M.Pharm., Ph.D.)	Pharmaceutical Chemistry - Synthetic Medicinal Chemistry, Computational Chemistry, Lead identification and Optimization
ASSISTANT PROFESSORS		
1	Alakh Niranjan Sahu (M.Pharm., Ph.D.)	Pharmacognosy - Quality control studies and standardization medicinal plants and herbal formulations
2	Sunil Kumar Mishra (M.Pharm., Ph.D.)	Pharmacognosy - Medicinal & Aromatic Plants (MAP) Research, MAP Tissue Culture, Natural Drugs
3	Ruchi Chawla (M.Pharm.)	Pharmaceutics - Nano-drug Delivery System and Pharmacokinetics
4	M.S. Muthu (M.Pharm., Ph.D.)	Pharmaceutics - Cancer Nanotechnology, Theranostics, Anti-psychotic nanomedicine
5	Prashanta Kumar Nayak (M.Pharm., Ph.D.)	Pharmacology - Brain injury; Memory impairment; Breast cancer; Gallbladder cancer
6	Gyan Prakash Modi (M.Pharm., Ph.D.)	Pharmaceutical Chemistry - Design, Development of Novel Drugs to Treat Infections and CNS Disorders
SENIOR RESEARCH OFFICER		
1	Ashok Kumar (M. Sc., Ph.D.)	Pharmaceutical Chemistry - Synthesis and Characterization of Novel Compounds

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Coordinator	Title	Period
1	Dr. A.N. Sahu	Spirit 2017	25-26 March 2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Alakh Niranjan Sahu	Global Initiative of Academic Network (GIAN), MHRD, Government of India – International Winter Term Course – 2016 on Natural Smart Materials for Biomedical Applications	07 -11November, 2016 Department of Chemistry, Dr. B R Ambedkar National Institute of Technology, Jalandhar
2	Alakh Niranjan Sahu	3rd Pan-Asian Biomedical Science Conference, Kuala Lumpur, Malaysia, Anti-Hypertensive Effect of Secoisolariciresinol Diglucoside containing aqueous extract of Flaxseed (Linum Usitatissimum Linn.)	7-8 December, 2016, Malaysia
3	Prof. B. Mishra	Advances in Engineering, Pharmaceutical and Applied Sciences	24th-26th February, 2017, Sagar Group Of Institutions, Bhopal
4	Prof. B. Mishra	Workshop during Pharmacy Research Week	8th-16th February, 2017, GTU, Ahmedabad
5	Prof. B. Mishra	Shotha and the unified theory of inflammatory diseases	7th February, 2017, Molecular Biology Unit, IMS (BHU), Varanasi.
6	Prof. B. Mishra	Essential Drugs List of Ayurveda by Ministry of Ayush	1st January, 2017, Dept. of Ras Shastra, Faculty of Ayurveda, IMS, BHU, Varanasi.
7	Prof. B. Mishra	Visioning Research and Innovation	20th August, 2016; Dept. of Ras Shastra, IMS, Banaras Hindu University, Varanasi.
8	Prasanta Kumar Nayak	Biostatistics and Research Methodology (Biostats 2016)	22-24 April 2016 (3 Days) CIENCIA Research Communications Private Ltd., Sardarpatel Nagar, Nizampet X Roads, Hyderabad-500085, Telangana, India

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	Prof. B. Mishra	Risk Management For Effective and Safe Medication	AEPAS, Sagar Group Of Institutions, Bhopal	26th February, 2017
2	Prof. B. Mishra	Expiry Dates and Effective Medication	During Pharmacy Research Week, at GTU, Ahmedabad	13th February, 2017
3	Prof. B. Mishra	Facts About Expiry Dates Of Ayurvedic Versus Modern Medicine	Dept. of Ras Shastra, Faculty of Ayurveda, IMS, BHU, Varanasi.	1st January, 2017

4	Prof. B. Mishra	Awareness of Effective Medication	During ISHAN VIKAS Programme, MHRD, Govt of India, at Dept. of Physics, IIT (BHU), Varanasi.	12th December, 2016
5	Prof. B. Mishra	Risk Management For Effective Medication	UGC- HRDC, BHU, Varanasi	25th November, 2016
6	Prof. B. Mishra	GMP- A Mantra For Quality Ayurvedic Products	Ministry of Ayush, at Dept. of Ras Shastra, Faculty of Ayurveda, IMS, BHU, Varanasi.	21st September, 2016
7	Prof. B. Mishra	Risk Management For Effective Medication	UGC- HRDC, BHU, Varanasi	1st June, 2016
8	Senthil Raja A	Current approaches to Molecular Modelling and Drug Design	Nirmala College of Pharmacy, Kerala	05 November 2016

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Alakh Niranjan Sahu	Malaysia	4.12.2016	11.12.2016	To present research poster in 3rd Pan-Asian Biomedical Science Conference	IIT (BHU)
2	Sushil K Singh	Italy	Sep 3 2016	Sep 9 2016	21st Euro QSAR	CPDA

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Prof. B. Mishra	"Distinguished HOD Award 2017", by CSI- Mumbai Chapter, Mumbai.
2	Prof. B. Mishra	"Distinguished Professor Award 2017", by CSI- Mumbai Chapter, Mumbai.
3	Prof. B. Mishra	"Pharma Ratan Award 2016", by Rab Di Meher (NGO), New Delhi.
4	Prof. B. Mishra	"Life Time Achievement Award", Aufau International Awards 2016 by Chemical Science Review and Letters.
5	Dr. Gyan Prakash Modi	Visiting Research Scientist, Dept of Biology, Brandeis University, Waltham, USA
6	Dr. M.S.Muthu	International Faculty Award (VIFA-2016), Venus International Foundation, Chennai, India.
7	Dr. M.S.Muthu	Best Young Scientist Award – 2016, Pearl Foundation, Madurai, India.
8	Dr. M.S.Muthu	BIRAC-DBT- Gandhian Young Technological Innovation (GYTI)Award – 2017, Techpedia SRISTI, Ahmedabad, India.

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	Gyan Modi, Shibin Chacko and Lizbeth Hedstrom.	Targeting purine biosynthesis for antibacterial drug design	RSC Advance, Antibiotic drug discovery, 2016

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/member)	Name of Journal
1	Prof. B. Mishra	Editorial Board Member	Recent Patents On Drug Delivery & Formulation
2	Prof. B. Mishra	Editorial Board Member	Scientific Times Journal of Cancer
3	Prof. B. Mishra	Associate Editor	Journal of Pharmaceutical Research
4	Dr. M.S.Muthu	Editor-in-chief	Research and reviews: pharmacology and toxicology studies
5	Dr. M.S.Muthu	Editorial board member	ISRN : Biomedical imaging
6	Prasanta Kumar Nayak	Editorial Board Member	Journal Of Research Innovation And Management Science (http://www.jrim.net/)
7	Prasanta Kumar Nayak	Managing Editor	The Pharmstudent (http://www.iitbhu.ac.in/phe/pharmsociety/pharmstudent.html)

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	High Performance Liquid Chromatography (Make: Waters) with PDA Detector	Rs: 15 Lakhs
2	Drying assembly for small organic compounds, Shaking water bath for biological assay, Rotavapor	Rs. 8 Lakhs
3	Animal cell culture laboratory (Bio safety chamber, cooling centrifuge, CO_2 incubator, inverted microscope)	15 lakhs
4	Computational and molecular modelling tools for drug design and development	15 Lakhs

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Design & Synthesis of Matrix Metallo proteinase(MMP 2 & 9) Inhibitors as therapeutic agents for Alzheimer's disease	3 year	DBT, India	78 lakhs	Sushil K Singh
2	Development of bioactive molecules as therapeutic agent for Alzheimer's disease and screening their toxicity	2 years	IIT BHU	15 lakhs	Sushil K Singh
3	Nanocarriers for brain delivery via intranasal route	2017	IIT(BHU)	15	Dr. Ruchi Chawla
4	Development and evaluation of Nanocarrier for Enhanced Antimicrobial activity of Anacardic Acid Against Plant and Human Pathogens	2014-2017	DST	65	Prof. Sanjay Singh

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	04
2	Total Number of Papers Published in Refereed International Journals	49
3	Total Number of Papers Presented in National Conferences	02
4	Total Number of Papers Presented in International Conferences	11

(a) Refereed International Journals

1. Shweta Gokhale and Alakh. N Sahu* (2016) Pharmacological properties of flaxseed, Linum usitatissimum Linn., as a potential medicinal plant: An overview. World J Pharm Sci 4(8): 207-215.
2. Shweta Gokhale and Alakh N Sahu*(2016) Effect of Aqueous Extract of Defatted Flaxseeds (Linum Usitatissimum Linn) on Fructose-Induced Hypertension in Rats by Inhibiting Angiotensin-Converting Enzyme (ACE). IOSR Journal of Pharmacy and Biological Sciences (IOSR-JPBS) 11 (6): 53-58.
3. H. Vardhan, P. Mittal, Sandeep Kumar Reddy A and B. Mishra (2017) Long circulating polyhydroxybutyrate-co-hydroxyvalerate nanoparticles for tumor targeted docetaxel delivery:Formulation, optimization and in vitro characterization. European Journal of Pharmaceutical Sciences 99: 85-94.
4. M. Bansal, N. Mittal, S.K. Yadav, G. Khan, B. Mishra and G. Nath (2016) Clinical evaluation of thermoresponsive and mucoadhesive chitosanin situ gel containing Levofloxacin and Metronidazole in the treatment of periodontal pockets – A split-mouth, clinical study. Journal Of Pierre Fauchard Academy (Indian Section) 30(1): 6-14.
5. G. Khan, R.R. Patel, S.K. Yadav, N. Kumar, S. Chaurasia, G. Ajmal, P.K. Mishra andB. Mishra (2016) Development, optimization and evaluation of tinidazole functionalized electrospun poly-(3-caprolactone) nanofiber membranes for the treatment of periodontitis. RSC Advances 17(6): 100214–100229.
6. G. Khan, S.K. Yadav, R.R. Patel, G. Nath, M. Bansal and B. Mishra (2016) Development and evaluation of biodegradable chitosan films of metronidazole and levofloxacin for management of periodontitis. AAPS PharmSciTech 17(6): 1312-1325.
7. S.K. Yadav and B. Mishra (2016) Preformulation studies on combination of ornidazole and doxycycline in pharmaceutical dosage forms: Infra-red spectroscopy and simultaneous ultra-violet method development. Journal Of Chemical And Pharmaceutical Research 8(8): 564-573.
8. R.R. Patel, S. Chaurasia, G. Khan, P. Chaubey, N. Kumar andB. Mishra (2016) Highly water soluble mast cell stabilizer encapsulated solid lipid nanoparticles with enhanced oral bioavilability. Journal of Microencapsulation33(3): 209-220.
9. S. Chaurasia, P. Chaubey, R.R. Patel, N. Kumar and B. Mishra (2016) Curcumin-Polymeric Nanoparticles Against Colon-26 Tumor-Bearing Mice: Cytotoxicity, Pharmacokinetic and Anticancer Efficacy Studies. Drug Development and Industrial Pharmacy 42(5): 694-700.
10. B. Mishra, R. Padaliya and R.R. Patel (2016) Exemestane Encapsulated Vitamin E-TPGS-Polymeric Nanoparticles: Preparation, Optimization, Characterization and In-vitro Cytotoxicity Assessment. Artificial Cells, Nanomedicine and Biotechnology (In Press)
11. M. Upadhyay, Sandeep Kumar Reddy A, G.V. Bonde, M.S. Muthu and B. Mishra (2017)Synthetic Hydrogels: Applications in Drug Delivery And Tissue Engineering. Austin Journal of Biomedical Engineering (In Press).
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Enhancement in bioavailability and glycemic control in diabetes. Nanomedicine11(11): 1465-1486.

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15. Rati K.P.Tripathi, Senthil Raja A Design, synthesis and evaluation of some 2-amino-6-nitrobenzothiazole derived hydrazones as MAO inhibitors - Role of methylene spacer group, ChemMedChem, 2016, 11 (14), 1551-1567.
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20. Sonali, P.Agrawal, R.P.Singh, C.V.Rajesh,S.Sanjay, M.R.Vijayakumar, B.L.Pandey, M.S.Muthu, (2016):Transferrin receptor-targeted vitamin E TPGS micelles for brain cancer therapy: preparation, characterization and brain distribution in rats. Drug Delivery. 23, 1788-1798.
21. S.Prakash,M.S.Muthu, and S.Singh (2016): Adiponectin enhancers: treatment options for obesity and diabetes. Research and Reviews: Journal of Pharmacology and Toxicological Studies. 4(1), 24-26.
22. R.P.Singh,G.Sharma, Sonali, S.Singh, S.C.U.Patne, B.L.Pandey, B.Koch, M.S.Muthu (2016): Effects of transferrin conjugated multi-walled carbon nanotubes in lung cancer delivery. Material Science and Engineering: C. C 67, 313-325.
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integration of diagnosis and therapy. Nanomedicine 12(6), 577-580.

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48. Agrawal, P., Singh, R.P., Sharma, G., Mehata, A.K., Singh, S., Rajesh, C.V., Pandey, B.L., Koch, B. and Muthu, M.S., 2017. Bioadhesive micelles of d-a-tocopherol polyethylene glycol succinate 1000: Synergism of chitosan and transferrin in targeted drug delivery. Colloids and Surfaces B: Biointerfaces, 152, 277-288.
49. Singh, R.P., Sharma, G., Singh, S., Bharti, S., Pandey, B.L., Koch, B. and Muthu, M.S., 2017. Chitosan-folate decorated carbon nanotubes for site specific lung cancer delivery. Materials Science and Engineering: C 77 (2017) 446–458.

(b) Refereed National Journal

1. B.Mishra and S.K.Yadav (2016) Recent advances in pharmaceuticalp packaging technology. Expressions. 59-60.
2. R.P.Singh, Sonali, A.K.Mehata, P.Agrawal, S.Singh, M.S.Muthu (2016): Carbon nanotubes: super-fabric tiny materials as lung cancer theranostics. The Pharmstudent. 27, 55-78.
3. Srivastava P, Kumar M, Nayak PK (2016), Role of patient derived cell lines and xenografts in cancer research. The Pharmstudent 27 (2016): 40-48.
4. Chawla R, Chauhan A, Transdermal Delivery of Nigella sativa Oil for Topical Application in 1-Chloro-2, 4-Dinitrobenzene- Induced Atopic Dermatitis in Rats, Journal of PharmaSciTech, 2016;6 (2): 1-9

(c) Proceedings of International Conferences

1. G. V. Bonde, S. R. Hardikar, A. Mane and B. Mishra. 2017. Formulation and evaluation of thermoreversible in situ gel for the treatment of prosthetic joint related infections. SPER 6th Annual International Conference and Exhibition (SPER 2017), Jaipur, India. 3-4 March, 2017.
2. G. Ajmal, S. Thokala, G. V. Bonde and B. Mishra. 2017. Development and evaluation of antimicrobial-loaded biodegradableelectrospunnanofiber for wound healing. SPER 6th Annual International Conference and Exhibition (SPER 2017), Jaipur, India. 3-4 March, 2017.
3. P. Mittal, H. Vardhan, G. V. Bonde, S. Thokala, M. Upadhyay and B. Mishra. 2017. Development and characterization of nanostructured lipid carriers of genistein for the treatment of ovarian cancer. SPER 6th Annual International Conference and Exhibition (SPER 2017), Jaipur, India. 3-4 March, 2017.
4. G. Khan, S. K. Yadav, M. Bansal and B. Mishra. 2017. Tinidazole functionalized electrospun poly (e-caprolactone) nanofiber membrane for the management of periodontitis. SPER 6th Annual International Conference and Exhibition (SPER 2017), Jaipur, India. 3-4 March, 2017.
5. J. Singh, U. Bairagi, S. Bhaseen, P. Mittal and B. Mishra. 2016. Preparation and evaluation of the effect of polyherbal (Ferulic Acid, Aloe Vera and Neem) hydrogel in diabetic wound healing. 68th IPC 2016, Visakhapatnam, India. 16-18 December, 2016.
6. K. Bharti, V. Sharma and B. Mishra. 2016. Development of buspirone hydrochloride loaded polymeric nanoparticles incorporated in fast dissolving oral film. 68th IPC 2016, Visakhapatnam, India. 16-18 December, 2016.
7. H. Vardhan, P. Mittal and B. Mishra. 2016. Quality-By-Design approach for formulation development of polymeric drug nanoparticle. 7th International Conference On “Stem Cells And Cancer (ICSCC-2016): Proliferation, Differentiation And Apoptosis.” Goa, India, 21-23 October, 2016.
8. M. Upadhyay, Sandeep Kumar Reddy A, H. Vardhan, P. Mittal, G. V. Bonde and B. Mishra. 2016. Development and optimization of hydrogel ipn microbeads for controlled delivery of an antineoplastic drug using locust bean gum and sodium alginate. 7th International Conference On “Stem Cells And Cancer

(ICSCC-2016): Proliferation, Differentiation And Apoptosis", Goa, India, 21-23 October, 2016.

9. Sandeep Kumar Reddy A, M. Upadhyay, H. Vardhan and B. Mishra. 2016. Design of experiment in the fabrication of polymeric gold nanoparticles. 7th International Conference On "Stem Cells And Cancer (ICSCC-2016): Proliferation, Differentiation And Apoptosis", Goa, India, 21-23 October, 2016.
10. P. Mittal, H. Vardhan and B. Mishra. 2016. Development, optimization and characterization of paclitaxel loaded nanostructured lipid carriers using Box Behnken design. 43rd annual meeting and exposition of "Controlled Release Society", Seattle, Washington, U.S.A., 17-20 July, 2016.
11. Sahu Alakh N, Shweta Gokhale and Nayak PK. 2016. Evaluation of Anti-Hypertensive Effect of SecoisolariciresinolDiglucoside containing aqueous extract of Flaxseed (LinumUsitatissimum Linn.). Proceedings of 3rd Pan Asian Biomedical Science Conference, Kuala Lumpur, Malaysia.

(d) Proceedings of National Conferences

1. S. K. Yadav, G. Khan, M. Bansal and B. Mishra (2016). Plackett-Burman experimental design for formulation of Chitosan-Ca-Aliginate Microspheres using emulsion internal gelation technique. National seminar on "Advances In Technology, Regulatory And Clinical Aspects In Controlled Drug Delivery Systems" at Delhi Pharmaceutical Sciences And Research University, New Delhi. Jul 15, 2016.
2. Srivastava P, Sahu AN, and Nayak PK (2016), Hippocampal electrophysiology technique as a tool to screen CNS active drugs.Proceedings 49thAnnual Conference of Indian Pharmacological Society, Chandigarh, Punjab, India.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

Article Details	Citations
DK Patel, SK Prasad, R Kumar, S Hemalatha An overview on antidiabetic medicinal plants having insulin mimetic property Asian Pacific journal of tropical biomedicine 2 (4), 320-330	276
DK Patel, R Kumar, SK Prasad, K Sairam, S Hemalatha Antidiabetic and in vitro antioxidant potential of Hybanthus enneaspermus (Linn) F. Muell in streptozotocin–induced diabetic rats Asian Pacific journal of tropical biomedicine 1 (4), 316-322	129
A Garg, S Singh Enhancement in antifungal activity of eugenol in immunosuppressed rats through lipid nanocarriers Colloids and Surfaces B: Biointerfaces 87 (2), 280-288	40
ZA Khan, R Tripathi, B Mishra Methotrexate: a detailed review on drug delivery and clinical aspects Expert opinion on drug delivery 9 (2), 151-169	54
R Kumar, DK Patel, SK Prasad, D Laloo, S Krishnamurthy, S Hemalatha Type 2 antidiabetic activity of bergenin from the roots of Caesalpinia digyna Rottler Fitoterapia 83 (2), 395-401	50

HPLC Systems: Sophisticated Instruments Laboratory, Department of Pharmaceutics, IIT (BHU)

FTIR – ATR Instrument, Sophisticated Instruments Laboratory, Department of Pharmaceutics, IIT (BHU)

Flash chromatography and Microplate Reader, Pharmaceutical Chemistry Research Lab, Department of Pharmaceutics, IIT (BHU)

17. Department of Chemistry

Year of Establishment : 1985

Head of the Department : Prof. Rashmi Bala Rastogi

Brief Introduction of the Department/School

The Department of Chemistry, IIT-BHU, previously known as Department of Applied Chemistry (Institute of Technology), was established in the year of 1985. Earlier this Department was functioning as a Section in the School of Basic Sciences in Banaras Hindu University-Varanasi. This Department currently constitutes 16 faculty members including 10 Professors, 1 Institute professor, 2 Associate Professors and 3 Assistant Professors. The prime responsibility of the department is to organize the teaching of chemistry courses in various B.Tech and integrated M.Tech programs. In addition, this department is also providing an excellent research platform to the students in various thrust areas of chemistry.

The Department of Chemistry offers a five year integrated M.Tech program in Industrial Chemistry and Ph. D programs in Organic, Inorganic, Physical and Analytical chemistry. More than 100 PhD's have been awarded from this department and about 50 students are currently pursuing their research. Research programs in the department have been supported by DST, CSIR, BRNS, UGC and AICTE. The department has recently received 85 lakhs from DST-FIST for the establishment of research and teaching facilities. The department is presently equipped with primary instruments including AAS, AFM, UV-Vis spectrophotometers, FTIR, and powder-XRD, etc.

Major areas of Research

Computational Chemistry, Nanoparticles for adsorption and catalytic applications;
Organic synthesis, Carbohydrate chemistry;
Organometallic Chemistry, Corrosion Inhibitors, Ant wear/Extreme Pressure Lubricant Additives

Area of the Department/School (in square meters):

503 square meter (Total Plinth Area)

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	03
2	No. of Lecture Halls	02
3	No. of Laboratory	03
4	No. of Computers available for students in the Department/School/School	10

Unique Achievement / Preposition of the Department/School

Department purchased Atomic Force Machine (AFM) under the DST-FIST Grant.
Resource person UPSC new delhi,2017.
Professor Incharge of NMR spectroscopy, CIF, IIT(BHU).

Academic Programmes offered

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	---	---	---	---
2	Dual Degree	21	17	12	13	08
3	M. Tech/ M. Pharm	---	---	---	---	---
4	Ph. D (Under Institute Fellowship)	29 Fellowships	---	---	---	---

5	Ph. D (Under Project Fellowship)	17 (Project: 03 + UGC: 09 + CSIR: 05 Fellowships)				
6	Ph. D (Under Sponsored Category)	---	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Ashutosh Kumar	12611 EN011	2nd international conference on Emerging Materials Characterization and application	15-17March Durgapur, West Bengal	Ashutosh Kumar
2	Sachin Mishra	13051005	Conference	12 Aug 2017, Aligarh Muslim University	Student Travel Grant Support, office of the Dean (Research and Development) & Department of Chemistry (3835)
			Workshop	29 May to 3rd June, IESD (BHU) Varanasi	NILL
3	Singh Veena Awadhesh	13051015	Second International Conference on Advanced Materials for Power Engineering (ICAMPE-2016)	Nov. 11-13, 2016 Mahatma Gandhi University, Kottayam, Kerala	Department of Chemistry and R&D (Finance section) IIT(BHU) Varanasi (Rs. 10,000/-)
4	Priyanka Chaudhary	14051007	International Conference on Organic Synthesis (icos)-2017	Date:11 December 2016- 9:15am to 16 December 2016 - 5:45pm Venue: Victor Menezes Convention Centre (VMCC) IIT Bombay, Powai	Department of Chemistry and R&D Finance section, IIT(BHU), Varanasi. (Total: Rs. 10,000)
5	Shubhangi Shukla	14051008	Conference at IISc Bangalore	11 – 16 Dec. J. N. Tata Auditorium Bangalore	STGS
			Conference/symposia at Guwahati University	1 – 5 Feb.	SELF
6	Deverapaga Madhu	14051009	2nd International Conference on Materials Science and Technology (ICMST – 2016)	5-8 June 2016	IIT(BHU), Varanasi
			Indo-german Workshop on Recent Application of Carbohydrates In Chemistry And Biology (raccb-2017)	14-16 Feb 2017	SELF
7	Shwarnima Singh	15051002	Workshop: GIAN Course on Nano-Chemistry	19th -23rd Dec. 2016 IIT(BHU)	SELF

Names of students/scholars who got prizes and awardsoutsidethe Institute

S. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Singh Veena Awadhesh	13051015	3rd Prize in oral presentation	Nov. 11-13, 2016 Mahatma Gandhi University, Kottayam, Kerala	Second International Conference on Advanced Materials for Power Engineering (ICAMPE-2016

Names of Students/Scholars who went for foreign Internship

S. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Jain Yash Manoj	14053005	Technical University of Darmstadt	Darmstadt	Germany	May 15 to Aug.11
2	Titto Sunil John	14053013	National University of Singapore	Singapore	Singapore	May 15 to July 21
3	Naman Katyal	15053004	Technical University of Darmstadt	Darmstadt	Germany	May 16 to Aug.16
4	Yashashwa Pandey	12411EN001	EPFL	Darmstadt	Switzerland	May 16 to Aug.16

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Prof. Rashmi Bala Rastogi	Organometallic Chemistry, Corrosion Inhibitors, Antiwear / Extreme Pressure Lubricant Additives
2	Prof. P. C. Pandey	Sensors Technology, bioelectrochemistry, Organically modified silicate based Nanomaterial and optoelectrochemistry
3	Prof. A. K. Mukherjee	Physical Chemistry, Computational Chemistry
4	Prof. S. H. Hasan	Nanomaterials, Nuclear Materials, Water Remediation
5	Prof. V. Srivastava	Synthetic Organic and Green Chemistry
6	Prof. Y. C. Sharma	Renewable Energy and Bio-fuels, Development and characterization of heterogenous catalysts, Synthesis and application of nanoadsorbents, Macrophytes for Uptake of Metallic Species from industrial effluents.
7	Prof. Dhanesh Tiwary	Bioremediation, composites for photoderadation, Development of surface functionalized iron oxide and mesoporous silica
8	Prof. K. D. Mandal	Electro -Ceramics, Nano-materials, Materials Chemistry, Solid State Chemistry
ASSOCIATE PROFESSORS		
1	Dr. Sundaram Singh	Synthetic Organic Chemistry, Microwave Assisted Organic Synthesis
2	Dr. Indrajit Sinha	Chemistry of nanomaterials and Computational Chemistry

ASSISTANT PROFESSORS		
1	Dr. Manisha Malviya	Synthesis of Metal oxide nanoparticles, renewable energy, photo electrochemistry, bio electrochemistry, alkaline fuel cell
2	Dr. Jeyakumar Kandasamy	Organic Synthesis, Carbohydrate Chemistry
ASSISTANT PROFESSORS		
1	Prof. M. A. Quraishi	Corrosion Inhibition & Green Chemistry

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	Dr. Jeyakumar Kandamsay (Convener and secretary)	Indo-German workshop on Recent Applications of carbohydrates in Chemistry and Biology (RACCB-2017).	Feb-14-16,2017
2	Dr. Indrajit Sinha	GLOBAL INITIATIVE ON ACADEMIC NETWORK {GIAN) workshop entitled “Nanochemistry: From Preorganized Molecular Architectures to Functional Materials”	Dec. 19 -23, 2016
3	Prof. Dhanesh Tiwary	International conference on 'Recent advances in Analytical sciences RAAS-2016	7-9 April 2016

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr. Jeyakumar Kandamsay	Sustainable Environment and Energy,	6^{th} -7^{th} APRIL 2017, Hindustan University, Chennai, INDIA
2	Dr. Jeyakumar Kandamsay	Recent Innovations in Organic Synthesis -2016 (RIOS-2016)	15^{th} and 16^{th} Dec. 2016, Periyar University, Salem – 636011, INDIA
3	Dr. Jeyakumar Kandamsay	1^{ST} Biomolecular Systems international Conference, Max- Planck institute	Nov. 11-13, 2016 at Berlin, Germany
4	Dr.Indrajit Sinha (International conference on catalysis and chemical engineering)	Kinetic evaluation of p-nitrophenol reduction by a green hydrogen source in presence of Ag-Cu bimetallic nanoparticles	22-24 Feb. 2017, Baltimore, USA
5	Prof. Yogesh Chandra Sharma	National Conference on Environmental Issues: Challenges and Solutions, Ranchi National Conference on Desalination and Water Purification for Defence and Civil Applications, Defence Laboratory, Jodhpur	Feb 23-24, 2017, NIFFT, Ranchi March 22,23, 2017, Defence Laboratory, Jodhpur

Special lectures delivered by faculty members in other institutions

S. No.	Name of faculty Member	Topic of Lecture	Institution	Date
Seminars/Symposia/Conferences				
1	Prof. M. A. Quraishi	QIP Program	IIT Dhanbaad	07th June 2017
		Recent Advances in Corrosion Inhibition Science and Technology, International Conference	SRM University, Chennai, Tamil Nadu	15-17 Feb 2017
		QIP Program on Corrosion of Steel and its control	Department of Metallurgy IIT BHU Varanasi	09th Mar 2017
		Recent Advances in Fundamental and Applied Sciences	Lovely Professional University, Punjab.	Nov 2016
		18th National Conference on Corrosion and its Control	Chennai	Feb 2016
2	Prof. P. C. Pandey	"Alkoxysilane mediated synthesis of Functional Nanomaterial and their applications".	IIT (Roper)	21 June 2016
		"Synthesis of Functional Nanomaterial and their applications".	Tezpur University	23 Aug 2016
3	Prof. Yogesh Chandra Sharma	25 Nov 2016, INSPIRE lecture MC Saxena College of Engineering, Lucknow	Air Pollution and Air Pollution Control	25 Nov 2016, INSPIRE lecture MC Saxena College of Engineering, Lucknow
		Feb 23-24, 2017 National Conference on Env. Issues: Challenges and Solutions, Ranchi	Nano adsorbents for water remediation	Feb 23-24, 2017 National Conference on Environmental Issues: Challenges and Solutions, Ranchi
		March 22,23, 2017 National Conference on Desalination and Water Purification for Defence and Civil Applications, Defence Laboratory, Jodhpur	Application of nano adsorbents for remediation of metal-contaminated water "	March 22, 23, 2017 National Conference on Desalination and Water Purification for Defence and Civil Applications, Defence Laboratory, Jodhpur

Best Poster Award: Paper title: Biodiesel as a substantial source of renewable energy: Production and optimization by using -potassium dizirconate (- K2Zr2O5) as a heterogeneous catalyst Presentation: Oral [3rd prize] Conference title: Second International Conference on Advanced Materials for Power Engineering (ICAMPE-2016) , Date: November 11-13, 2016 Venue: Mahatma Gandhi University, Kottayam, Kerala

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Jeyakumar Kandamsay	Germany	9th Dec 2016	16th Dec 2016	Conference	Indo-German-Project
2	Dr. Indrajit Sinha	Baltimore, USA	20th Feb 2017	26th Feb 2017	Conference	CPDA
3	Yogesh Chandra Sharma	Malaysia	20 July 2016	27 July 2016	Attending a International Conference	CPDA
4	Dr. Sundaram Singh	Frankfurt, Germany	03 Sept 2016	07 Sept 2016	For attending conference	CPDA

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Prof. M. A. Quraishi	Offered ChairProfessorship(byInvitation) inKingFahdUniversity of Petroleum andMinerals (KSA). Nominated as Scientific chair at International conference of Chemical Process and Modelling Forum (CPMF-2017) Sharjah, UAE. Highestscoreofh-index andcitations inIndia and Asia in the field of corrosion inhibition of science and technology, as per Scopusanalysis. Global rank 2nd on the basis of h-index and citations in the field of corrosion science and technology.
2	Yogesh Chandra Sharma	Hiyoshi Environment Award, 2016 (17 Sep 2016)

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	Dr. Jeyakumar Kandasamy (Co-Author)	"Recent Developments in Automated Oligosaccharide Synthesis: Techniques and Applications"	John Wiley & Sons, New York City, New York, United States
		"Carbohydrates in drug discovery Insights into sulphated marine polysaccharides"	CRC Press Taylor & Francis Group

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. M. A. Quraishi	MemberofEditorialBoard	International Journal of Corrosion and Scale Inhibition, Moscow Russia (ISSN 2305-6894).
2	Prof. M. A. Quraishi	MemberofEditorialBoard	Advances in Nano-materials and Corrosion (Guest Editor, ISSN:2352-0957).
3	Yogesh Chandra Sharma	Member	Energy Conversion and Management, Elsevier

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)	Date of installation
1	Benchtop NMR (SP43C1E1)	38 lakhs	04 Aug 2016
2	Particle Size Analyzer (ZEN3600)	21,83,939 lakhs	09 Nov 2016

Patents filed

1. A process for making silica beads encapsulated functionalized palladium nanoparticles for selective hydrogen evolution, Indian Patent 2016110028329.
2. A process for polyethylenimine and organic reducing agent mediated synthetic insertion of gold nanoparticles within mesoporous silica nanoparticles and their biomedical applications. Indian Patent 201611052267
3. A process for making functional alkoxysilane stabilized nickel-palladium bimetallic nanocrystallite for catalytic hydrogen evolution therefrom;, Indian Patent 201611042020.
4. A Process for Making Enzyme Immobilized Mesoporous Silica-Alginate Beads and Novel Clinical Assay System Therefrom 201711008944.

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	De Novo Synthesis of orthogonally protected uronic acid building blocks: Access to various important oligosaccharides	2015-2018	DST-SERB	28.00	Dr. Jeyakumar Kandasamy
2	"Photolabile Protected Monsaccharides: Synthesis and Application to Oligosaccharides Synthesis Using a Continuous Flow Photoreactor	2016-2019	Indo-German DST-MPI	95.00	Dr. Jeyakumar Kandasamy
3	Evaluation and optimization of biodiesel production from microalgae	2015-2018	DST	61	Prof. Y.C. Sharma

Research Publications

S. No.	Name of Faculty Member	No.
1	Total Number of Papers Published in Refereed National Journals	---
2	Total Number of Papers Published in Refereed International Journals	103
3	Total Number of Papers Presented in National Conferences	05
4	Total Number of Papers Presented in International Conferences	13

(a) Refereed International Journals

1. Kalyani, V. Jaiswal, R.B. Rastogi, D. Kumar, P. Singh, evaluation of tribological properties of sulphur-and phosphorous-free quinolinium salts and their correlation with quantum chemical parameters,Tribol. Trans., 60,349-361, 2017.
2. Kalyani, V. Jaiswal, R.B. Rastogi, D. Kumar, Synergistic studies of Schiff base with organoborate as efficient antiwear lubricant additive, Proc. IMechE Part J: J Engineering Tribology, 231, 357-365, 2017.
3. Kalyani, R.B. Rastogi, D. Kumar, Synthesis, characterization and tribological evaluation of SDS stabilized magnesium-doped-zinc oxide ($Zn_{0.88}Mg_{0.12}O$) nanoparticles as efficient antiwear lubricant additives, ACS Sustainable Chem. Eng., 4, 3420-3428, 2016.
4. V. Jaiswal, Kalyani, S. Umrao, R.B. Rastogi, R. Kumar, A. Srivastava, synthesis, characterization, and tribological evaluation of Tio2-reinforced boron and nitrogen co-doped reduced graphene oxide based hybrid nanomaterials as efficient antiwear lubricant additives, ACS Appl. Mater. Interface., 8, 11698-11710, 2016
5. Singh, A. K. Tiwari, V. Mishra, K.B., Gupta S. and Kandasamy J.Urea-hydrogen peroxide prompted selective and controlled oxidation of thioglycosides into Sulfoxides and Sulfones, Beilstein J.Org.Chem., 2017, 13, 1139–1144.
6. Gupta, S.; Sureshbabu, P.; Singh, A. K.; Sabiah, S. Kandasamy, J.* Deoxygenation of tertiary amine N-oxides under metal free condition using phenylboronic acid Tetrahedron. Lett., 2017, 58, 909-913.
7. Chaudhary, P.; Gupta, S.; Popuri, S.; Sabiah S.; Kandasamy, J.* A metal free reduction of aryl-N-nitrosamines to corresponding hydrazines using sustainable reductant thiourea dioxide, Green Chem., 2016, 18, 6215–6221.
8. Gupta, S.; Chaudhary, P.; Srivastava, V.; Kandasamy, J.* A chemoselective ipso-hydroxylation of arylboronic acids using urea-hydrogen peroxide under catalyst free condition, Tet. Lett.,2016, 57, 2506–2510.
9. Chaudhary, P.; Gupta, S.; Muniyappan, N.; Sabiah S.; Kandasamy, J.* An efficient synthesis of N-nitrosamines under solvent, metal and acid free conditions using tert-butyl nitrite, Green Chem., 2016 18, 2323-2330.
10. A. D. Verma, R. K. Mandal and I. Sinha* Glycerol as green hydrogen source for catalytic reduction over anisotropic silver nanoparticles, RSC Advances, 6, 103471, 2016.
11. A. D. Verma, N. Jain, S. K. Singha', M. A. Quraishi, and I. Sinha* Green synthesis of curcumin stabilized silver nanoparticles and their catalytic applications, J. Chemical Science, 128, 1871, 2016.
12. P.N. Singh, D. Tiwary, I. Sinha* Hexavalent chromium removal from aqueous solutions by superparamagnetic starch functionalized magnetite nanoparticles, Desalination and Water Treatment, 57, 12608, 2016.
13. S. K. Alla, A. D. Verma, V. Kumar, R. K. Mandal, I. Sinha* and N. K. Prasad, Solvothermal synthesis of CuO–MgO nanocomposite particles and their catalytic applications, RSC Advances, 6, 61927, 2016.
14. C. Verma, M.A. Quraishi, K. Kluza, M. Makowska-Janusik, Corrosion inhibition of mild steel in 1M HCl by D-glucose derivatives of dihydropyrido [2,3-d:6,5-d] dipyrimidine-2, 4, 6, 8(1H,3H, 5H,7H)-tetraone. Scientific Reports (Nature) (2017) | 7:44432 | DOI: 10.1038/srep44432.

15. P. Dohare, K. R. Ansari, M.A. Quraishi*, I.B Obot, Pyranpyrazole derivatives as novel corrosion inhibitors for mild steel useful for industrial pickling process: Experimental and Quantum Chemical study. Journal of Industrial and Engineering Chemistry, 52 (2017) 197–210.
16. J. Haque, K.R. Ansari, Vandana Srivastava, M.A. Quraishi*, Pyrimidine derivatives as novel acidizing corrosion inhibitors for N80 steel useful for petroleum industry: A combined experimental and theoretical approach. Journal of Industrial and Engineering Chemistry 49 (2017) 176–188.
17. N. Chaubey, V.K. Singh, M. A. Quraishi, Electrochemical approach of Kalmegh leaf extract on the corrosion behavior of aluminium alloy in alkaline solutionInt J Ind Chem (2017) 8:75–82.
18. J. Haque, Vandana Srivastava, C. Verma, M.A. Quraishi, Experimental and quantum chemical analysis of 2-amino-3-((4-((S)-2-amino-2-carboxyethyl)-1H-imidazol-2-yl)thio) propionic acid as new and green corrosion inhibitor for mild steel in 1 M hydrochloric acid solution. Journal of Molecular Liquids 225 (2017) 848–855.
19. C. Verma, Eno E. Ebenso, M.A. Quraishi, Ionic liquids as green and sustainable corrosion inhibitors for metals and alloys: An overview. Journal of Molecular Liquids 233 (2017) 403–414.
20. R.K. Gupta, Manisha Malviya, C. Verma, M.A. Quraishi, Aminoazobenzene and diaminoazobenzene functionalized graphene oxides as novel class of corrosion inhibitors for mild steel: Experimental and DFT studies. Materials Chemistry and Physics 198 (2017) 360-373.
21. R.K. Gupta, Manisha Malviya, C. Verma, N.K. Gupta and M. A. Quraishi, Pyridine-based functionalized graphene oxides as a new class of corrosion inhibitors for mild steel: an experimental and DFT approach, RSC Adv., 2017, 7, 39063–39074.
22. J. Haque, V. Srivastava, C. Verma, M.A. Quraishi Amino Acid based Imidazolium Zwitterions as novel and green corrosion inhibitors for mild steel: Experimental, DFT and MD studies, Journal of Molecular Liquids (2017) In press
23. N.K. Gupta, P G Joshi, V. Srivastava, M.A. Quraishi, Chitosan: A macromolecule as green Corrosion Inhibitor for mild steel in sulfamic acid useful for sugar industry, International Journal of Biological Macromolecules (2017). In press
24. K. R. Ansari, M. A. Quraishi. Corrosion inhibition of N80 steel in 15% HCl by pyrazolone derivatives: electrochemical, surface and quantum chemical studies. RSC Adv., 6, (2016) 24130–24141.
25. C. Verma, and M. A. Quraishi, 2,4-Diamino-5-(phenylthio)-5H-chromeno [2,3-b] pyridine-3-carbonitriles as green and effective corrosion inhibitors: gravimetric, electrochemical, surface morphology and theoretical studies., RSC Adv., 6, (2016) 53933–53948.
26. C Verma and M. A. Quraishi., 5-Arylpyrimido-[4,5-b]quinoline-diones as new and sustainable corrosion inhibitors for mild steel in 1 M HCl: a combined experimental and theoretical approach. RSC Adv., 6, (2016) 15639–15654.
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28. P. Singh, and M.A. Quraishi, Electrochemical, Theoretical, and Surface Morphological Studies of Corrosion Inhibition Effect of Green Naphthyridine Derivatives on Mild Steel in Hydrochloric Acid.. The Journal of Physical Chemistry C 120 (2016), 3408- 3419.
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98. Somaiah Gajaganti, Sundaram Singh, Vandana Srivastava(2017) Superoxide Mediated New, Convenient Multicomponent Synthesis of Xanthene Derivatives Using Tetraethyl Ammonium Bromide as Phase Transfer Catalyst, IJIRSET ,vol 6, Issue 7,(2017), 15094
99. Somaiah Gajaganti, ShivamBajpai, Vandana Srivastava, Sundaram Singh (2017), An Efficient Room Temperature Oxygen Radical Anion ($O2^-$) Mediated One–Pot Multi–Component Synthesis of Spirooxindoles , Canadian Journal of chemistry, In press.
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103. ShivamBajpai, Vandana Srivastava, Sundaram Singh,(2017), Monoclinic zirconia nanoparticle -catalyzed regioselective synthesis of some novel substituted spirooxindoles through one-pot multicomponent reaction in a ball mill: A step toward green and sustainable chemistry, Synthetic Communicationshttps://doi.org/10.1080/00397911.2017.1336244.

(b) Proceedings of International Conferences

1. R.K. Gupta, A.D. Verma, M. Maliya and I. Sinha Oxygen reduction reaction (ORR) of Ag nanoparticles etched by Cu Salt in different ratio. Recent Advances in Analytical Sciences (RAAS-2016) held at Department of chemistry IIT (BHU) Varanasi- 221005
2. P. Singh, Ankita Ojha…. D. Tiwary and P.K. Mishra, Emerging Trends in Photodegradation of Petrochemical Wastes: A Review. Environmental Science and Pollution Research Published online Aug. 2017.
3. P. Singh, Rajat Jain, Neha Srivastavaw…. D. Tiwary and P.K. Mishra Current and emerging trends in bioremediation of petrochemical waste: A review, Critical Review in Environ Sci. 47, 155-201 (2017).
4. P. Singh,…Neha Srivastavw,….D. Tiwary and P.K. Mishra Effort of nanoscale TiO2- activated carbon composite on Solanum lycopersicum (L). and Vigna radiate (L). seeds germination, Energy Ecology and Environment, 2016.
5. P. Singh,…Vishnu MC,…D. Tiwary and P.K. Mishra, Photocatalytic degradation of acid red dye in the presence of activated carbon-TiO2 composite and its kinetic enumeration, J. Water Process Engg. 12, 20-31(2016).
6. Synthesis of Sphere-Like Nano-crystalline Co3O4 Spinel via a Simple Homogeneous Preciptation Method. R. Kant Sharma, P. Gautam, A. Kumar and K. D. Mandal, Materials Today: Proceeding 4 (2017) 5667-5671.
7. Low temperature processing of dielectric perovskites for energy storage N. B. Singh, Ben Schreib, Michael Devilbiss, Julian Loiacono, Bradley Arnold, Fow-Sen Choa and K. D. Mandal, Proc. Of SPIE Vol. 9865 (2016) 986509-1-6.
8. Ankush Mishra, Sundaram Singh, Vandana Srivastava,2016,Green and Efficient Synthesis of Indeno Derivatives of Ninhydrin on Water,International Conference on Advances in Recent Analytical Science, Department of Chemistry, Indian Institute of Technology (BHU), Varanasi, pp. 164, 7-9 April, 2016.
9. PratibhaVarma ,Swati Chauhan, Ankush Mishra, Dr. S. Singh, Prof. V Srivastava Synthesis of some biologically active fused thiazole derivatives under Microwave condition Indo-German workshop: RACCB- Feb 14-16,2017 Indian Institute of Technology (BHU), Varanasi, UP-221005
10. SavitaKumari ,Dhirendra Kumar, V.Srivastava and Sundaram Singh*,Bentonite clay catalysedone pot multicomponent synthesis of some novel pyrano (2, 3-d) pyrimidine -2,4,7-triones under sonication,Indo-German workshop: RACCB- Feb 14-16,2017, Indian Institute of Technology (BHU), Varanasi, UP-221005
11. Dhirendra Kumar SavitaKumari, S.Singh*,Synthesis of some Novel Schiff's bases of 4-(4-(4-bromophenyl)-6-(4-chlorophenyl)-2-aminopyrimidine and isatin,Indo-German workshop: RACCB-Feb 14-16,2017, Indian Institute of Technology (BHU), Varanasi, UP-221005.
12. Somaiah Gajaganti, Bharat Kumar Allam, Jeyakuar Kandasamy and Sundaram Singh,A Green and Efficient Synthesis of 2,4,6-Triarylpyridines by Using L-Proline as a CatalystIndo-German workshop: RACCB- Feb 14-16,2017,Indian Institute of Technology (BHU), Varanasi, UP-221005
13. AnkushMishra,SwatiChauhan,PratibhaVarma, Dr. S. Singh, Prof. V SrivastavaGreen Synthesis of heterocyclic quinoxaline, oxazine and thiazine derivative derived from Ninhydrine, Indo-German workshop: RACCB- Feb 14-16,2017, Indian Institute of Technology (BHU), Varanasi, UP-221005

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years.

1. M Mohammad, TK Hari, Z Yaakob, YC Sharma, K Sopian, Overview on the production of paraffin based-biofuels via catalytic hydrodeoxygenation, Renewable and Sustainable Energy Reviews 22, 121-132, 2013; CITATIONS 89
2. Adsorption characteristics of modified sand for the removal of hexavalent chromium ions from aqueous solutions: Kinetic, thermodynamic and equilibrium studies, Catena, 100, 120-127(2013), Citations 78
3. V Srivastava, D Gusain, YC Sharma,Critical review on the toxicity of some widely used engineered nanoparticles, Industrial & Engineering Chemistry Research 54 (24), 6209-6233(2015), CITATIONS 47
4. Uma, Sushmita Banerjee, Yogesh Chandra Sharma, Equilibrium and kinetic studies for removal of malachite green from aqueous solution by a low cost activated carbon(Article), Journal of Industrial Engineering Chemistry, 19(4)1099-1105(2013), Citations 45
5. AL Srivastav, PK Singh, V Srivastava, YC Sharma,Application of a new adsorbent for fluoride removal from aqueous solutions,Journal of hazardous materials 263, 342-352(2013) ; CITATIONS 41

Distinguished Visitors(From 1st April 2016 to 31st March 2017)

S. No.	Name of Author/Co- Author	Title	Publisher
1	Prof. Sanjay Mathur (Director, Institute of Inorganic Chemistry, University of Cologne in Germany)	December 19 -23, 2016	Foreign expert GIAN workshop

Other activities

International collaboration/achievements by the Department/School(From 1st April 2016 to 31st March 2017)

1. Bilateral collaboration between IIT(BHU) and Laboratoir de Chimiephysiqueet Microbiologiepour l'Environnement, UMR 7564 CNRS, Université de Lorraine, 405 rue de Vandoeuvre, 54600 Villers-les-Nancy, France.
2. Bilateral collaboration between IIT(BHU) and Joint Department of Biomedical Engineering, University of North Carolina and North Carolina State University, Raleigh, North Carolina 27599.

Indian Faculty visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Sanjay Mathur (Director, Institute of Inorganic Chemistry, University of Cologne in Germany)	December 19-23, 2016	Foreign expert GIAN workshop

Any other Information

Twenty Ph.D. Awarded.

18. Department of Physics

Year of Establishment : 1985

Head of the Department : Dr. Debaprasad Giri

Introduction

Department of Physics (formerly Department of Applied Physics, IT, BHU / Applied Physics Section, 1968) established in 1985, is a center of excellence for quality research and teaching in Physics & Applied Physics. Faculties of the department have been pursuing cutting edge front line research in various areas and in collaboration with prestigious national and international institutes. The department also offers an excellent research programme in the field of Space Science, Solar Physics, Plasma Physics, Fibre Optics, Photonics & Optoelectronics, Condensed Matter & Materials Physics, Energy Studies, Remote Sensing, Biophysics and Nano-Technology.

Major areas of Research

The Department offers research programmes in the field of Solar Physics & Space Physics, Fibre Optics, Photonics & Optoelectronics, Condensed Matter Physics & Materials physics, Microwave Remote Sensing, Bio-physics and Composite Materials, Energy Studies & Solid State Ionics.

The department has a rich heritage and history of scientific research in space physics including theoretical study of the planetary atmosphere. In the mid 1970s, the whistler wave at low latitude were recorded for the first time and published in the prestigious "Nature" by the group of our department. $(SP)^2RG$ has been making significant contributions to the theory and modeling of solar plasma in optical, ultraviolet, X-ray, gamma-ray, and in the atomic spectroscopy – especially in the field of diagnostics of electron and proton beams and of the plasmas they heat. This group has been making seminal contributions in the areas of 'MHD waves and transients in the solar atmosphere' and also in 'science communication'. Theoretical calculations related to pitch-angle, cross-sections, scattering are also being carried out. The SP^2RG has equipped with VLF-Antenna for upper Earth atmospheric measurements; Advanced Solar Computation and Analyses Laboratory (ASCAL) to analyse the large-scale solar observational data and model its magnetic atmosphere. SP2RG has global collaborations (e.g., UK, Poland, Russia, China, Austria, Spain, USA, Belgium, etc) as well as participation in international (e.g., Royal Society; Polish National Science Foundation etc.), and national (e.g., 2m- National Large Solar Telescope; Aditya-I) projects.

The Department carries out a wide range of frontier research activities related to magnetism and superconductivity and semiconductors, nanostructures, thin films and nano-materials and is backed by many sophisticated equipment and measurement techniques. Though the main emphasis of these works is on fundamental aspects, many of the results have a potential for application in industries. In the materials science, we study the electronic, physical, mechanical, optical, and chemical properties of materials, most often in relation to their structure, and use this knowledge to understand and optimize their properties and create new, improved materials and devices. Work in Soft Condensed Matter and Bio-physics is also a front-line research area of the department. "Soft" condensed matter research explores areas like adhesion, friction, wetting, the movement of fluids in porous media, understanding recent single molecule force spectroscopy experiments on biopolymers, Polymers under shear flow, etc. Biophysics group study the protein/peptide folding and, misfolding, self assembly into higher order nano- and micro- structures, and there interaction with Graphene Oxide for biomedical, environmental and nanotechnology applications using various experimental techniques and computational methods.

Photonics and Fiber optics is emerging new field of research in our country. We establish a research lab with essential facilities to pursue the theoretical and experimental researches in the field of Photonics. We are engaged in the theoretical analysis of photonic crystals and quasi photonic crystals composed of graded, dispersive and negative index materials. These works would be useful in study of the photonic crystals having such type of materials for various applications. It will open new window to design several photonic crystal devices like sensors, reflectors, switches etc.

Many projects have been sanctioned in the department to different research groups. The Department has facilities for materials synthesis, measurements, Thin-film growth etc. Characterization tools range from optical spectroscopies, such as photoluminescence is available. Structural property is determined using X-ray diffraction measurements in the department. For measurements of magnetic properties at low temperature (~10K) ac-susceptometer is installed, while set-up for transport properties measurement at low temperature is also available. DTA-TGA for thermal properties measurement, LCR meter / Impedance Analyzer for electrical characterization and sample synthesis units are also available in the Department.

Research on remote sensing is also one of the frontline research areas in the Department. In this field, the growth of agricultural crops are monitored, classification of crops and the recognition of shape/size of buried objects are done by scatterometer measurements and satellite image analysis. Such studies are useful in designing of sensors, urban planning, crop classification, crop-yield and soil moisture estimation for agricultural planning.

Moreover, one of the group is actively engaged in different types of luminescent materials, particularly inorganic nanostructures/phosphors having potential applications in the area of energy harvesting, bio-imaging and for advance lighting applications, etc. Composite material studies are also pursued at the Department and the lab for such studies is in development.

Research in the field of Green Energy and Solid State Ionics is also carried out in this Department. The energy studies explore the various fuel cells, materials, etc to optimize the renewable energy sources. In the Green Energy area, the work on anode, cathode and electrolyte materials of Solid Oxide Fuel Cells (SOFC) is in focus. Also, preliminary establishment of lab towards the fabrication and characterization for Solar cells has been done. In addition to it, some work on hydrogen energy has also been started. Towards Solid State Ionics, the ion dynamics of the structurally disordered and crystalline materials is being studied. This study is not only restricted to the amorphous materials but also has been extended to the various materials of SOFC. Also, the work has also been started in the field of materials for nano piezo- pyro energy harvesters.

Area of the Department (in square meters) : 1844 Square Meters

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	01
2	No. of Lecture Halls/Seminar Room	01
3	No. of Laboratory	16
4	No. of Computers available for students in the Department/School/ School	33

Unique Achievement / Preposition of the Department

Department's vision is to promote new ideas and innovations in physical sciences. Our mission is to offer world class education, research guidance and also leadership in physical sciences. Our aim is to become a high ranking in Physics Department globally in terms of teaching quality, research contributions and academic leadership.

Under new curriculum process (which Institute has started in 2014) Department offers two physics courses at B.Tech-Part-I level as an institute science course, and two physics courses to preparatory students. We have also offered several electives and open electives under this new curriculum. Our 5-year Integrated M. Tech. programme (IMD) in Engineering Physics which started in 2005 has been converted to Integrated Dual Degree (IDD) Programme from 2014 and is running successfully. Main objective of this course is to impart knowledge of various core technical disciplines without compromising on the basic physics and mathematics courses. The course gives an insight to the disciplines of engineering as well as science, and practical working experience through industrial training / summer internship, project / dissertation work to enhance the working skills of the students.

Students of Engineering physics are awarded with several fellowships to go abroad to pursue higher studies, involved in several project works in both science and technology, present their research works in different workshop/conference/symposia. They also pursue summer internship in industries and reputed institutions/universities in India and abroad. Many of these students are also recruited by reputed national and multinational companies.

Department has a strong Ph. D. programme in the above mentioned specializations and about 85 Ph.D students received their degree so far. Many of our alumni (Ph.D., IMD) are well placed in reputed Institutes / University in India and abroad.

Department has a strong component to deliver popular science lecture and publish articles in magazines line Scientific American and news papers.

Faculty members in the Department working in the frontier areas of research have published in International journals of high impact factor (e.g. Nature Comm., JACS, PRL, PRE, Astrophysical Journal, Solar Physics, Astronomy & Astrophysics, MNRAS, J. Mat. Chem., RSC Adv. etc.). In this year Department successfully organized one International Conference "Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017, 19th to 23rd February, 2017)", GIAN Course Work on "12th to 22nd September, 2016" and Ishan Vikas Programme of MHRD for school students from North East Students (10th to 21st December, 2016).

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	PHY301	Atomic and Molecular Physics	9
2	PHY302	Relativistic Electrodynamics	9
3	EP341 (Dept. Elective)	Introduction to Biophysics	9
4	EP351 (Dept. Elective)	Introduction to Renewable Energy Sources	9
5	EP361 (Dept. Elective)	Introduction to Remote Sensing	9
6	EP391	Stream Project (Hons.)	10
7	EP301 (Open Elctives)	Electromagnetic Waves	6
8	PHY303	Statistical Physics	9
9	PHY304	Computational Physics	9
10	EP392	Stream or UG Project	10
11	PHY305 (Dept. Elective)	Advanced Quantum Mechanics	9
12	PHY311 (Dept. Elective)	Introduction to Astronomy & Astrophysics	9
13	PHY321 (Dept. Elective)	Physics of Materials	9
14	EP331 (Dept. Elective)	Advanced Optical fiber & Components	9
15	EP342 (Dept. Elective)	Biophysical Techniques	9
16	EP362 (Dept. Elective)	Microwave Remote Sensing	9

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	---	---	---	---
2	Dual Degree	18	21	13	---	---
3	M. Tech/ M. Pharm/ IMD (Engg. Phys.)	---	---	---	11	13
4	Ph. D (Under Institute Fellowship)	04	08	04	05	09
5	A. Ph. D (Under Project Fellowship) B. Other Funding Agency	03	---	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Pradeep Kumar	12610EN001	National Symposium on Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain Ecosystems" & Annual Conventions of Indian Society of Remote Sensing & Indian Society of Geomatics. (Oral Presentation)	December 07-09, 2016 IIRS, Dehradun.	STGS, IIT(BHU), Varanasi
2	Abhishek Singh	12610EN003	3rd International Conference on Nanotechnology for Better Living (Poster Presentation)	May 25-29, 2016, NIT Srinagar	STGS, IIT(BHU), Varanasi
			International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Poster & Oral Presentation)	February 19–23 2017, IIT(BHU), Varanasi	----
			Fourth International Symposium on Semiconductors materials and devices (ISSMD) (Poster Presentation)	March 8-10, 2017, Jadavpur Univeristy Kolkata	STGS, IIT(BHU), Varanasi
3	Onkar Nath Verma	12610EN004	GIAN program on "Fuel Cell Technology"	Dec. 05-09 2016, IIT Gandhinagar	Self
			International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Poster Presentation)	February 19–23 2017, IIT(BHU), Varanasi	----

4	Prince Kumar Gupta	13171001	3rd International Conference on Nanotechnology for Better Living (Poster Presentation)	May 25-29, 2016, NIT Srinagar	Partial support from RSG.
			International Conference on Electron Microscopy (EMSI) (Poster Presentation)	June 02-04, 2016, Dept. of Metall. Engg., IIT(BHU)	Partial support from RSG.
			International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Poster Presentation)	February 19–23 2017, IIT(BHU), Varanasi	----
5	Achyutesh Dixit	13171002	The international conference on fiber optics and photonics (Photonics-2016) (Poster Presentation)	Dec 04-08, 2016, Dept. of Physics, IIT Kanpur	STGS, IIT(BHU), Varanasi & Dept. of Physics, IIT(BHU)
6	Rahul Singh	13171004	3rd International Conference on Nanotechnology for Better Living (Poster Presentation)	May 25-29, 2016, NIT Srinagar	STGS, IIT(BHU), Varanasi
			International Conference on Electron Microscopy (EMSI) (Poster Presentation)	June 02-04, 2016, Dept. of Metall. Engg., IIT(BHU)	Self
			National Conference on Study of Matter Using Intense Radiation Sources and Under Extreme Conditions (Poster Presentation)	Nov. 03-06, 2016, (UGC-DAE CSR) Univ.Campus, Khandwa Road, Indore	Self
7	Saurabh Singh	13171005	3rd International Conference on Nanotechnology for Better Living (Oral Presentation)	May 25-29, 2016, NIT Srinagar	STGS, IIT(BHU), Varanasi
			GIAN program on “Fuel Cell Technology”	Dec. 05-09 2016, IIT Gandhinagar	Self
			Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017). (Invited speaker)	10th to 12th Feb., 2017, Mahatma Gandhi Univ. Kottayam, Kerala	STGS, IIT(BHU), Varanasi & Dept. of Physics, IIT(BHU)
			International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017)	February 19–23 2017, IIT(BHU), Varanasi	----
8	Varun Narayan Mishra	13171006	National Conference on Advancements in applications of remote sensing and geospatial technology (AARSGT-2016) (Oral Presentation)	19-21 May, 2016 BIT Mesra, Ranchi	STGS, IIT(BHU), Varanasi

		13171006	National Conference on Managing Soil Resource for Environmental Sustainability: Challenges & Perspectives (MSRES-2016) (Oral Presentation)	9-10 December, 2016 IESD, BHU, Varanasi	Self
9	Arkadeb Pal	14171002	3rd International Conference on Nanotechnology for Better Living (Poster Presentation)	May 25-29, 2016, NIT Srinagar	STGS, IIT(BHU), Varanasi
			UGC DAE CRS Users Research Scholar's Workshop. (Oral Presentation)	Dec 19-20, 2016, UGC DAE CSR INDORE	STGS, IIT(BHU), Varanasi
			International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Poster Presentation)	February 19–23 2017, IIT(BHU), Varanasi	----
10	Vani Pawar	14171003	International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Poster Presentation)	February 19–23 2017, IIT(BHU), Varanasi	----
11	Upendra Kumar	14171005	3rd International Conference on Nanotechnology for Better Living (Poster Presentation)	May 25-29, 2016, NIT Srinagar	STGS, IIT(BHU), Varanasi
			International school on “Ion beam in Material Science”	22-27 Sept. 2016, IUAC New Delhi	Self
			Asian Conference on Solid State Ionics-2016(ACSSI-2016) (Poster Presentation)	27-30 Nov. 2016, IIT Patna	Self
			GIAN program on “Fuel Cell Technology”	5-9 Dec. 2016, IIT Gandhinagar	Self
			International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Poster Presentation)	February 19–23 2017, IIT(BHU), Varanasi	Self
12	Ajeet Kumar Vishwakarma	14171006	National Symposium on Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain Ecosystems” & Annual Conventions of Indian Society of Remote Sensing & Indian Society of Geomatics. (Poster Presentation)	December 07-09, 2016 IIRS, Dehradun.	STGS, IIT(BHU), Varanasi
13	Dharmendra Yadav	15171003	Forth International conference on Nano structured materials and Nano composites (Oral Presentation)	Feb. 09 to12, 2017, School of Chemical Science Auditorium, Mahatma Gandhi University, Kottayam, Kerala	STGS, IIT(BHU), Varanasi & Dept. of Physics, IIT(BHU)

			International Conference on Advances in Biological Systems and Material Science in NanoWorld (ABSMSNW-2017)	February 19–23 2017, IIT(BHU), Varanasi	----
14	Dibyajyoti Mohanta	15171004	Conference on DNA Physics 2017. (Poster Presentation)	09-11 March, 2017, BITS, Pilani	STGS, IIT(BHU), Varanasi & Dept. of Physics,
15	Prajyoti Singh	15171007	International Conference on Advances in Biological Systems and Material Science in NanoWorld (ABSMSNW-2017) (Student Secretary)	February 19–23 2017, IIT (BHU), Varanasi	----
16	Vinod Kumar Gangwar	15171011	International Conference on Advances in Biological Systems and Material Science in NanoWorld (ABSMSNW-2017)	February 19–23 2017, IIT(BHU), Varanasi	----
17	Devyani Shukla	15171013	2nd International Conference on Soft Materials (ICSM-2016) (Poster Presentation)	12th–16th December 2016, Jaipur, Rajasthan, INDIA	STGS, IIT(BHU), Varanasi and Ramanujan Fellowship Research Grant of Dr. A.S. Parmar
			International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Student Secretary & Poster Presentation)	February 19–23 2017, IIT(BHU), Varanasi	----
18	Subhaya Bose	14173013	International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Poster Presentation)	February 19–23 2017, IIT(BHU), Varanasi	----
19	Sameer Kumar	16171501	International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017)	February 19–23 2017, IIT(BHU), Varanasi	----
20	Kanchan Yadav	16171502	International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017) (Student Secretary)	February 19–23 2017, IIT(BHU), Varanasi	----

Names of scholars/students who won Convocation/Institute Day prizes

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Sunkara Sree Manasa	11410EN005	Gold Medal	IIT (BHU)

Names of Students/Scholars who went for foreign Internship

S. No.	Name of Student	Roll No.	Name of the Organizatio	Place of Internship	Country	Duration
1	Vivek Gupta	12410EN001	California Institute of Technology	Pasadena	USA	10 weeks
2	Manuj Kumar Singh	13173008	The Hong Kong Polytechnic University	Hong Kong	Hong Kong	10 weeks

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Prof. Debaprasad Giri	Statistical Physics; Soft Condensed Matter Physics; Computational Bio-Physics
2	Prof. Prabhakar Singh	Experimental Materials Science: Materials related to green and clean energy; Ion Conducting Glasses; Materials for Solid Oxide Fuel Cells; Electro-ceramics and Solar cells
3	Prof. Sandip Chatterjee	Experimental Condensed Matter Physics; Topological Insulators, Superconductivity, Multiferroic Materials
4	Prof. Rajendra Prasad	Microwave Remote Sensing; Satellite Image Analysis for Crop and Soil Monitoring, Shape and Size Detection of Buried Objects
ASSOCIATE PROFESSORS		
1	Dr. Praveen Chandra Pandey	Fiber Optics; Photonics; Non linear Optics; PBG and Metamaterials
2	Dr. (Mrs.) Shail Upadhyay	Materials Science; Electronic Ceramics
3	Dr. (Mrs.) Anita Mohan	Physics and Diagnostics of Solar, EUV and X-Ray Emission Processes; Synthesis of composites; Tribology
ASSISTANT PROFESSORS		
1	Dr. Abhishek Kr. Srivastava	Physics of Solar Transients; MHD Waves; Coronal and Stellar Seismology
2	Dr. Sunil Kumar Mishra	Quantum Dynamics of Spin Chains, Quantum Entanglement, Frustrated Magnets, Nanomagnetism
3	Dr. Avanish Singh Parmar	Biophysics, Bio-nanotechnology, Soft Matter
4	Dr. Saurabh Tripathi	Structural Phase Transitions in ferroics, Broadly modeling of short, medium and long range ordered structures with real space and reciprocal space data using Pair distribution function and Rietveld analysis, for bulk and nanomaterials.
5	Dr. Swapnil Patil	ARPES studies of correlated electron phenomena - heavy fermion/Kondo phenonmenon, superconductors, semiconductors etc.
6	Dr. (Mrs.) Shradha Mishra	Condensed matter theory, equilibrium and nonequilibrium statistical physics, soft condensed matter theory.
7	Dr. Prasun Dutta	Structures and dynamics of Interstellar medium, radio interferometric techniques, nova and supernovae, cellular automaton

SENIOR RESEARCH OFFICER		
1	Dr. Umendra Narayan Singh	Fiber Optics, Optoelctronics, Photonics
INSPIRE FACULTY		
1	Dr. Sunil Kumar Singh	Florescence and Laser Spectroscopy; Time Resolved Spectroscopy of Rare Earth Doped Micro/Nano Structures
2	Dr. Neha Agnihotri	Photophysics, Computational Modelling of Light Harvesting Systems; Density Functional Theory; Molecular Dynamics Simulation
RAMANUJAN FELLOW		
1	Dr. Rajeev Singh	Quantum Statistical Mechanics. Disordered and non-equilibrium quantum dynamics
INSTITUTE PROFESSORS		
1	Prof. Bhola Nath Dwivedi	Physics and Diagnostics of Solar EUV and X-ray Emission Processes; MHD Waves and Oscillations in the Solar Atmosphere; Science Communication
2	Prof. Onkar Nath Singh	Spectroscopy, Fiber Optics
EMERITUS PROFESSOR		
1	Dr. R.P. Singhal	Planetary and Space Physics; Plasma Physics; X-ray; Nuclear Physics; Atomic Collisions Physics

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

S. No.	Cordinator	Title	Period
1	Dr. Abhishek Kr. Srivastava	GIAN course "Advanced Fluid Dynamics and Applications"	12th to 22nd September, 2016
2	Prof. Debaprasad Giri	Ishan Vikas Programme- 2016, IIT(BHU) for hosting school students from North-East states under Ishan Vikas Programme of MHRD	10th to 21st December, 2016
2	Dr. Avanish Singh Parmar (Convener, ABSMSNW-2017)	International Conference on "Advances in Biological Systems and Materials Science in NanoWorld" (ABSMSNW-2017)	19th – 23rd February 2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prof. Debaprasad Giri	To attend and present research work in the 26th IUPAP International conference on Statistical Physics (STATPHYS 26)	July,18th to 22nd 2016, Lyon, France
2	Dr. Abhishek Kr. Srivastava	"Observations of Sausage Waves in Solar Magnetic Structures and Their Diagnostics Capabilities" in IBUKS-2016	June 12th to 18th , 2016 KU Lueven, Belgium
3	Dr. Sunil Kumar Mishra	Workshop entitled "Multipartite Entanglement"	May 19-28, 2016, Centro De Ciencias De Benasque Pedro Pascual Huesca (Spain).

4	Dr. Sunil Kumar Mishra	Mini Workshop on Spin-orbit interaction and related phenomena	July 15, 2016, Max Planck Institute of Microstructure Physics, Halle, Germany
5	Dr. Avanish Singh Parmar	2nd International Conference on Soft Materials (ICSM-2016)	12th – 16th December 2016, Jaipur, Rajasthan, INDIA
6	Dr. Saurabh Tripathi	Short Term Course on Geometrical & Mathematical Crystallography with Applications to Structural studies.	February 14 - 19, 2017 School of Materials Science & Technology, Indian Institute of Technology (BHU), Varanasi, India
7	Dr. Swapnil Patil	National Conference on Electron Spectroscopy (NCES2016), IOP Bhubaneshwar	22nd - 24th December 2016 @ Toshali Sands resort Puri, Odisha
8	Dr. Sunil Kumar Singh	2nd International Conference on Soft Materials	Dec. 12-16, 2016, Malviya National Institute of Technology, Jaipur, India.

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	Prof. Sandip Chatterjee	Magneto-Transport properties of Topological Insulators	School of Materials Science and Nanotechnology, Jadavpur Univ., Kolkata.	17.05.2016
2	Dr. Abhishek Kr. Srivastava	A talk on "Science Plans with Solar Ultraviolet Imaging Telescope (SUIT) onoard Aditya-L1"	UMCS Lublin, Poland	06.06.2016
3	Prof. Prabhakar Singh	Electroceramic materials for energy applications	IENI-CNR, Genova, Italy	27.06.2016
4	Prof. Prabhakar Singh	Investigation of electrolyte materials for SOFC	ETH, Zurich, Switzerland	29.06.2016
5	Dr. Sunil Kumar Mishra	Generating random states and maximally multipartite entangled states in a kicked Ising model	Max Planck Institute of Microstructure Physics, Halle, Germany	15.07.2016
6	Prof. Bhola Nath Dwivedi	The Sunshine, Neutrinos, and our Universe	IIA Bangalore	19.07.2016
7	Dr. Shradha Mishra	Boundary induced convection in a collection of SPP's	School of Physical Sciences, JNU (New Delhi)	04.08.2016
8	Dr. Abhishek Kr. Srivastava	External Ph.D Examiner & A special talk “On the estimation of Streamer's magnetic field in the outer corona by observed kink waves”	Sheffield University, UK	25.11.2016
9	Prof. Prabhakar Singh	Structural and electrical properties of electrolyte materials for solid oxide fuel cells.	IIT, Patna	27.11.2016

10	Prof. Bhola Nath Dwivedi	The Sunshine, Neutrinos, and our Universe	Department of Science and Technology, innovative scheme called INSPIRE at Dr M C Saxena College of Engineering and Technology, Lucknow.	27.11.2016
11	Prof. Bhola Nath Dwivedi	Electromagnetic Waves and Technology	Indian National Science Academy (INSA), New Delhi. (i) Kutir Intermediate Chakkey, Jaunpur (ii) Shri Mishrilal Inter College, Mirzapur.	(i) 11.12.2016 (ii) 18.12.2016
12	Dr. Shradha Mishra	Boundary induced convection in a collection of SPP's	Young Investigator Meet: Soft Matter, Goa	17.12.2016
13	Dr. Swapnil Patil	ARPES investigations on the novel electronic structure of Kondo/heavy fermion systems	Institute of Physics, Bhubaneshwar	23.12.2016
14	Prof. Prabhakar Singh	Role of dopants on structural and electrical properties of electrolyte materials for solid oxide fuel cells.	H.S. Gour, Sagar University.	12.01.2017

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. S. K. Mishra	Spain	May 19, 2016	May 29, 2016	University of Barcelona for a collaborative work with Prof. Oscar Iglesias and at the Centro De Ciencias De Benasque Pedro Pascual Huesca (Spain) to attend a workshop entitled "Multipartite Entanglement".	CPDA grant IIT (BHU)
2	Dr. A. K. Srivastava	KU Leuven, Belgium	31st May, 2016	19th June, 2016	An invited talk at entitled "Observations of Sausage Waves in Solar Magnetic Structures and Their Diagnostics Capabilities" in IBUKS-2016	UMCS Poland, KU Leuven CPDA
3	Prof. P. Singh	Italy	12th June, 2016	30th June, 2016	STM program	CNR-IENI , Genova, Italy, CPDA
4	Prof. P. Singh	Switzerland	29th June, 2016	30th June, 2016	Invited talk	ETH Zurich, CPDA
5	Dr. S. K. Mishra	Germany	June 27, 2016	July 19, 2016	Martin-Luther University for a collaborative work with Prof. J. Berakdar.	Funded by Martin-Luther University Halle (Saale) Germany

6	Prof. D. Giri	France	16th July, 2016	24th July, 2016	To attend and present research work in the 26th IUPAP International conference on Statistical Physics (STATPHYS 26) in Lyon, France from July, 18th to 22nd in 2016	Institute CPDA

Honours and awards

S. No.	Name of Faculty Member	Details of Award
1	Prof. Prabhakar Singh	Awarded Funds under STM program, Italy
2	Dr. Abhishek Kumar Srivastava	Elected as a group member in International Academy of Astronautics (IAA) on Comparative Climatology - Studying Planetary Climate to Understand our Planet.
3	Dr. Sunil Kumar Singh	Best Poster Presentation Award, 2nd International Conference on Soft Materials, Dec. 12-16, 2016, Malviya National Institute of Technology, Jaipur, India.

Fellowships of academic and professional societies

S. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Rajeev Singh, Ramanujan Fellow	Ramanujan Fellowship (DST)

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	B. K. Singh, P. C. Pandey,	Effect of Exponentially Graded Material on Photonic and Omni-Directional Band Gaps in 1-D Photonic Crystals	Book Chapter 8, Springer Proceedings in Physics 181, 1 – 29 (2016). DOI: 10.1007/978-3-319-30137-2_8.
2	Dr. Avanish Singh Parmar (Editor)	International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017)	Excel India Publishers, New Delhi ISBN:9789386256454

Articles-

1. B.N. Dwivedi, Dr Radhakrishnan: A light of knowledge, Hindustan Times (Lucknow). September 9, 2016.
2. B.N. Dwivedi, Magnetic waves behind sun's hot atmosphere , Hindustan Times (Lucknow) March 16, 2017

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Solid State Ionics Lab: DC Resistivity Measurement System, Seebeck Measurement System, Spin Coater, Tubular furnace, Vacuum Oven with centrifuge, Tape Casting Set Up	19,94,897/-

2	Photonics Lab: Integrated I-V and C-V Measurement Setup for electrical measurement, Setup for synthesis of quantum dots	11,34,307/-
3	Four HPC systems (Dell power edge rack server with Master & Compute node)	21,98,000/-
4	Biophysics and Bio-nanotechnology Laboratory (BBNL): Eppendorf centrifuge, Eppendorf Kinetic Bio spectrophotometer, Gel Electrophoresis setup, Millipore Water purification system, Orion pH-meter, Metlar weighing balance, Incubators & Water Bath etc.	24,23,000/-
5	Planetary Ball Mill PM 200 Retsch GmbH, Germany, High Temperature Muffle Furnace	9,99,927/-
6	High Temperature Programmable Muffle Furnace, Two zone split type furnace, Laboratory Fume Hood, Ultrasonicator	8,51,150/-

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Development of New Electrolyte Materials with Optimized Electrical/ Ionic Conductivity for Solid Oxide Fuel Cells	2013-2016	Naval Research Board (NRB) DRDO, New Delhi	28,43,160/-	Prof. P. Singh
2	Dynamics of Ions in Tellurite Glasses of Variable Composition	2013-2016	HRDG-CSIR, New Delhi	20,47,465/-	Prof. P. Singh
3	Development of $SrTiO_3$ based anode materials for Intermediate Temperature Solid Oxide Fuel Cells	2015-2018	BRNS, Mumbai	29,74,400/-	Prof. P. Singh
4	A systematic study on the correlation between structural, magnetic and electrical properties of multiferroic $Cd_{1-x}A_xV_2O_4$ and $Bi(Mn_{1-x}A_x)O_3$ [A=Fe, Co, Ni] both in bulk and Nano phases.	2014-2017	BRNS, Mumbai	19.28	Prof. S. Chatterjee
5	Study of MHD Waves and Instabilities in Localised Solar Jet.	2014-2016	Royal Society, UK, Fund was with UK PI at Sheffield University	12,000 GBP; Approx 11 Lakh	Co-I & Indian Counterpart: Dr. A.K. Srivastava; UK PI : Prof. R. Erdelyi
6	Indo-Bulgarian Project entitled "Study of Waves and Eruptive Phenomena in the Solar Atmosphere"	2013-2016	DST, India-Bulgarian Funding Agency	Approx. 13.50 Lakh	Bulgarian PI: Prof. Ivan Zhelyazkov; Indian PI : Dr. Ramesh Chandra; Indian co-PI : Dr. A.K. Srivastava
7	Study of the role of magnetic fields in the flaring and eruptive reasons of the solar atmosphere	2014-2016	DST-RFBR Project; INT/RFBR/P 165) with Dr. B.P. Filippov, IZMIRAN, Russia. Indian PI : Dr. W. Uddin, ARIES, Nainital	Approx. 10.00 lakhs	Dr. A.K. Srivastava (Co-I)

8	VLF-Global-Network Project (http://vlf-data.ifz.ru/index.html).	2014-2019	VLF-Global-Network Project	International Grant from interred equipments	Prof. B.N. Dwivedi, PI, Dr. A.K. Srivastava (Co-I)
9	Observation and modelling of solar transients and space whether candidates	2015-2018	SERB-DST Project under Young Scientist Scheme; 2015	1st year budget 2016-17, 5.92 lakhs	Dr. A.K. Srivastava (PI)
10	MHD waves in the solar atmosphere and refined magneto seismology	2015-2018	RESPOND/ISRO	24.23 lakhs	Dr. A.K. Srivastava (PI), Prof. B.N. Dwivedi (Co-I)
11	Study of magnetospheric wave-particle interaction, aurora, airglow and conductivities on planets and their satellites	2016-2019	ISRO-PLANEX	38.03 lakhs	Prof. R. P. Singhal (Co-PI), Prof. O.N. Singh (Co-PI) & Prof. D. Giri (PI)
12	Protein folding, unfolding and misfolding	2016-2021	Ramanujan Fellowship, DST-SERB, India	38 lakhs	Dr. Avanish Singh Parmar
13	Dissecting the role of intramolecular and intermolecular protein-protein interactions for the formation of Amyloid Fibrils	2015-2018	DST-SERB	25.32 lakhs	Dr. Avanish Singh Parmar
14	Magnetization Dynamics of Antiferromagnetic Nanoparticles arranged on the Geometrically-Frustrated Arrays	2013-2018	DST (Inspire Programme), New Delhi	35 Lakhs	Dr. Sunil Kumar Mishra
15	Magnetohydrodynamic Waves and Plasma Dynamics in Quiet-Sun and Coronal Holes	2015-2018	National Polsih Science Foundation, Poland, Fund is with PI Prof. K. Murawaski UMCS, Dublin, Poland	620 100,00 PLN	Prof. K. Murawski (PI); Dr. A.K. Srivastava (co-I); Prof. Z.E. Musielak (co-I)
16	Computational Modelling of Novel Materials for Efficient, Robust Organic Solar Photovoltaic Cells	2014-2019	DST (Inspire Programme), New Delhi	35.00	Dr. Neha Agnihotri
17	Understanding Structure and Dynamics of the ISM.	2013-2018	DST (Inspire Programme), New Delhi	35.00	Dr. P. Dutta
18	Equilibrium and non-equilibrium XY-mode & a comparative study	2013-2018	DST (Inspire Programme), New Delhi	35.00	Dr. S. Mishra
19	Rare-earth doped luminescent Nanostructure for imaging & photovoltaic applications	2013-2017	DST (Inspire programme), New Delhi	35.00	Dr. S.K. Singh
20	Thermalization and non-equilibrium Dynamics in Quantum Systems	2016-2021	Ramanujan Fellowship, DST-SERB, India	38.00	Dr. R. Singh
21	DST-FIST Programme	2016-2021	DST, New Delhi	1.15 Crore	Head Dept. of Physics, IIT (BHU)

Faculty members' participation with other universities under MoUs

Institute of Solar-Terrestrial Physics (ISTP), Russian Academy of Sciences, Irkutsk, Russia (13.08.2016)

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	Nil
2	Total Number of Papers Published in Refereed International Journals	61
3	Total Number of Papers Presented in National Conferences	08
4	Total Number of Papers Presented in International Conferences	22

(a) Refereed International Journals

1. Priyanka A. Jha, Avadhesh Kumar Yadav, Pardeep K. Jha. Prabhakar Singh (2016), AC conductivity and ion dynamics of alkaline earth metal substituted telluride glasses, J. Non-crystalline solids 452: 203-209, ISSN: 0022-3093.
2. Awadhesh Kumar Yadav, Priyanka A. Jha, Sevi Murugavel and Prabhakar Singh (2016), Synthesis, characterization and AC conductivity of alkali metal substituted telluride glasses, Solid State Ionics 296: 54 – 62, ISSN: 0167-2738.
3. Pravin Kumar, Nitish Kumar Singh, A. S. K. Sinha, Prabhakar Singh (2016), Structural and electrical characterizations of cerium (Ce^{3+})- doped double perovskite system Sr_2NiMoO_{6-d}, Appl. Phys. A 122: 828, ISSN: 1432-0630.
4. Shiv Kumar, N. Tiwari, S. N. Jha, S. Chatterjee, D. Bhattacharyya and Anup K. Ghosh (2016), Structural, optical and magnetic properties of sol-gel derived Cr-doped ZnO diluted magnetic semiconductor nanocrystals: An EXAFS study to relate the local structure, RSC Advances 6, 107816–107828.
5. Rahul Singh, K K Shukla, A Kumar, G S Okram, D Singh, V Ganeshan, Archana Lakhani, A K Ghoshand, Sandip Chatterjee (2016), Large power factor and anomalous Hall effect and their correlation with observed linear magneto resistance in Co-doped Bi2Se3 3D topological insulator, J. Phys.: Condens. Matter 28, 376001.
6. G. D. Dwivedi, Amish G. Joshi, Shiv Kumar, H. Chou, K. S. Yang, D. J. Jhong, W. L. Chan, A. K. Ghosh, and Sandip Chatterjee (2016), Electronic structure study of wide band gap magnetic semiconductor $(La_{0.6}Pr_{0.4})_{0.65}Ca_{0.35}MnO_3$ nanocrystals in paramagnetic and ferromagnetic phases, Appl. Phys. Letts. 108, 172402.
7. G. D. Dwivedi, Abhishek Kumar, K. S. Yang, B. Y. Chen, K. W. Liu, Sandip Chatterjee, H. D. Yang, and H. Chou (2016), Structural phase transition, Neel temperature enhancement, and persistent magneto-dielectric coupling in Cr-substituted Mn_3O_4, Appl. Phys. Letts. 108, 192409.
8. D. K. Gupta, R. Prasad, P. Kumar, A. K. Vishwakarma (2016), Soil Moisture Retrieval Using Ground based Bistatic Scatterometer Data at X- band, Advances in Space research, 59: 996-1007.
9. V. N. Mishra, P. K. Rai, R. Prasad, P. Kumar (2016), Evaluation of land use/land cover classification accuracy using multi-resolution remote sensing images, Forum Geografic, 15(1): 45-53.
10. B. K. Singh, P. C. Pandey (2016), Effect of temperature on terahertz photonic and omnidirectional band gaps in one-dimensional quasi-periodic photonic crystals composed of semiconductor InSb, Applied Optics (OSA) 55, 5684 – 5692.
11. B. K. Singh, S. Tiwari, M. K. Chaudari, P. C. Pandey (2016), Tunable photonic defect modes in one-dimensional photonic crystals containing exponentially and linearly graded index defect, Optik – International Journal for Light and Electron Optics 127, 6452 – 6462.
12. P. Kumar, B. K. Singh, B. N. Pal, P. C. Pandey (2016), Correlation between structural, optical and magnetic properties of Mn-doped ZnO, Applied Physics A 122, 740, 1-12.

13. P. Kumar, P. C. Pandey (2016), Investigations on absorption, photoluminescence and magnetic properties of ZnO: Co nanoparticles, Journal of Sol Gel Science and Technology 80, 342 – 352.
14. S. Tiwari, A. K. Dikshit, S.Jit, P. C. Pandey (2016), Highly sensitive biochemical sensor based on photonic crystal ring resonator, Optoelectronics And Advanced Materials – Rapid Communications10, 509 – 513.
15. S. Tiwari, A. Dixit, P. C. Pandey (2016), Effect of Dispersive Materials on the Dispersion and Normalized Frequency Characteristics of a Square Photonic Crystal Fiber, Journal of Nanoelectronics and Optoelectronics 11, 1– 6.
16. A. Dixit, S. Tiwari, P. C. Pandey (2016), Optical properties of third order Kerr nonlinear hexagonal photonic crystal fiber containing metals, Int. J. Mod. Phys. B 0, 1750047.
17. Nandini Jaiswal, Shail Upadhyay, Devendra Kumar & Om Parkash (2016), High electrical conductivity of nano-composite based on $Ce_{0.82}Sm_{0.16}Sr_{0.02}O_{1.90}$ and $(Li/Na)_2CO_3$ for low temperature fuel cell, Ceramic international 42, 9004-9010.
18. Md. Jawed Ansaree and Shail Upadhyay (2016), High temperature electrical characterization of nano-crystalline $BaTiO_3$ synthesized using $Ba(NO_3)_2$ and TiO_2, Integrated ferroelectrics 176, 184-201.
19. Upendra Kumar, Md. Jawed Ansaree and ShailUpadhyay (2016), Synthesis and characterization of $BaSnO_3$ and$Ba_{0.90}M_{0.10}SnO_3$ (M: La,Y, Gd), Proc. of the Intl. Conf. on Nanotechnology for Better Living, 2016Vol. 3,No. 1, p. 50.
20. G. Gautam, N. Kumar, A. Mohan, R.K. Gautam and S. Mohan (2016), High temperature tensile and tribological behavior of hybrid (ZrB_2+Al_3Zr)/AA5052 insitu composite, Metallurgical and Materials Transactions A. 47 A: 4709-4720. ISSN No. 1073-5623.
21. G. Gautam, N. Kumar , A. Mohan, R.K. Gautam and S. Mohan (2016), Strengthening mechanisms of (Al_3Zrmp+ZrB_2np)/AA5052 hybrid composites, Journal of Composite Materials 50: 4123-4133. ISSN No. 1530-793X.
22. G. Gautam, N. Kumar, A. Mohan, R.K. Gautam and S. Mohan (2016), Synthesis and Characterization of Tri-aluminide insitu Composites, Journal of Material Science 51: 8055-8074. ISSN No. 1573-4803.
23. A. K. Srivastava, Talwinder Singh, Leon Ofman, Bhola N. Dwivedi (2016), Inference of magnetic field in the coronal streamer invoking kink wave motions generated by multiple EUV waves, Monthly Notices of the Royal Astronomical Society, Volume 463, Issue 2, p.1409-1415.
24. Vaibhav Pant, Rakesh Mazumder, Ding Yuan, Dipankar Banerjee, Abhishek K. Srivastava, Yuandeng Shen (2016), Simultaneous Longitudinal and Transverse Oscillations in an Active-Region Filament, Solar Physics, Volume 291, Issue 11, pp. 3303-3315.
25. S. Sarkar, V. Pant, A. K. Srivastava, D. Banerjee (2016), Transverse Oscillations in a Coronal Loop Triggered by a Jet, Solar Physics, Volume 291, Issue 11, pp. 3269-3288.
26. P. F. Chen, C. Fang, R. Chandra, A. K. Srivastava (2016), Can a Fast-Mode EUV Wave Generate a Stationary Front?, Solar Physics, Volume 291, Issue 11, pp. 3195-3206.
27. R. Chandra, P. F. Chen, A. Fulara, A. K. Srivastava, W. Uddin (2016), Peculiar Stationary EUV Wave Fronts in the Eruption on 2011 May 11, The Astrophysical Journal, Volume 822, Issue 2, article id. 106.
28. M. Azimi, M. Sekania, S. K. Mishra, L. Chotorlishvili, Z. Toklikishvili, and J. Berakdar (2016), Pulse and quench induced dynamical phase transition in a chiral multiferroic spin chain, Physical Review B 94: 064423. ISSN: 2469-9950.
29. Kathryn E. Drzewiecki, Daniel R. Grisham, Avanish S. Parmar, Vikas Nanda, David I Shreiber (2016), Circular Dichroism Spectroscopy of Collagen Fibrillogenesis: A New Use for an Old Technique. Biophysical Journal 111 (11): 2377-2386.
30. G. Di Filippo, F. O. Schumann, S. Patil, Z. Wei, G. Stefani, G. Fratesi, M. I. Trioni, J. Kirschner (2016), Electron coincidence studies of sulfur-overlayers on Cu(001) and Ni(001) surfaces, J. Elec. Spec. Rel. Phen. 211, 32–40.
31. Subhadip Chakraborti, Shradha Mishra, Punyabrata Pradhan (2016), Additivity, density fluctuations, and nonequilibrium thermodynamics for active Brownian particles, Physical Review E 93, 052606.

32. N. G. Kantharia, Prasun Dutta, Nirupam Roy, G. C. Anupama, C. H. Ishwara-Chandra, A. Chilate, T. P. Prabhu, D. P. K. Banerjee, N. M. Ashok (2016), Insights into the evolution of symbiotic recurrent novae from radio synchrotron emission, V745 Scorpii and RS Ophiuchi, Monthly Notices of the Royal Astronomical Society, Vol 456 (1), L49-L53.
33. R.P. Singhal, A.K. Tripathi, S. Halder, O.N. Singh II (2016), Diffuse aurora on Ganymede driven by electrostatic waves, The Astrophysical Journal, 832, 172.
34. G.V. Khazanov, A. Glocer, D.G. Sibeck, A.K. Tripathi, L.G. Detweiler, L.A. Avanov, R.P. Singhal (2016), Ionosphere-Magnetosphere Energy Interplay in the Regions of Diffuse Aurora, J. Geophysical Research, 121.
35. A.K. Tripathi, R.P. Singhal, G.V. Khazanov, L.A. Avanov (2016), Banded structures in electron pitch angle diffusion coefficients from resonant wave-particle interactions, Physics of Plasmas, 23.
36. M. Rai, S.K. Singh, P. Morthekai (2016), Laser-induced excited-state crossover and spectral variation of Cr^{3+} in the high-crystal-field environment of $CaGa_2O_4$, Optics Letters 41: 3635-3638.
37. K.L. Reddy, M. Rai, N. Prabhakar, R. Arppe, S.B. Rai, S.K. Singh, J. M. Rosenholm, V. Krishnan (2016), Controlled synthesis, bio-imaging and toxicity assessments in strong red emitting Mn^{2+} doped $NaYF_4$:Yb^{3+}/Ho^{3+} nanophosphors, RSC Advances 6:53698-53704.
38. P. Singh, P.K. Shahi, S.K. Singh, S.B. Rai (2016), Photoluminescence, upconversion and quantum-cutting emission in Tm/Tb/Pr and Yb co-doped oxide phosphor: A comparative study, J Alloys Compounds 681: 477-485.
39. Neha Agnihotri (2016), Computational Modelling of Panchromatic Porphyrins with Strong NIR Absorptions for Solar Energy Capture, Chemical Physics Letters 665, 40-46.
40. Neha Agnihotri, R. P. Steer (2016), Time Dependent DFT Investigation of the Optical Properties of Artificial Light Harvesting Special Pairs, Physical Chemistry Chemical Physics 18, 15337-15351.
41. Sanjiv Kumar, A. R. Singh, D. Giri, and S. Kumar (2017), Effect of concentration of molecular crowders on the unfolding force distribution: Emergence of a long tail, J. Stat. Mech.: Theory & Experiment 033209.
42. Saurabh Singh, Priyanka A. Jha, Salil Varma, Prabhakar Singh (2017), Large Polaron Hopping phenomenon in Lanthanum doped Strontium Titanate, J. Alloys and Comp. 704: 707-716, ISSN: 0925-8388.
43. Awadhesh Kumar Ydav, Priyanka A. Jha, Prabhakar Singh (2017), A comparative of structural, optical, mechanical and electrical properties of alkaline earth metal substituted tellurite glasses, J. Mater. Sci. Mater. Electron. DOI 10.1007/s10854-017-6431-7, ISSN: 0957-4522.
44. Kaushal K. Shukla, Rahul Singh, A. Kumar, A. K. Ghosh, Sandip Chatterjee (2017), Griffith-like phase in Crednerite $CuMnO_2$, Mat. Res. Bull. 91, 135.
45. G.D. Dwivedi, S. Kumar, A.G. Joshi, S. Kumar, A. K. Ghosh, H. Chou, H. D. Yang, Sandip Chatterjee (2017), Structural, magnetic, magneto-transport properties, and electronic structure study of charge-ordered $(La_{0.4}Pr_{0.6})_{0.65}Ca_{0.35}MnO_3$, J. Alloys & Comp. 699, 31-37.
46. V.N. Mishra, R. Prasad, P. Kumar, D.K. Gupta, P.K. Srivastava (2017), Dual-polarimetric C-band SAR data for land use/land cover classification by incorporating textural information, Environmental Earth Sciences, 76(1) 1-16.
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48. A. Dixit, S. Tiwari, P. C. Pandey (2017), Study of band structure of 1D photonic ctrystalfiber containing dispersive and nonlinear materials, Journal of Modern Optics, 1-7.
49. A. Dixit, S. Tiwari, P. C. Pandey (2017), Evanescent-field gas sensing in photonic crystal fiber containing plasma material by finite difference method, Sensor Letters, 15, 276–281.
50. N. Kumar, G. Gautam, R.K. Gautam, A. Mohan, S. Mohan (2017), A study on mechanical properties and strengthening mechanisms of AA5052/ZrB_2insitu composite, Journal of Engineering Materials and technology-Transaction of ASME 139: 011002-1-011002-8. ISSN No. 1528-8889.

51. N. Kumar, G. Gautam, R.K. Gautam, A. Mohan, S. Mohan (2017), High temperature tribology of AA5052/ZrB_2 PAMCs, Journal of Tribology-Transaction of ASME 139: 011601-1-011601-12. ISSN No. 1528-8897.
52. N. Gyenge, T. Singh, T. S. Kiss, A. K. Srivastava, R. Erdélyi (2017), Active Longitude and Coronal Mass Ejection Occurrences, The Astrophysical Journal, Volume 838, Issue 1, article id. 18.
53. R. Chandra, C. H. Mandrini, B. Schmieder, B. Joshi, G. D. Cristiani, H. Cremades, E. Pariat, F. A. Nuevo, A. K. Srivastava, W. Uddin (2017), Blowout jets and impulsive eruptive flares in a bald-patch topology, Astronomy & Astrophysics, Volume 598, id.A41.
54. Ivan Zhelyazkov, Ramesh Chandra, Abhishek K. Srivastava (2017), Modeling Kelvin–Helmholtz Instability in Soft X-Ray Solar Jets, Advances in Astronomy, vol. 2017, id.262649.
55. A. K. Srivastava, Juie Shetye, K. Murawski, J. G Doyle, M. Stangalini, E. Scullion, Tom Ray, D. P. Wójcik, B. N. Dwivedi (2017), High-frequency torsional Alfvén waves as an energy source for coronal heating, Nature Scientific Reports, Volume 7, id. 43147.
56. Z. Toklikishvili, L. Chotorlishvili, S. K. Mishra, S. Stagraczynski, M. Schüler, A. R. P. Rau, and J. Berakdar (2017), Entanglement dynamics of two nitrogen vacancy centers coupled by a nanomechanical resonator, J. Phys. B: Atomic, Molecular and Optical Physics 50: 055007. ISSN: 1361-6455.
57. Shradha Mishra, S Pattanayak (2017), Boundary induced convection in a collection of polar self-propelled particles, Physica A: Statistical Mechanics and its Applications, 477, 128.
58. A.K. Tripathi, R.P. Singhal, G.V. Khazanov (2017), Simple analytical expressions for electron pitch angle diffusion coefficients, Physics of Plasmas, 24.
59. A.K. Tripathi, R.P. Singhal, and O.N. Singh II (2017), The generation of Ganymede's diffuse aurora through pitch angle scattering. Annales Geophysicae, 35, 239-252.
60. P. Singh, P.K. Shahi, S.K. Singh, A.K. Singh, M.K. Singh, R. Prakash, S.B. Rai (2017), Lanthanide doped ultrafine hybrid nanostructures: multicolour luminescence, upconversion based energy transfer and luminescent solar collector applications, Nanoscale 9: 696-705.
61. P.K. Shahi, P. Singh, A.K. Singh, S.K. Singh, R Prakash, S.B. Rai (2017), A strategy to achieve efficient dual-mode luminescence in lanthanide-based magnetic hybrid nanostructure and its demonstration for the detection of latent fingerprints, Journal of Colloid and Interface Science 491: 199–206.

(b) Proceedings of International Conferences

1. Saurabh Singh, Vani Pawar, S.K. Mandal, P. Singh (2016), Synthesized and Characterization of La and Mo co-doped Strontium Titanate nanomaterials for intermediate temperature solid oxide fuel cell anode, Proc. of the Intl. Conf. on Nanotechnology for Better Living, 2016 NBL-2016 Vol. 3, No. 1, p. 103 doi:10.3850/978-981-09-7519-7nbl16-rps-103.
2. Saurabh Singh. Priyanka A. Jha, P. Singh (2017), Oral presentation on the topic of Samarium Strontium Titanate Based Anode Materials for Intermediate Temperature Solid Oxide Fuel Cells in Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017) to be held during February 10-12, 2017 at Mahatma Gandhi University, Kottayam, Kerala.
3. Vani Pawar, Pardeep K. Jha and Prabhakar Singh (2017), Poster presentation on the topic of Micro-structural studies of TiO_2 thin films synthesized by hydrothermal method in "International Conference on Advances in Biological Systems and Material Science in NanoWorld (ABSMSNW-2017)" 19-23 February 2017, Varanasi, India.
4. Onkar nath verma, Ashutosh Shahi, Pravin Kumar and Prabhakar Singh, Poster presentation on the topic of Structural and electrical properties of $La_{0.9}Sr_{0.1}Al_{0.9}Mg_{0.1}O_{3-d}$ (LSAMO) based electrolyte material for SOFCs in "International Conference on Advances in Biological Systems and Material Science in NanoWorld (ABSMSNW-2017)" 19-23 February 2017 Varanasi, India.
5. Abhishek Singh, A. Kumar, A. Pal, A. Tripathi, A. Tiwari, Sandip Chatterjee (2016), Magnetic and Optical properties of ($Zn_{0.98}Mn_{0.02}O$) /Graphene nanocomposites, 3rd International conference on nanotechnology for

living better held on May 25-29, 2016 in NIT Srinagar.

6. A. Pal and Sandip Chatterjee (2016), Inducing ferromagnetism inpyrochlore $Eu_2Ti_2O_7$ by Fe and Mn doping and establishing ferroelectricity in $Eu_2Ti_2O_7$, 3rd International conference on nanotechnology for living better held on May 25-29, 2016 in NIT Srinagar.
7. Rahul Singh, Prince Kr. Gupta and Kaushal K. Shukla, Sandip Chatterjee (2016), The title and author of poster was Effect of La, Mn and Ti doping on structural, dielectric, and magneticproperties of multiferroic $Bi_{0.5}La_{0.5}Fe_{0.5}Mn_{0.45}Ti_{0.05}O_3$, 3rd International conference on nanotechnology for living better held on May 25-29, 2016 in NIT Srinagar.
8. Prince kr. Gupta and Rahul Singh, Sandip Chatterjee (2016), Effect of La, Mn and Ti doping on structural, dielectric, and magnetic properties of multiferroic $Bi_{0.5}La_{0.5}Fe_{0.5}Mn_{0.45}Ti_{0.05}O_3$, EMSI International conference held on June, 2-4, 2016 in Varanasi.
9. Prajyoti Singh, A. Pal, V. Gangwar, Sandip Chatterjee (2017), Magnetic Properties In Pyrochlores $Tb_{2-x}Gd_xTi_2O_7$ and $Tb_2Ti_{2-y}MnyO_7$, International Conference on Advances in Biological Systems and Material Science in Nano World (ABSMSNW-2017), 19-23 February 2017, Dep of Physics- IIT BHU Varanasi, India.
10. V. Gangwar, Prajyoti Singh, A. Pal, Sandip Chatterjee (2017), The poster title was Electrical Properties of Double Perovskite Sm_2NiMnO_6, International Conference on Advances in Biological Systems and Material Science in Nano World (ABSMSNW-2017), 19-23 February 2017, Varanasi, India.
11. Kaushal K. Shukla, Rahul Singh, A. K. Ghosh and Sandip Chatterjee (2017), Observation of Griffith phase in $CuMnO_2$, International conference on Advances in Biological System and Materials Scienc in Nano World (ABSMSNW-2017) 19-23 February, 2017 IIT BHU Varanasi.
12. Abhishek Singh, Rahul Singh, V.K. Gangwar, A. Lakhani, T. Patel, G. S. Okram, V. Ganeshan, A. K. Ghosh and Sandip Chatterjee (2017), Tuning of carrier type, Large magnetoresistance and room temperature ferromagnetism in Cu doped Bi_2Te_3 Topological Insulators, International Conference on Advances in Biological Systems and Material Science in NanoWorld (ABSMSNW-2017), 19-23 February 2017, Dept. of Physics- IIT BHU Varanasi, India.
13. A. Pal and Sandip Chatterjee (2017), Observation of multiple magnetic phases in double perovskite Pr_2CoFeO_6, International Conference on Advances in Biological Systems and Material Science in Nano World (ABSMSNW-2017), 19-23 February 2017, Dep of Physics- IIT BHU Varanasi, India.
14. Prince kr. Gupta and Rahul Singh , Sandip Chatterjee (2017), Study of ferroelectric property of the Ti –doped $Bi_{0.5}La_{0.5}Fe_{0.5}Mn_{0.5}O_3$multiferroic, International Conference on Advances in Biological Systems and Material Science in Nano World (ABSMSNW-2017), 19-23 February 2017, Dep of Physics- IIT BHU Varanasi, India.
15. P. Kumar, B. K. Singh, P. C. Pandey (2016), Transparent Nano-crystalline Cobalt doped ZnO thin films prepared by spin coating, International Conference on Advances in Light Technologies and Spectroscopy of Materials (ICALTSM -2016), Lucknow, India.
16. S. Tiwari, A. Dixit, A. K. Dikshit, P. C. Pandey (2016), Study of effective index and normalized frequency of a photonic crystal fiber containing silver as dispersive material, International Conference on Advances in Light Technologies and Spectroscopy of Materials (ICALTSM -2016).
17. S. Tiwari, B. K. Singh, P. C. Pandey (2016), Effect of Temperature on the Dispersion Properties of a Square Photonic Crystal Fiber, International Conference on Fiber Optics and Photonics, OSA, IIT-Kanpur, Dec. 2016.
18. Avanish Singh Parmar and Vikas Nanda (2016), Self Assembly using Designed Multi-component Collagen-mimetic Peptide Systems. 2nd International Conference on Soft Materials (ICSM-2016), Jaipur, India, December 2016.
19. Devyani Shukla, Vikas Nanda and Avanish Singh Parmar (2016), pH Reversible Proteolytic Digestion-Resistant Graphene Oxide – Protein Conjugate for Biomedical Application, 2nd International Conference on

Soft Materials (ICSM-2016), Jaipur, India, December 2016.

20. Subhaya Bose and Avanish Singh Parmar (2017), Investigating Effect of Metals on Collagen Fibril Formation, International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017), ISBN: 9789386256454, page-69 (Excel India Publishers), IIT (BHU), Varanasi, India, February 2017.
21. Devyani Shukla, Vikas Nanda and Avanish Singh Parmar (2017), The Nanofabrication of Proteolysis-Resistant pH Reversible Graphene Oxide-protein Conjugate, International Conference on Advances in Biological Systems and Materials Science in NanoWorld (ABSMSNW-2017), ISBN: 9789386256454, page-88 (Excel India Publishers), IIT (BHU), Varanasi, India, February 2017.
22. Prasun Dutta, (2017) Investigating the structure and dynamics of interstellar medium from Interferometric observations, The Pathfinders HI Science Co-ordination Committee (PHISCC) meeting, February 6 -11, 2017, NCRA-TIFR Pune.

(c) Proceedings of National Conferences

1. V N Mishra, R. Prasad, P. Kumar, D.K. Gupta , P.K. Rai (2016), A remote sensing based study for analyzing land use/land cover changes in Varanasi district, India. National Conference on Advancements in applications of remote sensing and geospatial technology (AARSGT-2016), held at Department of remote sensing, Birla Institute of Technology Meshra, Ranchi, during May 19-21, 2016.
2. P. Kumar,R Prasad, DK Gupta, P Kumar, V N Mishra, A.K. Vishwakarma (2016), Potential of Sentinel-1A SAR data for the estimation of winter wheat crop biophysical parameters" in the National Symposium on Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain Ecosystems" & Annual Conventions of Indian Society of Remote Sensing & Indian Society of Geomatics held atIIRS, Dehradun, India, during December 7 - 9, 2016.
3. A.K. Vishwakarma, R Prasad,DK Gupta, P Kumar, V N Mishra (2016), Ground based bistatic scatterometer measurement of ladyfinger crop at X-band, in the National Symposium on "Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain Ecosystems" & Annual Conventions of Indian Society of Remote Sensing & Indian Society of Geomatics held during December 7 - 9, 2016 at Dehradun, India.
4. V.N. Mishra, R Prasad, P Kumar, D.K. Gupta, AK Viswakarma (2016), Analysis of land use and land cover changes using multi-temporal Landsat images. National Conference on Managing Soil Resource for Environmental Sustainability: Challenges & Perspectives (MSRES-2016) held at Institute of Environment and Sustainable Development, Banaras Hindu University, Varanasi during December 9-10, 2016.
5. G. Gautam, N. Kumar, A. Mohan, S. Mohan (2016) Tribological behavior of tri-aluminide reinforced insitu composites. National Tribology Conference 2016 "NTC-2016" (8-10 December 2016) Organized by Department of Mechanical Engineering, IIT(BHU), Varanasi, India.
6. K. Devi, G. Gautam, N. Kumar, A. Mohan, S. Mohan, G.S. Mahobia (2016) Effect of morphology of primary Si on the tribological behavior of hypereutectic Al-Si alloy. National Tribology Conference 2016 "NTC-2016" (8-10 December 2016) Organized by Department of Mechanical Engineering, IIT(BHU), Varanasi, India.
7. S.K. Singh, N. Kumar, G. Gautam, A.K. Padap , A. Mohan, R.K. Gautam and S. Mohan (2016) Dry Sliding Wear Characteristics of Aluminium alloy 8011/AlB_2 in-situ Composite. National Tribology Conference 2016 "NTC-2016" (8-10 December 2016) Organized by Department of Mechanical Engineering, IIT(BHU), Varanasi, India.
8. N. Kumar, G. Gautam, R.K. Gautam, A. Mohan and S. Mohan (2016) High Temperature Sliding Wear Characteristics of AA5052/TiB_2insitu Composite. National Tribology Conference 2016 "NTC-2016" (8-10 December 2016) Organized by Department of Mechanical Engineering, IIT(BHU), Varanasi, India.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. B. P. Singh, A. K. Parchur, R. K. Singh, A. A. Ansari, P. Singh, and S. B. Rai, Structural and up-conversion properties of Er3+ and Yb3+ co-doped $Y_2Ti_2O_7$ phosphors," Phys.Chem.Chem.Phys, vol. 15, pp.

3480–3489, 2013. Citation 33 (Web of Science)

2. B. P. Singh, A. K. Parchur, R. S. Ningthoujam, A. A. Ansari, P. Singh, and S. B. Rai, Enhanced photoluminescence in $CaMoO_4$:Eu3+ by Gd3+ co-doping†, Dalt. Trans., vol. 43, pp. 4779–4789, 2014. Citation 36 (Web of Science)
3. B. P. Singh, A. K. Parchur, R. S. Ningthoujam, P. V Ramakrishna, S. Singh, P. Singh, S. B. Rai, and R. Maalej, Enhanced up-conversion and temperature-sensing behaviour of Er3+ and Yb3+ co-doped Y2Ti2O7 by incorporation of Li+ ions, Phys. Chem. Chem. Phys., vol. 16, pp. 22665–22676, 2014. Citation 39 (Web of Science)
4. B. P. Singh, A. K. Parchur, R. S. Ningthoujam, A. A. Ansari, P. Singh, and S. B. Rai, Influence of Gd3+ co-doping on structural property of $CaMoO_4$:Eu nanoparticles, Dalt. Trans., vol. 43, pp. 4770–4778, 2014. Citations 23 (Web of Science)
5. X. Cheng, M. D. Ding, J. Zhang, A. K. Srivastava, Y. Guo, P. F. Chen, J. Q. Sun, On the Relationship Between a Hot-channel-like Solar Magnetic Flux Rope and its Embedded Prominence, The Astrophysical Journal Letters, Volume 789, Issue 2, article id. L35, 7, 2014. Citation 21 (Web of Science)
6. S.K. Singh, Red and near infrared persistent luminescence nano-probes for bioimaging and targeting applications (2014), RSC Advances 4, 58674-58698 Citations: 40 (Web of Science)
7. A.K. Singh, S.K. Singh, S.B. Rai, Role of Li+ ion in the luminescence enhancement of lanthanide ions: favorable modifications in host matrices (2014), RSC advances 4 (51), 27039-27061 Citations: 34 (Web of Science)

Distinguished Visitors

S. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Prof. Yashwant Singh, Distinguished Professor, Department of Physics, Banaras Hindu University	17th August, 2016	Delivering a talk under Colloquium Series: States and Phases of Matter and Phase Transition
2	Prof. Kalobaran Maiti, Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai	26th August, 2016	Delivering a talk under Colloquium Series: Topological insulators and their aging
3	Prof. S.K. Patra, Scientist 'G', Group Director, Sensor Data Processing Group, Advanced Data Processing Research Institute (ADRIN), Secunderabad	02nd September, 2016	Delivering a talk under Colloquium Series: SAR Image Formation
4	Prof. Deepak Dhar, Department of Theoretical Physics, Tata Institute of Fundamental Research, Homi Bhabha Road, MUMBAI	16th September, 2016	Delivering a talk under Colloquium Series: Assisted-hopping models of active-absorbing state transition on a line
5	Prof. Robert von-Fay Sibenburgen, The University of Sheffield, UK	12th -22nd Sept. 2016	The GIAN course entitled "Advanced Fluid Dynamics and Applications" & The 23rd Institute Lecture and inaugural pre-fest talk of Technex'17 entitled "Living with a Star"
6	Prof. A. R. Kulkarni, Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology–Bombay, Powai Mumbai	28th September, 2016	Delivering a talk under Colloquium Series: Energy, Environment and Piezoceramics

7	Massimo Viviani, Scientist, CNR-IENI, Italy	29th Nov., 2016 to 5th Dec, 2016	Collaborative research work
8	Prof. Ujjwal Sen, & Prof. Aditi Sen (De), HRI Allahabad	30th November, 2016	Discussion on Quantum Information & Quantum Entanglement related works and explore possibilities of future collaborations between IIT (BHU) & HRI Allahabad.
9	Prof. Sudipta Maiti, Department of Chemical Sciences, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai	03rd October, 2016	Delivering a talk under Colloquium Series: When you need a physicist, not a physician, to cure a disease
10	Prof. Arnab Rai Choudhuri, Department of Physics, Indian Institute of Science, Bangalore, Bengaluru	20th October, 2016	Delivering a talk under Colloquium Series: The Mysterious Magnetic Personality of Our Sun

Other activities

International collaboration/achievements by the Department

VLF-Global-Network Project without any financial commitment except infrastructure logistics by the Dept/Institute. The VLF receiver is fully operational at the Dept and returning uninterrupted data of great scientific value. This is an International Project with global visibility (http://vlf-data.ifz.ru/index.html).
International Collaboration with Prof. Oscar Iglesias at University of Barcelona. Spain and Prof. J. Berakdar at Martin-Luther University Halle, Germany.
International collaboration with Prof. Massimo Viviani, Scientist, CNR-IENI, Italy.

Indian Faculty visits in the Department/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Shiva Prasad, IIT Bombay	Ph.D. Viva of Mr. Abhishek Kumar	08th September, 2016, Dept. of Physics, IIT(BHU)
2	Prof. Ashok Sharma, MNIT, Jaipur, Rajasthan	Ph.D. Viva of Mr. Gaurav Gautam	06th October, 2016, Dept. of Physics, IIT(BHU)
3	Dr. Shiv Kumar, Scientist-G, SSPL, Delhi	Ph.D. Viva of Mr. Praveen Kumar	25th February, 2017, Dept. of Physics, IIT(BHU)

Foreign Faculty Visits in the Department

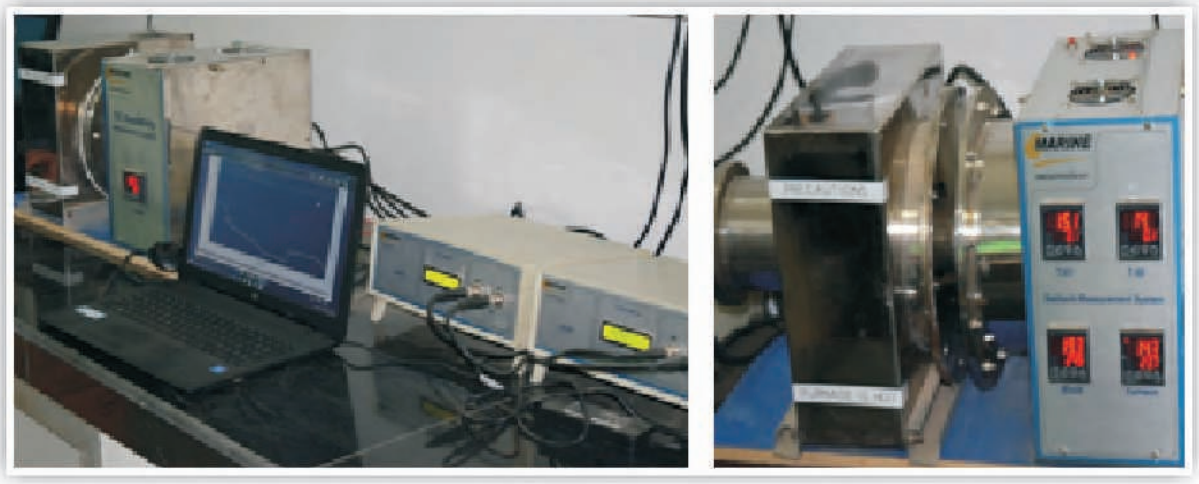
S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Robert von-Fay Sibenburgen, The University of Sheffield, UK	The GIAN course entitled "Advanced Fluid Dynamics and Applications" & The 23rd Institute Lecture and inaugural pre-fest talk of Technex'17 entitled "Living with a Star"	12-22 September 2016, Department of Physics, IIT(BHU)
2	Massimo Viviani, Scientist, CNR-IENI, Italy	Collaborative research work	29th November, 2016 – 5th December, 2016, Department of Physics
3	Prof. Vikas Nanda, Rutgers University, NJ, USA	Keynote speaker, ABSMSNW-2017	18.02.2017-21.02.2017 Department of Physics, IIT (BHU) Varanasi
4	Prof. Jayant Kumar, Umass-Lowell, Lowell, MA, USA	Invited speaker, ABSMSNW-2017	18.02.2017-22.02.2017 Department of Physics, IIT (BHU) Varanasi

5	Prof. Ehud Gazit Tel Aviv University, Tel Aviv, Israel	Popular Lecture, ABSMSNW-2017	18.02.2017-20.02.2017 Department of Physics, IIT (BHU) Varanasi
6	Prof. Raffale Mezzenga ETH Zurich, Zurich, Switzerland	Plenary speaker, ABSMSNW-2017	19.02.2017-23.02.2017 Department of Physics, IIT (BHU) Varanasi
7	Dr. Elad Koren IBM Research Laboratory Zurich, Switzerland	Invited speaker, ABSMSNW-2017	20.02.2017-23.02.2017 Department of Physics, IIT (BHU) Varanasi
8	Prof. Bo Liedberg Nanyang Technological University Singapore, Singapore	Plenary speaker, ABSMSNW-2017	19.02.2017-21.02.2017 Department of Physics, IIT (BHU) Varanasi
9	Prof. Waldemar Nawrocki Poznan University of Technology Ponzan, Poland	Plenary speaker, ABSMSNW-2017	19.02.2017-23.02.2017 Department of Physics, IIT (BHU) Varanasi
10	Dr. Radha Boya University of Manchester, UK	Invited speaker, ABSMSNW-2017	20.02.2017-22.02.2017 Department of Physics, IIT (BHU) Varanasi
11	Dr. Ashok Keerthi University of Manchester, UK	Invited speaker, ABSMSNW-2017	20.02.2017-22.02.2017 Department of Physics, IIT (BHU) Varanasi

Photograph of Major Facilities of the Department of Physics, IIT(BHU)

DTA-TGA

Kinetic Spectrometer, Centrifuge, PH Meter



Four probe resistivity and Seeback coefficient Measurement system


Microwave Remote Sensing lab
High Power Microwave Signal Generator
Microwave Power Meter
Peak and Average Power Sensor
Trimble Juno-3B GPS
Chlorophyll Meter
Plant Canopy Analyzer

HPC System

19. Department of Mathematical Sciences

Year of Establishment : 1985

Head of the Department : Prof. Lal Pratap Singh

Brief Introduction of the Department :

Department of Mathematical Sciences began its journey as a section to assist engineering departments of the institute which, in the true sense, pioneered engineering education in the nation. It soon acquired the status of a full-fledged department in 1985.The department aims to giveemphasis to research in analysis, algebra, topology, mathematical modelling and other applied areasof mathematics. Be it functional analysis, fluid dynamics, biomechanics, fracture mechanics, solidmechanics, digital image processing, generalised thermo-elasticity, heat and mass transfer,cryptology and many more fields of applied nature, department's contribution is enormous in termsof numerous research papers published in reputed international journals over the past few decades.Computing is the glamour of the department. It annexes several dimensions in terms of new andgrowing areas of research and further facilitates simulation of mathematical models constructed forinterdisciplinary areas.

The department caters to the needs of the undergraduate as well as post-graduate students of theInstitute. It runs a 5 years' integrated M Tech programme which is one of the most sought coursesoffered by the institute. The top jobs in terms of annual package are offered for this course, which isa strong indication how popular and useful the course is for the industrial growth in general andsoftware industry in particular under present circumstances.

Major areas of Research

Bio-Transport Processes, Biomechanics, Computational Fluid Dynamics, Digital Image Processing, Fluid mechanics, Free Boundary Problems, Fractional Calculus, Fracture Mechanics, Functional Analysis, Fuzzy & Soft Set Theory, Fuzzy Topology, Heat and Mass Transfer, Mathematical Modelling, Nonlinear Waves, Nonlinear Dynamics, Theoretical & Numerical Optimization, Pseudo-Differential Operators, Theory of Thermo Elasticity and Wavelet Analysis and Distributions, Numerical analysis, Parallel computing, Graph Theory and Network Sciences.

Area of the Department/School (in square meters):1665 sqm

1. New Building = 1080 Sq-meter
2. Old Building = 585 Sq-meter

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	02
2	No. of Lecture Halls	02
3	No. of Laboratory	02
4	No. of Computers available for students in the Department/School/ School	80

Unique Achievement / Preposition of the Department/School

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
Ph. D. level			
1	MA 515	Abstract Algebra	11
2	MA 527	Selected Topics of Mathematical Methods	11
3	MA 514	Analysis	11
4	MA 532	Computer Programming with Applications to Numerical Analysis	13

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	---	---	---	---
2	Dual Degree	20	22	21	23	20
3	M. Tech/ M. Pharm	---	---	---	---	---
4	Ph. D (Under Institute Fellowship)	05	01	---	10	05
5	Ph. D (Under Project Fellowship)	01	---	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Rakhi Tiwari	12612EN005	International Conference on Mathematical Techniques in Engineering Applications	April 29-30, 2016, Graphic Era Univ., Dehradun	IIT (BHU)
2	VandanaTiwari	12612EN001	24'ICFIDCAA, Anand Engineering College, Jaipur	22-26 Aug., 2016, Jaipur	UGC
3	Gopal Kr. Gupta	13121006			IIT (BHU)
4	Ajit Kumar Singh	13121011	International Conference on Mathematical Modelling & Simulation	Aug 29-31, 2016 ; BHU, Varanasi	IIT (BHU)
5	Shashi Kant	13121016			IIT (BHU)
6	Rakhi Tiwari	12612EN005			
7	Prashant Kumar Mishra	13121001	-- do –		Self
8	Pappu Kumar	12612EN002	-- do –		Self
9	Vijay Kr. Patel	13121008	-- do --		Self
10	Shivam Shreevastava	13121018	19th International Conference of International Academy of Physical Sciences (CONIAPS XIX)	Oct 17-19, 2016 Kumaun Univ. Nainital	IIT (BHU)
11	Sanjeev Kumar Maurya	12612EN007	International Conference on Algebra and its Applications (ICAA-16)	Nov 12-14, 2016, Dept of Maths, AMU, Aligarh	IIT (BHU)
12	Ajit Kumar Singh	13121011	International Conference on Advances in Scientific Computing	Nov 28-30, 2016; IIT Madras, Chennai	IIT (BHU)
13	Pappu Kumar	12612EN002			
14	Gopal Kr. Gupta	13121006			
15	13121009	16061001	International Conference on Mathematical Analysis and Applications-2016	Nov 28- Dec 2, 2016, IIT Roorkee	IIT (BHU)
16	12612EN005				
17	Shashi Kant	13121016	International Conference on Application of Mathematics in Topological Dynamics, Physical, Biological & Chemical Systems	December 9-11, 2016; Calcutta Mathematical Society, Kolkata	Self
18	Gopal Kr. Gupta	13121006			Self

19	Sanjeev Kumar Maurya	12612EN007	International conference of the Indian Mathematics consortium (Jointly with AMS)	Dec 14-17, 2016 DST - CIMS, BHU, Varanasi	IIT (BHU)
20	Shashi Kant	13121016			Self
21	Shiva Sharma	13121009	-- do --		Self
22	VandanaTiwari	12612EN001	-- do --		UGC
23	Rakhi Tiwari	12612EN005	-- do --		Self
24	Shivam Shreevastava	13121018	-- do --		Self
25	Pappu Kumar	12612EN002	-- do --		Self
26	Gopal Kr. Gupta	13121006	-- do --		Self
27	Vijay Kr. Patel	13121008	-- do --		Self
28	Somveer Singh	13121015	-- do --		Self
29	Ajit Kumar Singh	13121011	Conference on Nonlinear Systems and Dynamics	Dec 16-18 2016; IISER Kolkata,	Self
30	Shiva Sharma	13121009	International Conference on Applicable Analysis -2017	Feb 08-11, 2017, Shaheed Bhagat Singh College, DU	IIT (BHU)
31	Kamlesh Kumar	13121010			
32	Shashi Kant	13121016	32th Annual Conference of BHU Mathematical Society on "Recent Trends in Mathematical Analysis and its application"	Feb 17-18, 2017, Dept of Maths, BHU	IIT (BHU)
33	Prashant Kumar Mishra				
34	Vandana Tiwari	12612EN001	International Training Workshop on Fuzzy Logic with Applications, IIT(BHU), Varanasi	20-25 March, 2017, Dept. of Mathematical Sciences, IIT(BHU)	NA
35	Shivam Shreevastava	13121018			NA
36	Pappu Kumar	12612EN002	Computational Cardio-Vascular Fluid Dynamics	Feb. 06-11, 2017 IIT Kanpur	UGC
37	Samiksha Gupta	13123015	Goldman Sachs Women Emerging in Finance	Jan 24, 2017, Goldman Sachs office, Bangalore	Goldman Sachs
ABROAD					
1	Ajit Kumar Singh	13121011	International Conference on Applications of Mathematics to Nonlinear Sciences(AMNS-2016) Tribhuvan University, Nepal	26-29. 2016 & Tribhuvan University, Nepal	IIT(BHU)
2	Shivam Shreevastava	13121018			IIT(BHU)
3	Vandana Tiwari	12612EN001			SMB
4	Prashant Kumar Mishra	13121001			IIT(BHU)
5	Pappu Kumar	12612EN002	10th European Conference on Mathematical and Theoretical Biology and SMB Annual Meeting	July 11-15, 2016 University of Nottingham, U.K.	IIT(BHU) & Notting-ham Univ.
6	Harendra Singh	12612EN008	Conference	Jul 18-20, 2016 Novi sad Serbia	IIT(BHU)
7	Somveer Singh	13121015	Conference	Aug 2-7, 2016 St. Petersburg, Russia.	IIT(BHU)
8	Vijay Kumar Patel	13121008	Conference	Aug 2-7, 2016 St. Petersburg, Russia	IIT(BHU)

Names of students/scholars who got prizes and awardsoutsidethe Institute

S. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Nripesh Trivedi	11412EN001	Dean's Distinguished fellowship	29th March 2017, California	University of California, Riverside

Names of scholars/students who won Convocation/Institute Day prizes

S. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Arnav Gupta	11412EN002	Gold Medal	IIT (BHU)

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	T Som, Ph.D.	Functional Analysis, Fuzzy Set Theory, Image Processing
2	R Srivastava, Ph.D.	Fuzzy Topology
3	L P Singh, Ph.D.	Non-Linear Waves, Computational Fluid Dynamics
4	S K Pandey, Ph.D.	Bio Mechanics, Fluid Mechanics
ASSOCIATE PROFESSORS		
1	S Mukhopadhyay, Ph.D.	Mathematical Modelling, Fractional order Thermoelasticity
2	S Das, Ph.D.	Fracture Mechanics, Mathematical Modelling, Nonlinear Dynamics
3	S K Upadhyay, Ph.D.	Wavelet Analysis, Distribution Theory, Pseudo Differential Operator
ASSISTANT PROFESSORS		
1	Ashok Ji Gupta, Ph.D.	Theory of Rings and Modules
2	Rajeev, Ph.D.	Mathematical Modelling, Free Boundary Problems
3	Anuradha Banerjee, Ph.D.	Stochastic Modelling in Queueing Theory
4	Vineet Kumar Singh, Ph.D.	Numerical Wavelets Method, Operational Matrix Methods, Signal Processing
5	Rajesh Kumar Pandey, Ph.D.	Integral Equations, Wavelets and Image Processing, Fractional Derivatives
6	Sunil Kumar, Ph.D.	Numerical analysis, Image Processing, Parallel computing
7	Debdas Ghosh, Ph.D.	Convex Optimization, Numerical Optimization, Optimization under Uncertainty
8	Lavanya Sivakumar, Ph.D.	Graph Theory and Network Sciences

Short-term courses/workshops/seminars/symposia/conferences organized by faculty members

S. No.	Cordinator	Title	Period
1	Dr. Rajesh Kumar Pandey & Prof L P Singh	Advanced Numerical & Analytical Methods for Engineers and Scientists (NAMES 2017)	Jan 12-18, 2017
2	Prof. T Som	International Training Workshop on Fuzzy Logic with Applications	March 20-25, 2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr. S Das	19th Ramanujan Symposium on Recent Trends in Nonlinear Partial and Fractional Differential Equations	March 2 - 4, 2016 Ramanujan Inst. for Adv.Study in Maths., Chennai
2	Dr. Rajeev	2nd International Conference on Mathematical Techniques in Engineering Applications (ICMTEA 2016)	April 29-30, 2016, Dehradun, India
3	Prof. T Som	World Conference on Soft Computing (WConSC-2016)	May 22-25, 2016 Univ. of California, Berkeley (USA)
4 5	Dr. S K Upadhyay Dr. Rajesh Kumar Pandey	International Conference on Fractional Differentiation and Its Applications (ICFDA 16)	July 18-20, 2016, Univ. of Novi Sad, Serbia
6	Dr. S K Upadhyay	National Seminar of Jammu Mathematical Society, Jammu	Oct 20-22, 2016; Univ. of Jammu
7	Dr. Ashokji Gupta	International Conference on Algebra and its Applications (ICAA-16)	Nov. 12-14, 2016 Dept of Mathematics, AMU, Aligarh, India
8	Prof. K N Rai Plenary Talk	International Conference on Advances in Scientific Computing, IIT, Madras	Nov 28, 2016; Dept of Mathematics, IITM
9	Dr. A Banerjee	International Conference on Frontiers of Optimization Theory & Applications	Nov 24-26, 2016; Kolkata
10	Dr. Debdas Ghosh	International Conference on Mathematics and Computing (2017)	Jan 17-21, 2017; Haldia Inst. of Technology, Haldia
11	Dr. Rajesh Kumar Pandey	International Conference on Applicable Analysis (ICAA 2017)	Feb.08-11, 2017 University of Delhi
12	Prof. T. Som (Plenary Lecture)	National Conference on Discrete Mathematics and Computing	Feb 20-21, 2017College of Engg. Vatakara, Kozikode
Meetings			
1	Prof. T Som	Selection Committee Meeting, PSC, Uttarakhand, Haridwar	April 18-19, 2016; PSC, Haridwar
2	Prof. S K Pandey	AICTE Visit, Kolkata	April 19, 2016
3	Prof. T Som	BOS Meeting, VBS Purvanchal Univ., Jaunpur	Aug 28, 2016; VBSPU, Jaunpur
4	Dr. S Das	Academic Discussion	Oct 28-29, 2016; Kolkata
5	Prof. L P Singh	BOS Meeting, RM Lohia Univ., Faizabad	Nov 3, 2016; RMLU, Faizabad
6	Dr. A Gupta	RDC Meeting, VBS Purvanchal Univ., Jaunpur	Nov 7, 2016; VBSPU, Jaunpur
7	Prof. T. Som	RDC Meeting, DEI, Dayalbagh, Agra	Nov 18, 2016; DEI, Dayalbagh, Agra
8	Dr. S Das	Academic Discussion	Dec 16, 2016; NIT Rourkela
9 10	Prof. K N Rai Prof. T. Som	Selection Committee Meeting	Dec 29, 2016; KNIT, Sultanpur

11	Dr. A Gupta	RDC Meeting, VBS Purvanchal Univ., Jaunpur	Jan 20, 2017; VBSPUJaunpur
12	Prof. S K Pandey	AICTE Visit, Bikaner	Mar 4, 2017

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	Prof. Sanjay Kumar Pandey	Mathematical Modelling	Academic Staff College, BHU	Sept 11, 2016
2		Mathematical Modelling	UGC-HRD Centre, Ranch University	Sept 13, 2016
3		Mathematical Modelling of fluid flows	-- do --	Sept 13, 2016
		Graph Theoretic Mathematical Modelling	-- do --	Sept 14, 2016
4	Dr. Rajesh Kumar Pandey	Numerical Treatments to Isoperimetric Constraint Fractional Variational Problems	University of Delhi, India	Feb.10,2017
		Classification of 2nd order PDE (1.5 hours)	QIP STC, Dept of Mathematical Sciences, IIT (BHU)	Jan 12, 2017
4	Dr. Rajesh Kumar Pandey	Numerical solution of Elliptic equation using: Direct matrix inversion, Iterative matrix inversion(1.5 hours)	-- do --	Jan 15, 2017
		Numerical solution of Elliptic equation using: Successive over/under relaxation techniques, Alternate direction implicit schemes.(1.5 hours)	-- do --	Jan 15, 2017
4	Prof. T. Som	Fuzzy Sets and Applications	Dept. of CSE & IT, MITS, Gwalior	Mar 1, 2017
5	Prof. K N Rai	Advances in Stability Analysis on Dynamical systems	NIT, Silchar	March 9 -10, 2017
6	Prof. S Das	Advances in Stability Analysis on Dynamical systems	NIT, Silchar	March 9 -10, 2017
7	Prof. T. Som	Fuzzy Cognitive maps (1.5 hours)	International Training Workshop/STC on Fuzzy Logic with Applications, IIT (BHU)	Mar 21, 2017
		Classical and Fuzzy Clustering (1.5 hours)	-- do --	Mar 22, 2017

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Lavanya Shivkumar	UK	March 10, 2017	March 26, 2017	Academic Collaboration	CPDA fund

Books, monographs authored/co-authored

S. No.	Name of Author/Co- Author	Title	Publisher
1	D. K. Patel, T. Som & M. K. Singh	Generalized and Hybrid Set Structures and Applications for Soft Computing	IGI-Global Publication, USA, 2016

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/member)	Name of Journal
1	Prof. T. Som	Guest Editor Member, Editorial Board	i) International Jour of Fuzzy Computation and Modelling ii) Indian Academy of Mathematics
2	Prof. T. Som	Reviewer	Springer Plus : i) Mathematics and ii) Computer Science iii) Neural Computing and Applications and few other reputed journals
3	Prof. L. P. Singh	Reviewer	many Internationally reputed Journals
4	Prof. Sanjay Kumar Pandey	Associate Editor	International Journal of Energy and Thermal Fluids
5	Dr. S. Mukhopadhyay	Editor/Associate Editor	i) Computational Methods in Science and Technology ii) Mathematics and Mechanics of Solids iii) International Journal of Thermoelasticity
6	Dr. S. Mukhopadhyay	Reviewer	Mathematical Reviews (AMS)
7	Dr. S. Mukhopadhyay	Reviewer	i) Applied Mathematical Modelling ii) International Journal of Engg. Scs. iii) Computational Methods in Sci. and Tech. iv) Mathematics and Mechanics of Solids & v) Acta Mechanica
8	Dr. S. Das	Reviewer	Several Internationally reputed Journals
9	Dr. S. K. Upadhyay	Reviewer	many Internationally reputed Journals
10	Prof. Sanjay Kumar Pandey	Member, Editorial Board	ISST Journal of Mathematics and Computer Systems, Ghazaibad, INDIA

Design and Development Activities

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	Dr. S Das	A system and method for determination of Crack progression" (Ref. No. P.1323.IN); Application No. 201711012057

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	On Characterizing and Obtaining the Complete Efficient Solution Set of an Interval Optimization Problem under a D-Dominance and a Variable Dominance Structure	3 years (Dec 2016- Dec 2019)	SERB Govt. of India	15.025	Dr. Debdas Ghosh
2	Fractional calculus approached solutions for two dimensional ground water contaminations in unsaturated media	3 years (2014-2017)	BRNS BARC, Govt. of India	22.9575	Dr. S Das
3	Study and Analysis of Mathematical Models of Nonlinear Fractional order Diffusion Equations	3 years (2015-2018)	SERB Govt. of India	16.92	Dr. S Das
4	Development of solution methods for Abel's integral equations and generalized Abel's integral equation	3 years (2016-2019)	DAE Govt. of India	3.325	Dr. Rajesh Kumar Pandey

Faculty members' participation with other universities under MoUs

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	2
2	Total Number of Papers Published in Refereed International Journals	36
3	Total Number of Papers Presented in National Conferences	43
4	Total Number of Papers Presented in International Conferences	10

(a) Refereed International Journals

1. A. K. Singh, V. K. Yadav and S. Das (2016) Synchronization between fractional order complex chaotic systems, International Journal of Dynamics and Control, 29 : 1-15. ISSN: 2195-2698.
2. A. K. Singh, V. K. Yadav and S. Das (2016) Comparative study of synchronization methods of fractional order chaotic systems, Nonlinear Engineering- Modeling and Application, 5 :185-192.ISSN: 2192-8029.
3. A. K. Singh, V. K. Yadav and S. Das (2017) Synchronization between fractional order complex chaotic systems with uncertainty, Optik - International Journal for Light and Electron Optics, 133 : 98-107 (SCI). ISSN: 0030-4026.
4. A. K. Singh, V. K. Yadav and S. Das (2016) Dual combination synchronization of the fractional order complex chaotic systems, ASME Journal of Computational and Nonlinear Dynamics, 12 : 0110171-8 (SCI). ISSN: 1555-1415.
5. Bharti Kumari and Santwana Mukhopadhyay (2016) A Domain of Influence Theorem for Thermoelasticity without Energy Dissipation, Mathematics and Mechanics of Solids (in press), DOI: 10.1177/1081286516661026. ISSN: 1741-3028.
6. Chandra Shekher Singh, Harendra Singh, Vineet Kumar Singh, Om P. Singh (2016) Fractional order operational matrix methods for fractional singular integro-differential equation, Applied Mathematical Modelling, http://dx.doi.org/10.1016/j.apm.2016.08.011 0307-904X/© 2016 Elsevier. ISSN: 0307-904X.

7. C. S. Singh, A.K. Singh, J.K. Sahoo (2016) Mess-Less Numerical Scheme Based on Matrices for Integro-Differential Equation. (ICCPA). ISSN-1555-6662.
8. D K Patel, T Som and M K Singh (2016) Wavelet-Based Recognition of Handwritten Characters Using Artificial Neural Network in the Handbook of Research on "Generalized and Hybrid Set Structures and Applications for Soft Computing" (A volume in the Advances in Computational Intelligence and Robotics (ACIR) Book Series) (Editor: Sunil Jacob John), IGI-Global Publication, USA, 473-489. ISSN: 2327-042X.
9. Harendra Singh, C.S. Singh (2016) Stable Numerical Solutions of Fractional Partial Differential Equations Using Legendre Scaling Functions Operational Matrix, Ain Shams Engineering Journal, http://dx.doi.org/10.1016/j.asej.2016.03.013 2090-4479 Elsevier. ISSN: 2090-4479.
10. H Rajput, T Som and S Kar (2016) Vehicular License Plate Localization Using Principal Component Analysis, IETE Technical Review(Taylor & Francis) : 6 pages. ISSN: 0974-5971.
11. Kamlesh Kumar, R. K. Pandey and Shiva Sharma (2017), Comparative study of three numerical schemes for fractional integro-differential equations. Journal of Computational and Applied Mathematics, 315, 287-302. ISSN: 0377-0427.
12. K. K. Singh, M. K. Bajpayee and R. K. Pandey (2016) A novel non-invasive method for extraction of geometrical and texture features of wood, Research in Nondestructive Evaluation (accepted). ISSN: 1432-2110.
13. P. K. Mishra, S. Das and M. Gupta (2016) Interaction between interfacial and sub-interfacial cracks in a composite media - Revisited, ZAMM. Z. Angrew. Math. Mech., V.96: 1129–1136 (SCI). ISSN: 1521-4001.
14. P. K. Mishra and S. Das (2016) Interaction between interfacial collinear Griffith cracks in composite media under thermal loading, Zeitschriftfür Naturforschung, V. 71: 465–473 (SCI). ISSN 0932-0776.
15. P. K. Mishra and S. Das (2016) Two interfacial collinear Griffith cracks in thermo-elastic composite media, Thermal Science, doi:10.2298/TSCI151017210M (SCI). ISSN 2334-7163.
16. Rajeev, M. S. Kushwaha (2016) Comparison between Adomian decomposition method and optimal homotopy asymptotic method for a two moving boundaries problem, Differential Equations and Dynamical Systems, DOI 10.1007/s12591-016-0336-4. ISSN: 0974-6870.
17. Rajeev and A.K. Singh (2017) Homotopy analysis method for a fractional Stefan problem, Nonlinear Sci. Lett. A, 8 (1) : 50-59. ISSN: 2519-9072.
18. R. K. Pandey, Shiva Sharma and Kamlesh Kumar (2016), Collocation method for Generalized Abel's integral equations. Journal of Computational and Applied Mathematics, 302, 118-128. ISSN: 0377-0427.
19. R. K. Pandey, N. Kumar and R. N. Mohapatra (2016) An approximate method for solving fractional delay differential equations, International Journal of Applied and Computational Mathematics (accepted). ISSN: 2199-5796.
20. S. Das, N. K. Tripathi, S. H. Ong, H. Jafari (2016) Solution of higher order nonlinear time-fractional reaction diffusion equation, Entropy, V. 18: 329-339 (SCI). ISSN 1099-4300.
21. S. Jaiswal, M. Chopra, S. H. Ong and S. Das (2016) Numerical solution of one-dimensional finite solute transport system with first type source boundary condition, International Journal of Applied and Computational Mathematics, doi:10.1007/s40819-016-0280-6 . ISSN: 2199-5796.
22. S. Das and V. K. Yadav (2016) Chaos control and function projective synchronization of fractional order systems through backstepping method, Theoretical and Mathematical Physics, 189: 1430-1439 (SCI). ISSN: 1573-9333.
23. Seema Mishra and Rekha Srivastava (2016) Representability of Fuzzy Biorders and Fuzzy Interval orders, International Journal of Uncertainty, Fuzziness and Knowledge- Based Systems, 24: 917- 935. ISSN: 1793-6411.
24. Seema Mishra and Rekha Srivastava (2016) Fuzzy Topologies Generated by Fuzzy relations, Soft Computing. Doi: 10.1007/s00500-016-2458-6. ISSN: 1433-7479.
25. Seema Mishra and Rekha Srivastava (2016) Fuzzy Soft Compact Topological Spaces, Journal of

Mathematics, Volume 2016, Article ID 2480842.
26. Shashi Kant and SantwanaMukhopadhyay (2017) A detailed comparative study on responses of some heat conduction models for an axisymmetric problem of coupled thermoelastic interactions inside a thick plate, Int. J. Thermal Sciences, Vol. 117: 196-211. ISSN: 1290-0729.
27. Shashi Kant and SantwanaMukhopadhyay (2017) Investigation of a problem of an elastic half space subjected to stochastic temperature distribution at the boundary, Applied Mathematical Modelling, Vol. 46: 492-518. ISSN: 0307-904X.
28. Shashi Kant and SantwanaMukhopadhyay (2016) Analysis of phase-lag effects on wave propagation in a thick plate under axisymmetric temperature distribution, Int. J. Thermal Sciences, 110: 159-173. ISSN: 1290-0729.
29. S K Pandey, S K Tiwari (2017) Swallowing of Casson fluid in oesophagus under the influence of peristaltic waves of varying amplitude, International Journal of Biomathematics, 10(2). ISSN: 1793-7159.
30. Somnath Maiti and S K Pandey (2017) Rheological fluid motion in tube by metachronal waves of cillia (Ms. No. JBRH-D-14-00014R2), Applied Mathematics and Mechanics (English Edition), DOI 10.1007/s10483-017-2179-8. ISSN: 1573-2754.
31. S K Pandey, G Ranjan, S K Tiwari, K Pandey (2016) Variation of pressure from cervical to distal end of oesophagus during swallowing: Study of a mathematical model, Mathematical Biosciences, 288: 149-158. doi: 10.1016/j.mbs.2017.03.010. ISSN: 0025-5564.
32. T Som and A Choudhury (2016) Fixed points for quasi contraction maps on complete metric spaces, Jour. Math. & Comp. Sci. 16(1): 26-32. ISSN 2008-949X.
33. V. K. Yadav, N. Srikanth and S. Das (2016) Dual function Projective synchronization of fractional order complex chaotic systems, Optik - International Journal for Light and Electron Optics, 127: 10527-10538 (SCI). ISSN: 0030-4026.
34. V. K. Yadav, S. Das and D. Cafagna (2016) Nonlinear synchronization of fractional-order Lu and Qi chaotic systems, IEEE Int. Conf. on Electronics, Circuits and Systems(ICECS), IEEE Publication, 596 – 599. doi:: 10.1109/ICECS.2016.7841272.
35. V. K. Yadav and S. Das (2017) Stability analysis, Chaos control of Fractional order Vallis and El Nino systems and its Synchronization, IEEE Journal of AutomaticaSinica, 4 : 114-124.ISSN: 2329-9274.
36. V. K. Yadav, G Prasad, T Som and S. Das (2017) Combined synchronization of time-delayed chaotic systems with uncertain parameters, Chinese Journal of Physics, 55 : 457–466, 2017 (SCI). ISSN: 0577-9073.

(b) Refereed National Journal

1. A Choudhury and T Som, An extension of Telci , Tas and Fisher's theorem on fixed points, Ganita, 66(2016), 47-56.
2. A Choudhury and T Som, Few extensions of a fixed point theorem of Achari, Jour. Tripura Math. Soc. 17(2016), 23-27.

(c) Proceedings of International Conferences

1. A. Banerjee, K. Sikdar and G. K. Gupta (2016) On finite buffer BMAP/G/1 queue with queue length dependent service."1st International Conference on Frontiers in Optimization: Theory and Application" (FOTA 2016) at Heritage Institute of Technology Kolkata, India, 24th to 26th November 2016.
2. S. Sharma and R. K. Pandey, Jacobi collocation method for fractional-integro differential equations, Vol. 2, pp. 854-862, Proceedings of the International Conference on Fractional Differentiation and its Applications,Novi Sad, Serbia, July 18 - 20, 2016.
3. H. Singh and R. K. Pandey, Approximate numerical solutions of fractional model of linear delay differential equation using Legendre scaling functions, Vol. 2, pp. 863-872, Proceedings of the International Conference on Fractional Differentiation and its Applications, Novi Sad, Serbia, July 18 - 20, 2016.
4. Tuli Bakshi, Arindam Sinharay and Tanmoy Som (2016) A novel soft set theoretic prisoners' dilemma game model, IEEE Xplore Proceedings of the3rd International Conference on Recent Advances in Information

Technology (RAIT), ISM, Dhanbad March 3-5, 2016, 160-163 (DOI: 10.1109/RAIT.2016.7507894).

5. Tuli Bakshi, Arindam Sinharay and Tanmoy Som (2016),An introduction towards automated parameterization reduction of soft set, IEEE Xplore Proceedings of the 3rd International Conference on Recent Advances in Information Technology (RAIT), ISM, Dhanbad, March 3-5, 2016, 164-171 (10.1109/RAIT.2016.7507895).
6. T. Som, A. Kundu and B.S. Choudhury (2016) Some results on fixed points of weak contractions for non compatible mappings via (E.A)-like property, Proceeding of the International Conference on Recent Advances in Mathematical Biology, Analysis and Applications, AMU, Aligarh, June 4-6, 2015 as M. Cushing et al. (eds.), Applied Analysis in Biological and Physical Sciences, Springer Proceedings in Mathematics & Statistics 186, DOI 10.1007/978-81-322-3640-5_27.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. SK Agrawal, M Srivastava, S Das(2012), Synchronization of fractional order chaotic systems using active control method, Chaos, Solitons & Fractals 45 (6), 737-752. Citations: 83
2. R. K. Pandey, N. Kumar(2012), Solution of Lane-Emden type equations using Bernstein Operational matrix of Differentiation, New Astronomy 17, 303-308. Citation: 45
3. M Srivastava, SP Ansari, SK Agrawal, S Das(2014), AYT Leung, Anti-synchronization between identical and non-identical fractional-order chaotic systems using active control method, Nonlinear Dynamics 76 (2) (2014), 905-914. Citation: 40
4. K Vishal, S Kumar, S Das(2012), Application of homotopy analysis method for fractional Swift Hohenberg equation–Revisited, Applied Mathematical Modelling 36 (8), 3630-3637. Citation: 35
5. D Tripathi, SK Pandey, OA Bég(2013),Mathematical modelling of heat transfer effects on swallowing dynamics of viscoelastic food bolus through the human oesophagus, International Journal of Thermal Sciences 70, 41-53. Citation: 27

Other activities

Indian Faculty visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Dr. Goutam Dutta Associate Professor IIITDM Jabalpur	Delivering a series of lectures in the STC NAMES	Jan 12-16, 2017, Dept. of Mathematical Sciences, IIT BHU
2	Prof. A. K. Mishra Dept. of Mathematics, BHU Varanasi	Delivering a series of lectures in the STC NAMES	14.01, 2017 Dept. of Mathematical Sciences, IIT (BHU)
3	Prof. K. K. Pathak, Dept. of Civil Engg. IIT (BHU) Varanasi	Delivering a lecture in the STC NAMES	16.01.2017, Dept. of Mathematical Sciences, IIT (BHU)
4	Prof. Ashoke Deshpande Univ. College of Engg., Pune	To deliver a series of few lectures at ITWFLA/ STCFLA-2017	March 20-24, 2017 Dept. of Mathematical Sciences, IIT (BHU)
5	Dr. D. Datta Health Physics Division BARC, Mumbai	To deliver few lectures at ITWFLA/STCFLA-2017	March 20-22, 2017 Dept. of Mathematical Sciences, IIT (BHU)
6	Prof D Tayal IGDT Univ for Women, Delhi	To deliver a lecture at the ITWFLA/STCFLA-2017	March 21, 2017 Dept. of Mathematical Sciences, IIT (BHU)
7	Prof A K Srivastava BHU	To deliver a lecture at the ITWFLA/STCFLA-2017	March 22, 2017 Dept. of Mathematical Sciences, IIT (BHU)
8	Prof. S Raha Visva Bharati Univ	To deliver few lectures at ITWFLA/STCFLA-2017	March 20-22, 2017 Dept. of Mathematical Sciences, IIT (BHU)

9	Dr. D Chakraborty IIT Kharagpur	Deliver few lecture in the STC NAMES	March 23-25, 2017 Dept. of Mathematical
10	Shri S N Bagchi Vibration Engg. Dept, RPL, Noida	Deliver a lecture in the STC NAMES	March 24-25, 2017 Dept. of Mathematical

Foreign Faculty Visits in the Department/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Professor Robert Wisbauer Heinrich Heine University Dusseldorf, GERMANY	Deliver a talk on "INTRODUCTION TO COALGEBRAS"	Nov 18, 2016 Dept. of Mathematical Sciences, IIT (BHU)
2	Professor Kóczy T. László Technical University of Budapest Budapest, HUNGARY	Deliver talks at "The International Training Workshop on Fuzzy Logic with Applications"	March 20-24, 2017 LT-7, Chemical Engg. Building
3	Professor Oscar Castillo Dept. of Computer Science Tijuana Institute of Technology Tijuana, MEXICO	Deliver talks at "The International Training Workshop on Fuzzy Logic with Applications"	March 20-24, 2017 LT-7, Chemical Engg. Building

Any other Information

1. Abhinav (11412EN007) is currently working as a Research Associate at Department of Compute Science and Automation, Indian Institute of Science, Bangalore. He would be joining University of Massachusetts, Amherst as a PhD student in Computer Science starting from Sept 2017.
2. Yokila Arora (11412EN015) is current studying MS in Institute of Computational and Mathematics Engineering at Stanford University.
3. Nripesh Trivedi (11412EN001) is currently studying MS at University of California,Riverside.
4. Abhinay Agrawal (09412EN003) is pursuing MS in Computer Science from University of Minnesota, Twin Cities.
5. Seema Usmani (10412EN002)is pursuing MS in ICME at Stanford University.
6. Suryabhan Singh Hada (09412EN011) is pursuing PhD in Computer Science from University of California, Merced.

Some accepted papers

1. Manoj Kumar Patel, Varun Kumar and A. J. Gupta (2017) On Semi-Projective Modules and their Endomorphism Rings" Asian European Journal of Mathematics (accepted).
2. K. K. Singh, M K Bajpayee, R. K Pandey (2017)A Novel Approach for Enhancement of Geometric and Contrast Resolution Properties of Low Contrast Images, IEEE/CAA Journal of Automatica Sinica (accepted)
3. Rakhi Tiwari and S. Mukhopadhyay (2017) On electro-magneto-thermoelastic plane waves under Green-Naghdi theory of thermoelasticity-II, Journal of Thermal Stresses (accepted).
4. Bharti Kumari and Santwana Mukhopadhyay (2017) On The Fundamental Solutions of Generalized Thermoelasticity with a recent Heat Conduction Model with a Delay, Journal of Thermal Stresses, (accepted).
5. Rakhi Tiwari and Santwana Mukhopadhyay (2017) Analysis of wave propagation in presence of a continuous line heat source under heat transfer with memory dependent derivatives", Mathematics and Mechanics of Solids, (accepted).
6. P. K. Mishra, Pragya Singh and S. Das (2017) Study of thermo-elastic cruciform crack with unequal arms in an orthotropic elastic plane,ZAMM. Z. Angrew. Math. Mech.(accepted) (SCI).
7. S. Jaiswal, M. Chopra and S. Das (2017) Numerical solution of space fractional order solute transport system, Journal of Porous Media (JPM),(accepted) (SCI).

20. School of Bio-Chemical Engineering

Year of Establishment : 1986

Coordinator of the School: Prof. Subir Kundu

Brief Introduction of the school:

The School was established for achieving several benchmarks in teaching and research in the modern field of Bioengineering. It has kept on modernizing its programmes to impart education in upcoming areas of Biochemical engineering.

The School presently offers courses leading to IDD, M.Tech. and Ph.D. degrees in Biochemical Engineering. The School also offers courses to undergraduate students of Department of Chemical Engineering., Department of Pharmaceutics, and postgraduate students of School of Materials Science & Technology, School of Biomedical Engg, Department of Civil Engg, Department of Food Sc & Tech, IAgSc, and School of Biotechnology, Faculty of Science. In the new undergraduate curriculum, the School has been entrusted to offer a number of institute level courses either independently or jointly with other departments. The research facilities of the School are utilized not only by other departments of the institute and BHU but also by other teaching institutions and research laboratories. The faculty also guides

Major areas of Research

1. BioProcess and Bioreactor Engg
2. Enzyme Engineering & Tissue Engineering
3. Molecular Biology and Genetic Engg.

Area of the School (in square meters):

The School has been functioning the premise of Dept of Chemical Engineering since its inception. However, the school developed two dedicated laboratories in the Dept of Biochemical Engineering, IIT(BHU), subsequently has also developed its own building adjacent to the Dept of Chemical Engg(Total Area about 5,000 sq ft.). Recently the school has a new building, three storied which includes all teaching and Laboratories. The floor area of the new building of School is 10,000 sq. feet.(Total 30,000sq ft).

Infrastructure

The School has 12 laboratories, 06 lecture theatres, a 100 seat conference room, small library with textbook bank and internet facility. The School also has a seminar room and a few instruction rooms and rooms for its faculty. The School enjoys an excellent professional interaction with various industrial organizations, Experts and consultants. Faculty members are engaged in high level research collaborations and consultancy work in industry, where as some others have projects funded by the industry. Besides these, the School also provides know-how for process improvement/development, raw materials and products analysis, microbiological testing, etc to the industries in and around Varanasi.

S. No.	Particulars	Number
1	No. of Classrooms	06
2	No. of Lecture Halls	01
3	No. of Laboratory	12
4	No. of Computers available for students in the Department/School/School	20

Unique Achievement of the School

Unique Achievement/Preposition of the Department/School

- 1986 : M Tech Degree course & PhD degree
- 2006: Five Year Integrated Dual Degree Course in Bio-chemical Engineering & Biotechnology
- In addition, School offers theory and laboratory courses to the students of M.Sc. (Food Sc & Tech) and M.Sc. (Biotechnology) programmes of the Banaras Hindu University.
- The School offers Ph. D. Degree in Biochemical Engineering. The yearly intake varies between 10 and 20.

Students with Biochemical engineering degree or allied disciplines (as listed in the ordinances) join the Ph.D. Programme. The School also offers joint research programmes with other Schools of the Institute or other academic institution/ R&D organizations.

Academic Programmes offered

New Courses Introduced

Streams in Biochemical Engg:

1. BRE X1X Bioprocess and Bioreactor Engg
2. ETE X2X Enzyme & Tissue Engg
3. MBG X3X Molecular Biol & Genetic Engg

IDD SEM V

	Course Code	Subjects	L-T-P	Credits
DC	BC311	Microbial Engineering	3-1-0	11
DC	BC331	Waste WaterEngg	2-0-2	08
DC	BC312	Bioproces Technol	3-0-0	09
DE I	BC	Enzyme Engineering (Common Elective)	3-1-0	11
OE-I		(From Chem Engg/Chemistry/Pharmacy)	3-0-0	9
HU			1-2-0	5
	BC391	Stream Project	0-0-10	10
			Total	63

IDD SEM VI

	Course Code	Subjects	L-T-P	Credits
DC	BC 314	Bio Reactor Design	3-0-2	11
DC	BC 301	Waste WaterEngg	3-0-0	09
DC	BC 332	Mol Biol & GE	3-0-2	11
DE II	BC 3	Adv Ferment. Tech (315)/Adv Enzyme Engg (323)/ Structural Biology (333)	3-0-0	09
OE-II	AC	Anal Tech in Chem (Preferred OE)	3-0-0	09
	HU	Humanities	2-0-0	06
HU	BC 392	Stream/ UG Project	0-0-10	10
			Total	65

IDD SEM VII

	Course Code	Subjects	L-T-P	Credits
DC	BC 401	Downstream Processing	3-0-0	09
DC	BC 402	Food Engg & Biotechnol	3-0-2	11
DE III	BC 4	Intro Bioinformat (434)/ Animal Cell Culture (424)/ Adv BRD (416)	3-0-0	09

OE-III		From Other Departments	3-0-0	09
BC	BC 491	Stream/UG Project	0-0-10	10
HU	IH	Humanities	3-0-0	09
			Total	63

IDD SEM VIII

	Course Code	Subjects	L-T-P	Credits
DC	BC 403	Bio-Process Plant Design	3-0-0	09
DE IV	BC 4	Biopro Simula & Control(417)/Cell & Tissue Engg (425)/rDNA Tech(435)	3-0-0	09
OE V		From Other Departments	3-0-0	09
OE VI		From Other Departments	3-0-0	09
HU			1/2/2000	08
DP	BC 492	PG Project/Thesis	0-0-10	10
			Total	54

IDD SEM IX

	Course Code	Subjects	L-T-P	Credits
DC	BC 501	Bio Business Planning & Management	3-0-0	09
DE VII (PG Open)	BC	Protein Engg(536)/Metabolic Engg(526)/ Biosensor(516)	3-0-0	09
HU	IH		3-0-0	09
DP	BC 591		0-0-20	20
PE				
			Total	47

IDD X

	Course Code	Subjects	L-T-P	Credits
DC	BC 592	Dissertation	0-0-50	50

Total 576

Stream Electives

Stream I BRD

1. Advance Fermentation Technology
2. Advance Bio Reactor Design
3. Bioprocess Simulation & Control
4. Biosensors

Stream II ETE

1. Adv Enzyme Engg
2. Animal Cell Culture
3. Cell & Tissue Engg
4. Metabolic Engg

Stream III MBG

1. Structural Biology
2. Intro to Bioinformatics
3. rDNA Technology
4. Protein Engg.

Students on Roll

S. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	---	---	---	---
2	Dual Degree	14	11	12	12	14
3	M. Tech/ M. Pharm	08	08	---	---	---
4	Ph. D (Under Institute Fellowship)	03	18	---	---	---
5	Ph. D (Under Project Fellowship)	---	---	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Dhiraj Kumar Choudhary		Studies on interaction of Vicia faba crude seed extract with pancreatic alpha -amylase	Feb 4th-6th, 2016, MNNIT, International conference on Translational Biotechnolgy (Biosangam 2016)	IIT (BHU)
2	Reena Vishvakarma		Production of a serine protease from Coriolus versicolor	Feb 4th-6th, 2016, MNNIT, International conference on Translational Biotechnolgy (Biosangam 2016)	IIT (BHU)
3	Reena Vishvakarma		Production of a protease inhibitor from Agaricus bisporus)	March 18-20th2016, Indo-US Workshop on Cell Factories-2016, IIT Bombay	IIT (BHU)
4	Shankar Khade, S K Srivastava.		Optimization of uricase production by Taguchi (DOE) method by Bacillus cereus under submerged fermentations	International Conference on Recent Advances in Food Processing and Biotechnology (Poster presentations).(2016). BHU	IIT (BHU)

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Prof. Subir Kundu	Bioreactor design and scale up, probiotics, Cell Bio-processesing
2	Prof. Mira Debnath	Genetic Engineering, Microbial Engineering, Fermentation Technology
3	Prof. R. M. Banik	Bioprocess Technology, Enzyme engineering
4	Prof. Pradeep Srivastava	Reactor design, Secondary metabolites, Tissue engineering
ASSOCIATE PROFESSORS		
1	Dr. Abha Mishra	Bioinformatics, Protein and genetic engineering, IPR
ASSISTANT PROFESSORS		
1	Dr. Vishal Mishra	Wastewater Technology, Particulate mechanics
2	Dr. Ashish Kumar singh	Genetic engineering and Molecular biology
3	Dr. Sanjay Kumar	Bioprocess development of therapeutic enzyme and Bioenergy (Algal bio-fuel and Microbial fuel cell), biological water analysis

Research and Consultancy

Sponsored research projects

S. No.	Name of the project	Duration	Sources	Amount (Rs)	Coordinator ship
1	Application of genetic engineering to enhance the lipid content in microalga Scenedesmus obliquus: a step towards biodiesel	2017-2020	CST, UP	4,50,000.00	Dr. Ashish Kumar singh
2	Screening of Novel Antibiotics from the Metagenome of Himalayan Glacial Soil	2017-2020	DRDO, New Delhi	39,87,500.00	Dr. Ashish Kumar singh
3	Construction of cold inducible expression system	2017-2020	DBT New Delhi	36,10,300.00	Dr. Ashish Kumar singh
4	Identification of Gene Responsible for Degradation of Poly (ethylene terephthalate) in Ideonellasakaiensis	2017-2020	DBT New Delhi	40,43,200.00	Dr. Ashish Kumar singh

Industrial consultancy projects

S. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Dr. Sanjay Kumar	Biological water analysis of Ramgarh Lake	U. P. Jal Nigam	9.56

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed International Journals	25
2	Total Number of Papers Presented in International Conferences	06

(a) Refereed International Journals

1. Sumedha Ojha, Shipra Deep and Subir Kundu(2017) “Plant derived antimicrobial peptide Ib-AMP1 as a potential alternative drug candidate for Staphylococcus aureus toxins”. Cellular and Molecular Biology (2017), Vol. 63 (6), Pp 56-59.
2. Shipra Deep, Sumedha Ojha and Subir Kundu. (2017) “Efficacy and Stability studies of microbial folate fortified fruit juices prepared using probiotic microorganism”. Cellular and Molecular Biology (2017), Vol. 63 (6), Pp 48-52.
3. Chakravarty, Ipsita, Sukhendra Singh, and Subir Kundu. (2017) "Development of the processing strategies for the production of Daptomycin by free and immobilized cells of Streptomyces roseosporus using non-conventional support matrices." International Journal of Pharmaceutical Sciences and Research 8, no. 3 (2017): 1356.
4. Singh, S., I. Chakravarty, and S. Kundu(2017) "Mathematical modelling of bioethanol production from algal starch hydrolysate by Saccharomyces cerevisiae." Cellular and Molecular Biology 63.6 (2017): 83-87.
5. Chakravarty I, Kundu K, Ojha1 S, Kundu S. (2017) “Development of Various Processing Strategies for New Generation Antibiotics Using Different Modes of Bioreactors”. JSM Biotechnol Bioeng(2017).4(1): 1073.
6. Chakravarty I, Kundu S, Singh Sukhendra. (2017) “Rheological Models of S.roseosporus fermentation broth.” (2017) CABEQ 3:1-7 –Accepted.
7. Anand Kumar, Subir Kundu, Mira Debnath (Das), (2017) Expression, Purification andEvaluation of recombinant lipoprotein of Salmonella typhi as a vaccine candidate. Biologicals, Biologicals 46 (2017) 108e113 (SCI Impact Factor-1.70).
8. Ojha Sumedha and Kundu Subir(2017): "Docking and molecular dynamics studies for developing Microcin C7 as an alternative drug against Diphtheria toxin"; International Journal of Bioinformatics research and Applications. Vol 13, No. 3, Pp-292-300, (2017).
9. Chakravarty Ipsita, and Subir Kundu. (2016) "Improved production of Daptomycin in an airlift bioreactor by morphologically modified and immobilized cells of Streptomyces roseosporus." AMB Express, Springer 6.1 (2016): 101.
10. Anand Kumar, Subir Kundu, Mira Debnath (Das) (2016) Expression, Purification andoptimization of outer membrane lipoprotein of Salmonella typhi using RSM. (Accepted for Publication in Research Journal of Biotechnology) (SCI Impact factor -0.24).
11. Anand Kumar, Shiv Kumar, Subir kundu, Mira Debnath (Das), (2016) Homologymodeling of outer membrane lipoprotein of Salmonella typhi. Research in Environmentand Life Sciences, 9(7); 900-902. (NAAS-3.6)
12. Preeti Nigam Joshi, Subir Kundu, Sunil K. Sanghi and Dhiman Sarkar, (2016), “Graphene Quantum Dots - From Emergence to Nanotheranostic Applications (Chapter - 7)” in "Smart Drug Delivery System", Book edited by Ali DemirSezer, ISBN 978-953-51-2247-0,InTech Publishers, Croatia& Published: February 10, 2016 under CC BY 3.0 license (DOI: 10.5772/61932).
13. Applicability of two-dimensional surface model in bacterial biosorption system: an advanced approach in bioremediation of metal ions, Vishal Mishra, Environmental Technology (Taylor & Francis, accepted) 2017.
14. Review on Biosorption of Arsenic From Contaminated Water, Anica Dadwal, Vishal Mishra, Clean soil air water (John Wiley) 2017. Published
15. Modeling of Batch Sorber System: Kinetic, mechanistic and thermodynamic modeling, Applied Water Science (Springer) 2016. Published

16. Flow of granular matter out of hoppers: demonstration experiments, Ajay Rathore, Ankit Namdev, Jeeshan Ahmed, Munindra Bisen, Vishal Mishra*, The Pharmastudent (In-house journal of IIT (BHU) Varanasi), 2016. Published
5. Anamika Kushwaha, Radha Rani, Sanjay Kumar, Tarence Thomas, Arun Alfred David (2017) A new insight to adsorption and accumulation of high lead concentration by exopolymer and whole cells of lead-resistant bacterium Acinetobacter junii L. Pb1 isolated from coal mine dump. Environmental Science and Pollution Research, doi:10.1007/s11356-017-8752-8
6. Sanjay Kumar, Prabhu AA, Dasu VV, K. Pakshirajan (2017) Batch and fed-batch bioreactor studies for the enhanced production of glutaminase-free L-asparaginase from Pectobacterium carotovorum MTCC 1428. Prep Biochem Biotechnol.47(1):74–80. 10.1080/10826068.2016.1168841
7. Sanjay Kumar, Prabhu AA, Dasu VV, K. Pakshirajan (2016) Kinetics of growth on dual substrates, production of novel glutaminase-free L-asparaginase and substrates utilization by Pectobacterium carotovorum MTCC 1428 in a batch bioreactor. Korean J. Chem. Eng. (2017) 34: 118. 10.1007/s11814-016-0216-1
8. Dhiraj Kr Choudhary and Abha Mishra*, (2016) In vitro and in silico interaction of procine alpha amylase with Vicia faba crude seed extract and evaluation of antidiabetic activity, 2016, Bioengineered (ISSN: 2165-5979 (Print) 2165-5987 (Online) Journal homepage: http://www.tandfonline.com/loi/kbie20) Taylor & Francis
9. Reena Viswakarma and Abha Mishra*, (2017) Production of a protease inhibitor from edible mushroom Agaricus bisporus and its statistical optimization by Response Surface Methodology, Preparative Biochemistry and Biotechnology, ISSN: 1082-6068 (Taylor and Francis) 1532-2297 (Online) Journal homepage: http://www.tandfonline.com/loi/lpbb20
10. Tripathi, Ashutosh, Singh, Yogendra, Verma, Devendra Kumar, Ranjan, Manju Rawat, SK Srivastava. (2016). Bioremediation of hazardous azo dye methyl red by a newly isolated Bacillus megaterium ITBHU01: Process improvement through ANN-GA based synergistic approach. Indian Journal of Biochemistry and Biophysics. Vol. 53. pp 122-125.
11. Shankar Khade, S K Srivastava. (2016). Production of clinically efficient uricase enzyme induced from different strains of Pseudomonas aeruginosa under submerged fermentations and their kinetic properties. Biocatalysis and agricultural biotechnology. 8(139-145).
12. Shankar Khade, S K Srivastava. (2016). Effect of surfactants and inducers on increased uricase production under submerged fermentations by Bacillus cereus. Preparative Biochemistry and Biotechnology. 47(81-85).
13. Nisha Dalmotra, Abhishek Dutt Tripathi*, S K Srivastava, S K Arya and Bindu Naik. (2016). Statistical optimization of cyclodextrin glycosyltransferase (CGTase) production from Bacillusmacerans in batch cultivation and its purification. Intl. J. Food. Ferment. Technol. 6(2): 261-271

Foreign Faculty Visits in the Department/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. A. Bassi, University of Western Ontario, Canada Visited the School	interacted with students of IDD, M.Tech., Ph.D.	School of Biochemical Engineering, Feb 24,2017

21. School of Bio-Medical Engineering

Year of Establishment : 1984

Coordinator of the School : Prof. Neeraj Sharma

Introduction to the School

The School of Biomedical Engineering is involved in excellent Teaching and Research in collaboration with IMS, BHU, Institute of Science, BHU and also with other Departments of IIT(BHU). Our students are performing well at both professional as well as research level. The School follows a constant path of progress and diversification to be in pace with the time of change. The School runs the Integrated Dual Degree (IDD) program that offers B. Tech in Bioengineering and M. Tech in Biomedical Technology, besides there is also a two year M.Tech program in Biomedical Engineering. The school time to time updates the curriculum, introduces newelectives and new practical components according to the requirements. The main objective of the School is to develop proper professionals for R&D work in the area of Biomedical Engineering. The research credentials of the School is multifarious and interdisciplinary so as to integrate all the thematic of the field in one common pool and thereby achieve progress is unison

Major areas of Research

Biomedical signal and image processing
Brain Circulation, Autoregulation, Its Disturbance and Neuroprotection
Bio-effects of electromagnetic radiation, specially the biohazards of Microwave radiation
Design and fabrication of low cost diagnostic and therapeutic instruments
Development and characterization of functionally graded materials & conducting IPN composites and their medical application
Control system modelling, analysis and simulation in health and Diseases.
Molecular pathogenesis of Infectious diseases and Nanomedicine based therapeutics for infectious diseases
Tissue Engineering and Biomicrofluidics, nanotoxicology

Area of the Department/School (in square meters):1874sqm.

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	02
2	No. of Lecture Halls	01
3	No. of Laboratory	10
4	No. of Computers available for students in the Department/School/ School	30

Unique Achievement / Preposition of the Department/School

The school received funding under the MODROBS scheme of MHRD. Projects from DST, DAE and Coir-Board were also obtained.The school was also funded under the DST-FIST program. Currently all faculty members are engaged in research. The school developed well equipped laboratories with financial assistance from various agencies. MoU's have been signed with medical device making companies and consultancy work are also done by the faculties.

Academic Programmes offered

New Courses Introduced

S. No.	Course Code	Course name	Course credit
1	BM 203	Cell Mechanobiology	11
2	BM 205	Analytical Techniques	11
3	BM 521	Nanomaterials	11

4	BM 523	Bioinformatics	11
5	BM514	Sports Biomechanics	09
6	BM513	Biomedical instrumentation system design, safety and reliability aspect	11
7	BM322	Speciality Polymer	09
8	BM401	BioMEMs and Biosensors	11

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	---	---	---	---
2	Dual Degree	17	20	13	10	10
3	M. Tech/ M. Pharm	07	06	---	---	---
4	Ph. D (Under Institute Fellowship)	24	---	---	---	---
5	Ph. D (Under Project Fellowship)	04 (QIP)	---	---	---	---
6	Ph. D (Under Sponsored Category)	---	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Ms. Suruchi Poddar	15021007	SYSCON 2016- Recent advances in Biomedical Research	26-27th May 2016, AIIMS, New Delhi	DST-INSPIRE PROJECT
2	Ms. Suruchi Poddar	15021007	National Conference on Biotechnology and Environment (NCOBE)	10-11th April 2017, Jamia Millia Islamia, New Delhi.	DST-INSPIRE PROJECT
3	Ms. Suruchi Poddar	15021007	Institute Day	24-26th February, 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi	IIT-BHU
4	Mr. Kiran Yellappa Vajanthri	14021004	Institute day	2-3 April, 2016, Indian Institute of Technology (Banaras Hindu University), Varanasi.	IIT-BHU
5	Mr. Kiran Yellappa Vajanthri	14021004	Indian Medical Device Expo	A joint initiative by IIT Bombay, COE Pune and VNIT Nagpur, 8th-10th April, 2016, College of Engineering, Pune.	SELF

6	Chandra kant Singh tekam	16021009	Symposium on Research Methodology for Research Students & Faculty Members (RMFR–2017)	(Mar 24-29, 2017) IITBHU	
7	Sumedha Mukherjee	14021002	International Conference on Nano medicine and Nano biotechnology	Sept 28-30, 2016; Paris, France	STGS, IIT-BHU
8	Ashutosh Bandyopadhyay	150212001	Presented a poster entitled "Manipulating Micro- and Nano-Scale Environments of Cells Using Three-dimensional Bioprinting for Fabricating Functional Tissue Constructs" in ABSMSNW,Varanasi IIT BHU, India,2017	Advances in Biological Systems and Materials Science in the Nano World (ABSMSNW), Varanasi (February 19-23, 2017).	IIT(BHU)
9	Ashutosh Bandyopadhyay	150212001	Presented a poster entitled "Three-Dimensional Bioprinting: An Enabling Technology for Creating Complex Tissue Models" International Conference on Functional Materials (ICFM), IIT Kharagpur	International Conference on Functional Materials (ICFM), IIT Kharagpur, India (December 12-14, 2016).	IIT(BHU)
10	Vimal K. Dewangan	15022004	Presented a poster entitled "Three-Dimensional Bioprinting of Physiologically-Relevant Functional Tissues" Chemference, IIT Gandhinagar, ,2016	Chemference, IIT Gandhinagar, Gujarat, India (December 03-04, 2016).	IIT(BHU)
11	Vimal K. Dewangan	15022004	Presented a poster entitled "Bioprinting of Three-dimensional Tissue Constructs" International Conference on Soft Materials (ICSM), Jaipur	International Conference on Soft Materials (ICSM), Jaipur, India (December 12-16, 2016).	IIT(BHU)
12	Shreya Gupta	11414EN011	Presented a poster entitled "Studying the Durotaxis Effect on Axonal Growth Behaviour" SYSCON 2016- Recent advances in Biomedical Research, AIIMS	SYSCON 2016- Recent advances in Biomedical Research, AIIMS, New Delhi, India (May 26-27, 2016).	IIT(BHU)
13	Anjali	14022001	Presented a poster entitled "Development of affordable and portable microfluidic device for estimation of Poly unsaturated Fatty Acids in human milk" SYSCON 2016- Recent advances in Biomedical Research, AIIMS	SYSCON 2016- Recent advances in Biomedical Research, AIIMS, New Delhi, India (May 26-27, 2016).	IIT(BHU)

14	Anjali	14022001	Presented a poster entitled "Development of an Affordable Microfluidic based POCD for Estimation of DHA in Human Milk" Institute day 2016, Indian Institute of Technology (Banaras Hindu University), Varanasi, 2016.	Institute day 2016, Indian Institute of Technology (Banaras Hindu University), Varanasi, 2016.	IIT(BHU)
15	Ajay Kumar Sahi	15021005	Presented a poster entitled "Histological characterisation of corneal tissue for fabrication of physiologically functional tissue construct" Institute day 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi, India, 2017.	Institute day 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi, India, 2017.	IIT BHU
16	Parul Yadav		Development and Characterization of Optically Sensitive Skeletal Muscle Cells" National Conference on Biotechnology and Environment (NCOBE-2017), Jamia Millia Islamia, New Delhi, India, 2017.	National Conference on Biotechnology and Environment (NCOBE-2017), Jamia Millia Islamia, New Delhi, India, 2017.	IIT(BHU)
17	Bindu Kumari		International Conference on Advanced Research in Electrical and Electronics Engineering.(TECHNOVA-2017) "Development of EMG sensor for Prosthetic Hand Control"	19th march, 2017 (TECHNOVA-2017), Jawaharlal Lal Nehru University ,New Delhi	IIT(BHU)
18	Alok Prakash		Presented a poster entitled "Development of Low cost EMG sensing device to control Prosthetic Hand"	Institute day 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi, India, 2017.	IIT(BHU)
19	Munendra Singh	14021003	Effect of Image Transformations on Dynamic Stochastic Resonance based MR Image Enhancement at 4th International conference onElectronics and Communication System, IEEE,	Coimbatore, India 24th – 25th Feb 2017.	IIT (BHU)

Names of Students/Scholars who went for foreign Internship

S. No.	Name of Student	Roll No.	Name of the Organizatio	Place of Internship	Country	Duration
1	Jaseel Muhammed Keloth	13024004	MIT (USA)	Boston	USA	3 months

Faculty & their Activity

Faculty and their areas of specialisation

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Prof. Dr. A.K.Ray Ph. D., M. Sc.	Physiology, Neurophysiology
2	Prof. Ranjana Patnaik Ph. D., M. Sc.	Neurophysiology and Electrophysiology
3	Prof. Nira Misra Ph. D., M. Sc.	Polymer Engg., Composites, Biomechancs, Biomaterials
ASSOCIATE PROFESSORS		
1	Dr. Neeraj Sharma Ph.D., M. Tech.	Bioinstrumentation, Signal and Image Processing
ASSISTANT PROFESSORS		
1	Dr. Sanjay Kumar Rai Ph.D., M. Tech.	Biomechanics
2	Dr. Shiru Sharma Ph.D., B. E.	Biological control system analysis, Mathematical Modelling of physiological system, Bio Instrumentation
3	Dr.Sanjeev Kumar Mahto Ph. D., M. Sc.	Cell and Tissue Engineering, Biomicrofluidics, Nanotoxicology
4	Dr. Somdeb Bose Dasgupta Ph. D., M. Sc.	Molecular Biology and Biochemistry
5	Dr. Manoj Kumar Ph. D.	Nanotherapeutics and Thermostics, Nanobiosensors, Resonace Energy Transfer Based Imaging Biomaterials & Bioelectricity

Short-term courses/workshops/seminars/symposia/conferences organized by faculty members

S. No.	Cordinator	Title	Period
1	Dr.Sanjeev Kumar Mahto	AICTE sponsored QIP-Short term course on "Tissue Engineering"	9th- 14th January 2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Sanjeev Kumar Mahto	INSPIRE Faculty Monitoring-cum Interaction Meet	IISER Pune, Maharashtra, India, 2017.
2	Sanjeev Kumar Mahto	BIRAC-IIT (BHU) Workshopon Bio-entrepreneurship, Grant-writing & Intellectual Property Management" jointly organized by BIRAC, Govt. of India and IIT (BHU).	IIT (BHU), Varanasi, India (Sep. 27-28, 2016).

Special lectures delivered by faculty members in other institutions

S. No.	Name of Faculty Member	Topic of Lecture	Institution	Date
1	Dr Neeraj Sharma	Image Processing: Algorithms and Applications	Medical Image Processing and its Practical Session at ISM Dhanbad	13-17 June 2016

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. Ranjana Patnaik	Deputy Editor in Chief	Journal of Biological Engineering Research and Review
2	Prof. Ranjana Patnaik	Associate Editor	International Journal of Biosensors and Bioelectronics
3	Prof. Ranjana Patnaik	Advisory Board	Journal of Biomedical and Bioengineering
4	Prof. Ranjana Patnaik	Reviewer	Scientific Reports–Nature Brain Research–Elsevier Biomedicine & Pharmacotherapy Elsevier Proceedings of the National Academy of Sciences Journal of Biological Engineering Research and Review International Journal of Research in Engineering and Technology International Journal of Biosensors & Bioelectronics
5	Prof. Neeraj sharma	Reviewer	Journal Medical & Biological Engineering & Computing
6	Sanjeev Kumar Mahto	Editorial board member	American Journal of Bioscience and Bioengineering
7	Sanjeev Kumar Mahto	Editorial board member	International Journal of Biosensors and Bioelectronics

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Design facilities available for designing and prototyping circuits for electronics circuits and medical devices: 3D printing machine, reflow soldering machine, bread board system, power supplies, signal generators and CROs.	10.00 lakh

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	Sanjeev Kumar Mahto	A Method for Rapid 3D Prototyping of Skeletal Muscle Tissue Constructs Using a Novel Composition of Bio-ink

Research and Consultancy

Sponsored research projects

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Development of Microfluidic Tools for Neuromuscular Synaptogenesis and Nanotoxicological Studies	July, 2014–June, 2019	DST-INSPIRE Faculty	35.00	Sanjeev Kumar Mahto

Faculty members' participation with other universities under MoUs

Dr. Neeraj Sharma, Principal Investigator of joint collaboration of SBME, IIT (BHU), Varanasi with Pravartan Technologies Private Limited, Gurgaon - Haryana, India as for the development of:

Wearable biomedical device for stress management ("LesStress")

Non-invasive glucometer

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	01
2	Total Number of Papers Published in Refereed International Journals	49
3	Total Number of Papers Presented in National Conferences	14
4	Total Number of Papers Presented in International Conferences	03

(a) Refereed International Journals

1. Kumar G, Paliwal P, Patnaik R. Withania somnifera phytochemicals confer neuroprotection by inhibition of the catalytic domain of human matrix metalloproteinase-9. Letters in Drug Design & Discovery. 2017, 14(6):718-26. (IF: 1.17)
2. Kumar G, Paliwal P, Patnaik N, Patnaik R. Withania somnifera phytochemicals confer neuroprotection by selective inhibition of nNos: An in silico study to search potent and selective inhibitors for human nNOS. Journal of Theoretical and Computational Chemistry. 2017: doi.org/10.1142/S0219633617500420 (IF: 0.953)
3. Kumar G, Patnaik R. Inhibition of Gelatinases (MMP-2 and MMP-9) by Withania somnifera

Phytochemicals Confers Neuroprotection in Stroke: An In Silico Analysis. Interdisciplinary Sciences: Computational Life Sciences. 2017 1-2.doi: 10.1007/s12539-017-0231-x (IF:0.753)

4. Kumar, G., Mukherjee, S. and Patnaik, R. Identification of Withanolide-M and Stigmasterol as Potent neuroprotectant and Dual inhibitor of Inducible/Neuronal Nitric Oxide Synthase by Structure-Based Virtual Screening. Journal of Biological Engineering Research and Review, 2017, 4(1), pp.09-13.
5. Munendra Singh, Ashish Verma, Neeraj Sharma, "Optimized multi-stable stochastic resonance for the enhancement of pituitary microadenoma in MRI", in press, IEEE Journal of Biomedical and Health Informatics, 2017.(DOI: 10.1109/JBHI.2017.2715078)
6. Munendra Singh, Shiru Sharma, Ashish Verma, Neeraj Sharma, "Enhancement and intensity inhomogeneity correction of diffusion-weighted MR images of neonatal and infantile brain using dynamic stochastic resonance" Journal of Medical and Biological Engineering, Springer, 37, no. 4 (2017): 508–518
7. Munendra Singh, Neeraj Sharma, Ashish Verma, Shiru Sharma, "Dynamic stochastic resonance based diffusion-weighted MR image enhancement using multi-objective PSO" Journal of Medical and Biological Engineering, Springer, 36, no. 6 (2016): 891-900
8. Munendra Singh, Ashish Verma, Neeraj Sharma, "BAT optimization based neuron model of stochastic resonance for the enhancement of MR images." Biocybernatics and Biomedical Engineering, 37, no. 1 (2017):124-134.
9. A Kajaria, N Sharma, S Sharma, S Pradhan, M Abhijit, L Aggarwal, "Monte Carlo study of a flattening filter-free 6 MV photon beam using the BEAMnrc code", Biomedical Research 28 (4), 2017.
10. Anuranjeeta, Shiru Sharma, K.K Shukla; Classification of HistopathologicalImages of Breast Cancerous and Non-cancerous Cells based on Morphological Features; Biomedical and Pharmacology Journal, Vol. 10 (1), 2017.
11. Anuranjeeta, Shiru Sharma, K.K Shukla; Evaluation of Morphological Changes in Histopathological Images of Ovarian and Breast Cancer Tissues and its Correlation with their Biochemical Parameters; Research Journal of Biotechnology. (SCI Index Journal), (Accepted), 2017.
12. Poddar, S. and Mahto S. K., (2017) "Microfluidic Models of Neuromuscular Junctions". Int J Biosen Bioelectron 2(3):00023.
13. R. Sharma, G. Kapusetti, Monika, N. Misra, S. K. Singh, A. Dwivedi, P. Maiti Graphene and functionalized graphene effect on mechanical and biological properties of Bone cement.. Bioconjugate chemistry 2017 (Accepted). [I.F = 4.886]
14. C.K. Balavigneswaran, S.K. Mahto, S. Bano, A.K. Mahanto, M. Ganguli, B. Ray, P. Maiti, N. Misra. Tailored Chemical Properties of 4 arm star shaped poly(D,L-Lactide) as Cell Adhesive Three-Dimensional Scaffolds. Bioconjugate chemistry 2017, 28, 1236 - 1250. [I.F = 4.886]
15. S. Singh, K. Mitra, A. Shukla, R. Singh, R. K. Gundampati, N. Misra, P. Maiti, B. Ray. Brominated Graphene as Mimetic Peroxidase for Sulfide Ion Recognition. Analytical chemistry, 2017, 89 (1), 783–791 [I.F = 5.886]
16. Sharma HS, Muresanu DF, Lafuente JV, Nozari A, Patnaik R, Skaper SD, Sharma A. Pathophysiology of Blood-brain barrier in Brain Injury at cold and hot environments. Novel drug targets for neuroprotection. CNS & neurological disorders drug targets. 2016 (Impact Factor: 2.18)
17. Sharma H, Muresanu D, Lafuente J, Patnaik R, Moessler H, Tian ZR, Sharma A. Nanodrug delivery of a multimodal novel drug cerebrolysin reduces engineered nanoparticles induced aggravation of heat stroke induced ubiquitin expression and brain pathology. Brain Injury, 2016 Vol. 30, No. 5-6, pp. 505-506 (Impact Factor: 1.808)
18. Sharma, A., Muresanu, D., Lafuente, J.V., Patnaik, R., Tian, Z.R., Moessler, H. and Sharma, H.S., 2016, January. Cold environment exacerbates brain pathology and oxidative stress following traumatic brain injuries. Potential therapeutic effects of nanowired cerebrolysin. Brain Injury, Vol. 30, No. 5-6, pp. 506-506 (Impact Factor: 1.808)
19. Muresanu, D.F., Sharma, A., Patnaik, R., Nozari, A., Tian, Z.R., Ozkizilcik, A., Moessler, H. and Sharma,

H.S., 2016, January. Nanodelivery of cerebrolysin induces profound neuroprotection in heat stroke following chronic hypertension in combination with carbon nanoparticles induced exacerbation of brain damage. Brain Injury, Vol. 30, No. 5-6, pp. 506-507 (Impact Factor: 1.808)

20. Pandey AK, Shukla SC, Bhattacharya P, Patnaik R. A possible therapeutic potential of quercetin through inhibition of -calpain in hypoxia induced neuronal injury: a molecular dynamics simulation study. Neural Regeneration Research. 2016 Aug 1;11(8):1247. (Impact Factor: 0.968)
21. Kumar G, Patnaik R. Exploring neuroprotective potential of Withania somnifera phytochemicals by inhibition of GluN2B-containing NMDA receptors: An in silico study. Medical Hypotheses. 2016, 92, 35–43. (Impact Factor: 1.136)
22. Sharma HS, Muresanu DF, Lafuente JV, Patnaik R, Tian ZR. Need to Explore Nanodelivery of Stem Cells with Multimodal Drug like Cerebrolysin for Effective Strategies for Enhanced Neuroprotection and Neurorecovery in Neurodegenerative Disorders. Int J Nanomater Nanotechnol Nanomed 2 (1): 013. 2016;14(013):5-8.
23. Sharma, A., Muresanu, D., Lafuente, J., Patnaik, R., Moessler, H., Tian, Z., Ozkizilcik, A. and Sharma, H.S., 2016. Intoxication of engineered nanoparticles in cold environment exacerbates ischemia and brain pathology following trauma. In Journal of Cerebral Blood Flow and Metabolism (Vol. 36, No. Suppl. 1, pp. 266-266). SAGE PUBLICATIONS INC.
24. Muresanu D, Sharma A, Lafuente J, Patnaik R, Tian Z, Ozkizilcik AS, Moessler H, Sharma HS. Nanowired cerebrolysin potentiates mesenchymal stem cells induced neuroprotection and neurorepair following heat stroke. InJournal of Cerebral Blood Flow and Metabolism 2016 (Vol. 36, No. Suppl. 1, pp. 317-317). SAGE PUBLICATIONS INC.
25. Vijayakumar, M. R., Vajanthri, K. Y., Balavigneswaran, C. K., Mahto, S. K., Mishra, N., Muthu, M. S., & Singh, S. (2016). Pharmacokinetics, biodistribution, in vitro cytotoxicity and biocompatibility of Vitamin E TPGS coated trans resveratrol liposomes. Colloids and Surfaces B: Biointerfaces, 145, 479-491.
26. Vijayakumar, M. R., Kumari, L., Patel, K. K., Vuddanda, P. R., Vajanthri, K. Y., Mahto, S. K., & Singh, S. (2016). Intravenous administration of trans-resveratrol-loaded TPGS-coated solid lipid nanoparticles for prolonged systemic circulation, passive brain targeting and improved in vitro cytotoxicity against C6 glioma cell lines. RSC Advances, 6(55), 50336-50348.
27. Cao, M., Mahto, S. K., & Yadid-Pecht, O. (2016). Real-Time Optical pH Sensor With CMOS Contact Imaging and Microfluidics. IEEE Sensors Journal, 16(10), 3611-3619.
28. Anjali, Poddar S, Mahto S. K., (2016) "Revisiting Pulmonary Disease using Microfluidic Technology". Int J Biosen Bioelectron 1(1):00001.
29. M.R. Vijayakumar, K.Y. Vajanthri, C.K. Balavigneswaran, S.K. Mahto, N. Misra, M.S. Muthu, S. Singh. Pharmacokinetics, biodistribution, invitro cytotoxicity and biocompatibility of Vitamin E TPGS coated trans resveratol liposomes. Journal of colloidal and surfaces B: biointerface, 2016, 145, 479-491 [I.F = 4.2] (Citation-10)
30. M.R. Vijayakumar, K.Y. Vajanthri, C.K. Balavigneswaran, S.K. Mahto, N. Misra, M.S. Muthu, S. Singh. Pharmacokinetics, biodistribution, invitro cytotoxicity and biocompatibility of Vitamin E TPGS coated trans resveratol liposomes. Journal of colloidal and surfaces B: biointerface, 2016, 145, 479-491 [I.F = 4.2] (Citation-10).
31. Saxena S., Sharma N., Sharma S., Parallel Image Processing Techniques, Benefits and Limitations, Research Journal of Applied Science, Engineering & Technology, 12(2), 223- 238, 2016.
32. A Kajaria , N. Sharma, S Sharma, S Pradhan, A Mandal, L Aggarwal, Study of unflattened photon beams shaped by multileaf collimator using BEAMnrc code Journal of Radiotherapy in Practice, Vol. 15(4), 2016.
33. A Kajaria, N Sharma, S Sharma, S Pradhan, A Mandal, LM Aggarwal, "Study of the dosimetric properties of an unflattened 6-MV photon beam by using the BEAMnrc code", Journal of the Korean Physical Society 69 (4), 2016.
34. A Kajaria, N Sharma, S Sharma, S Pradhan, A Mandal, LM Aggarwal, "Analysis of Radiation Transport

through Multileaf Collimators Using BEAMnrc Code", American Journal of Biomedical Engineering 6 (4), 124-131, 2106.

35. Ankit kajaria, Neeraj Sharma, Shiru Sharma, Satyajit Pradhan, Lalit.M.Aggarwal "Monte Carlo calculation of 6 MV Varian Linac photon beam spectral characteristics using the BEAM code" International Journal of Applied Engineering Research, Vol. 11(14), 2016.
36. Subhash Chand Kheruka, Lalit Mohan Aggarwal, Neeraj Sharma, Umesh Chand Naithani, Anil Kumar Maurya, Sanjay Gambhir, "Evaluation of single-photon emission computed tomography images obtained with and without copper filter by segmentation", Vol. 31(2), 2016.
37. Saxena S., Sharma S., Sharma N., Verma A., An Automated System for Atlas Based Multiple Organ Segmentation of Abdominal CT images, British Journal of Mathematics and Computer Science, 12(1), 1-14, 2016.
38. Md Koushik Chowdhury, Anuj Srivastava, Neeraj Sharma, Shiru Sharma; Noninvasive blood glucose measurement utilizing a newly designed system based on modulated ultrasound and infrared light; International Journal of Diabetes for developing countries, Springer,December 2016, Volume 36, Issue 4, pp 439–448.
39. Anuranjeeta, Shiru Sharma, K.K Shukla, Sanjay saxena; Cellular Image Segmentation using Morphological Operators and Extraction of Features for Quantitative Measurement; Biosciences Biotechnology Research Asia, June 2016, Vol. 13(2),pp-1101-1112, 2016.
40. Ankit kajaria, Neeraj Sharma, Shiru Sharma, Satyajit Pradhan, Abhijit Mandal, Lalit.M.Aggarwal; Study of Dosimetric properties of unflattened 6 MV photon beam using BEAMnrc code; Journal of Korean physical Society, Springer, 69(4), 657-665, 2016.
41. Ankit kajaria, Neeraj Sharma, Shiru Sharma, Satyajit Pradhan, Abhijit Mandal, Lalit.M.Aggarwal; Monte Carlo study of unflattened photon beams shaped by multileaf collimator; Journal of Biomedical physics and Engineering,, 2016.
42. Ankit kajaria, Neeraj Sharma, Shiru Sharma, Satyajit Pradhan, Abhijit Mandal, Lalit.M.Aggarwal; Study of unflattened photon beams shaped by multileaf collimator using BEAMnrc code; Journal of Radiotherapy In Practice, 15, 392–401, 2016, (Cambridge press).
43. Ankit kajaria, Neeraj Sharma, Shiru Sharma, Satyajit Pradhan, Abhijit Mandal, Lalit. M. Aggarwal; Analysis of radiation transport through multileaf collimators using BEAMnrc code; American journal of Biomedical Engineering,, 6(4),124-131 2016.
44. Sanjay Saxena, Neeraj Sharma, Shiru Sharma, SK Singh and Ashish Verma; An Automated System for Atlas Based Multiple Organ Segmentation of Abdominal CT Images; British Journal of Mathematics & Computer Science 12(1):1-14, Article no. BJMCS. 20812, 2016.
45. Saxena S., Sharma N., Shiru Sharma.; GPU Constructed Image Segmentation using First order Edge detection operators in CUDA Environment; Journal of Chemical and Pharmaceutical Research, 8(2), 379-387, 2016.
46. Ankit kajaria, Neeraj Sharma, Shiru Sharma, Satyajit Pradhan, Abhijit Mandal Lalit.M.Aggarwal; Monte Carlo calculation of 6 MV Varian Linac photon beam Spectral characteristics using the BEAM code; International Journal of Applied Engineering Research (IJAER), 11(14): 8185-8194, 2016.
47. Saxena S., Shiru Sharma, Sharma N.; Parallel Image Processing Techniques, Benefits and Limitations; Research Journal of Applied Sciences, Engineering and Technology 12(2): 223-238, 2016.
48. Sanjay Saxena, Shiru Sharma and Neeraj Sharma, SK Singh and Ashish Verma; An Intelligent Parallel System for Segmenting abdominal CT images using atlas based allocation from Spine; European Journal of Scientific Research, 137(3), 2016.
49. Srivastava, A., Chowdhury, M.K., Shiru Sharma, Sharma, N; In-vitro measurement of glucose concentration in human blood plasma mixed intralipid phantom samples by using modulated ultrasound and infrared light; British Biotechnology Journal,13(1):1-14,2016.

Book Chapters

1. Sharma HS, Muresanu DF, Patnaik R, Tian ZR, Moessler H, Sharma A. Nano Drug delivery by Single-wall carbon nanotubes (SWCNTs) in the Central nervous system induces neurotoxicity. Potential neuroprotective effects of Cerebrolysin. une. 2016 May 22;13:15.
2. Sharma HS, Muresanu DF, Patnaik R, Moessler H, Sharma A. TiO2-Nanowired cerebrolysin attenuated hyperthermia induced ubiquitin overexpression and brain pathology. une. 2016 May 22;13:15.
3. Sharma HS, Feng L, Lafuente JV, Muresanu DF, Tian ZR, Patnaik R, Sharma A. NanowiredMesenchymal Stem cells ameliorate brain pathology exacerbated by diabetes in hyperthermia. une. 2016 May 22;13:15.
4. Mahto, S. K.; Poddar, S., "Microfluidic Technology: A Promising Approach for Nanotoxicity Studies in Physiologically Realistic Environments" NanoBioMedicine Series, Taylor & Francis, USA, 2016 (in press).

(b) Refereed National Journal

1. Nishant Kumar Singh, Sanjay Kumar Rai, Amit Rastogi," Possible Vascular injury due to screw Eccentricity in Minimally Invasive Total Hip Arthroplasty," 2017 Indian Journal of Orthropaedics , Vol.51,Issue 4, July-August

(c) Proceedings of International Conferences

1. Bandyopadhyay, A., Dewangan, V. K., Mahto, S. K. (2017) "Manipulating Micro- and Nano-Scale Environments of Cells Using Three-dimensional Bioprinting for Fabricating Functional Tissue Constructs" International Conference on Advances in Biological Systems and Materials Science in the Nano World (ABSMSNW), IIT (BHU), Varanasi, India,2017.
2. Dewangan, V. K., Bandyopadhyay, A., Mahto, S. K. (2016) "Bioprinting of Three-dimensional Tissue Constructs" International Conference on Soft Materials (ICSM), Jaipur, India, 2016.
3. Bandyopadhyay, A., Dewangan, V. K., Mahto, S. K. (2016) "Three-Dimensional Bioprinting: An Enabling Technology for Creating Complex Tissue Models" International Conference on Functional Materials (ICFM), IIT Kharagpur, India, 2016.

(d) Proceedings of National Conferences

1. Yadav, P., Vajanthri, K.Y., Mahto, S. K. (2017) "Development and Characterization of Optically Sensitive Skeletal Muscle Cells" National Conference on Biotechnology and Environment (NCOBE-2017), Jamia Millia Islamia, New Delhi, India, 2017.
2. Poddar, S., Vajanthri, K. Y., Mahto, S. K. (2017) "Fabrication of Microfluidic Device for Neuromuscular Junction Modelling." National Conference on Biotechnology and Environment (NCOBE-2017), Jamia Millia Islamia, New Delhi, India, 2017.
3. Mahto, S. K., Poddar, S., Vajanthri, K. Y., (2017) "Development of Microfluidic Tools for Neuromuscular Synaptogenesis and Nanotoxicological Studies" INSPIRE Faculty Monitoring-cum Interaction Meet, IISER Pune, Maharashtra, India, 2017.
4. Sahi, A. K., Mahto, S. K. (2017)"Histological characterisation of corneal tissue for fabrication of physiologically functional tissue construct" Institute day 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi, India, 2017.
5. Poddar, S., Vajanthri, K. Y., Mahto, S. K. (2017)"Neuromuscular synaptogenesis on a Microfluidic chip" Institute day 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi, 2017.
6. Dewangan, V. K*., Bandyopadhyay, A.*, Mahto, S. K. (2017)"Three-Dimensional Bioprinting of Physiologically-Relevant Functional Tissues" Institute day 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi, 2017. (* equal authors)
7. Bandyopadhyay, A., Dewangan, V. K., Mahto, S. K. (2017) "Manipulating Micro- and Nano-Scale Environments of Cells Using Three-dimensional Bioprinting for Fabricating Functional Tissue Constructs" International Conference on Advances in Biological Systems and Materials Science in the Nano World (ABSMSNW), IIT (BHU), Varanasi, India,2017.
8. Dewangan, V. K., Bandyopadhyay, A., Mahto, S. K. (2016) "Three-Dimensional Bioprinting of

Physiologically-Relevant Functional Tissues" Chemference, IIT Gandhinagar, Gujarat, India,2016.

9. Poddar, S., Vajanthri, K. Y., Mahto, S. K. (2016) "Development of a Microfluidic Model of Neuromuscular Junction for Clinical Diagnosis" SYSCON 2016- Recent advances in Biomedical Research, AIIMS, New Delhi, India, 2016.
10. Shreya, G., Poddar, S., Mahto, S. K. (2016) "Studying the Durotaxis Effect on Axonal Growth Behaviour" SYSCON 2016- Recent advances in Biomedical Research, AIIMS, New Delhi, India,2016.
11. Anjali; Sahi, A. K., Mahto, S. K. (2016) "Development of affordable and portable microfluidic device for estimation of Poly Unsaturated Fatty Acids in human milk" SYSCON 2016- Recent advances in Biomedical Research, AIIMS, New Delhi, India, 2016.
12. Anjali, Sahi, A. K., Mahto, S. K. (2016) "Development of an Affordable Microfluidic based POCD for Estimation of DHA in Human Milk" Institute day 2016, Indian Institute of Technology (Banaras Hindu University), Varanasi, 2016.
13. Vajanthri, K. Y., Saxena, S., Poddar, S., Periwal, A., Agarwal, P., Mahto, S. K. (2016) "Fabricating Functional Skeletal Muscle Tissue Constructs Using Decellularized Matrices" Institute day 2016, Indian Institute of Technology (Banaras Hindu University), Varanasi, 2016.
14. Vajanthri, K. Y., Saxena, S., Poddar, S., Periwal, A., Agarwal, P., Sahi, A. K., Chaudhary, A., Mahto, S. K. (2016) "Fabricating Functional Skeletal Muscle Tissue Constructs Using Decellularized Matrices" Indian Medical Device Expo, a joint initiative by IIT Bombay, COE Pune and VNIT Nagpur, held at College of Engineering, Pune, India, 2016.

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

Distinguished Visitors

S. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Prof. Ursula Deister, Professor, University of Applied Science, Germany	Sept. 22 and 23, 2016	Institute MoU
2	Prof. Dannenman, Professor, University of Applied Science, Germany	Sept. 22 and 23, 2016	Institute MoU

Other activities

International collaboration/achievements by the Department/School

Dr. S. K.Mahto established a collaboration and submitted a research proposal with Dr. Sreeraman Ranjan, Carleton University, Canada.

Indian Faculty visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. C. D. Anuradha, Professor and Head, Department of Biotechnology, Anna University	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
2	Dr. Sukumar Roy, Professor, Biomedical Engineering, Netaji Subhash Engineering Collage,	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
3	Dr. Sujan Krishna Samanta Assistant Professor, Netaji Subhash Engineering Collage, Kolkata	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering

4	Suman Banerjee Assistant Professor, Biomedical Engineering, Netaji Subhash Engineering Collage,	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
5	Dr. Samir Kumar Ghosh Assistant Professor, Netaji Subhash Engineering Collage, Kolkata	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
6	Mr. Tarak Das Assistant Professor, Biomedical Engineering, Netaji Subhash Engineering Collage,	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
7	Dr. Ahana Bhaduri Assistant Professor, Department of Biotechnology, Haldia Institiute of Technology, PURBA MEDINIPUR	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
8	Dr. Divya Chaudhary Assistant Professor, Meerut Institute of Engineering & Technology, Meerut	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
9	Dr. Tapan Kumar Ghosh Assistant Professor, Department of Biotechnology, Heritage Institute of Technology	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
10	Dr. Shilpa Sharma Assistant Professor, Division of Biotechnology Netaji Subhas Institute of Technology (NSIT), University of Delhi	To attend short term course on Tissue Engineering	Jan 09-14, 2017, School of Biomedical Engineering
	Dr. Rajesh Thakur Assistant Professor, Department of Bio & Nano Tech, Guru Jambheshwar University, Hisar Haryana, INDIA		

Foreign Faculty Visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Ursula Deister, Professor, University of Applied Science, Germany	Institute MoU	Sept. 22 and 23, 2016 School of Biomedical Engineering
2	Prof. Dannenman, Professor, University of Applied Science, Germany	Institute MoU	Sept. 22 and 23, 2016 School of Biomedical Engineering

Any other Information

Ph. D. in Quality improvement program has been started in School.

22. School of Materials Science and Technology

Year of Establishment : 1978

Head of the Department/School : Prof. Rajiv Prakash

Brief Introduction of the Department/School:

The School of Materials Science and Technology is an internationally renowned Centre of Materials Research and Education. Established in 1978, it serves as Institute's nodal center for fostering interdisciplinary teaching and research in the field of materials science and technology. School runs successful Ph.D., M. Tech. and Integrated Dual Degree (IDD) programmes since 1982, 1984 and 2005, respectively. All these students are gainfully employed, several of them in premier R & D organizations, industry and teaching institutions. The syllabi are revised periodically to include topics of current significance in the field. Five year dual degree programme leading to B.Tech. and M.Tech. degrees together has been initiated from the session 2005-06 with an annual intake of 19 students through JEE.

The School has a modest building of about 10,000 sq. ft. floor area and recently two more wings with ~6000 sq.ft area have been added. The laboratories are equipped with modern and sophisticated equipment for materials preparation, characterization, processing and phase transformation studies. Working in these frontiers areas the faculty members of the School have generated nearly Rs. 9.0 crores during the last five years through various projects/schemes funded by agencies like DST, SERB, DBT, DIT, DRDO, UGC-DAE-CSR, IUAC etc. and have published more than 200 research papers in reputed journals such as Appl. Phys. Lett., Phys. Rev. B, J. Phys. Cond. Matter, J. Appl. Phys., Acta Materialia, Macromolecules, Dalton Trans., J. Controlled Release, J. Mater. Chem, J. Phys Chem., Nanoscale, RSC Advances, Polymer, Electroanalysis, Langmuir, Sensors and Actuators B. etc.

Major areas of Research

Functional Materials,
Ferroics and Multiferroics,
X-ray and Neutron Crystallography
Polymer Nanocomposites,
Biomaterials and Biodegradable polymer
Self-assembled Systems,
Conducting Polymers and Composites
Organic Devices
Sensors and Biosensors
Nanomagnetics and Magnetism in Low Dimensional Systems
Dilute Magnetic Semiconductors
Semiconducting Nanostructured Materials
Structural Phase Transitions,
Low voltage-low power electronics,
Colloidal nanocrystal quantum dots and sol-gel metal oxides
Synthesis and Characterization of Advanced Ceramics

Area of the Department/School (in square meters) : The School has a modest building of about 10,000 sq. ft. floor area and recently two more wings with ~6000 sq.ft area have been added.

Infrastructure

S. No.	Particulars	Number
1	No. of Classrooms	01
2	No. of Lecture Halls	01
3	No. of Laboratory	19
4	No. of Computers available for students in the Department/School/ School	35

Academic Programmes offered

Ph.D., M. Tech. and Integrated Dual Degree (IDD)

New Courses Introduced

The complete course structure of the UG and PG programs is under revision and several new courses are being introduced.

Students on Roll

S. No.	Particulars	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B. Pharm	---	---	---	---	---
2	Dual Degree	16	11	15	17	14
3	M. Tech/ M. Pharm	11	13	---	---	---
4	Ph. D (Under Institute Fellowship)	28	---	---	---	---
5	Ph. D (Under Project Fellowship)	19	---	---	---	---
6	Ph. D (Under Sponsored Category)	1	---	---	---	---

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

S. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
1	Richa Mishra	14111010	IUMRS-ICYRAM	December 11-15,2016	IISc Bangalore
2	Chandra Jeet Verma	15111001	Advances In Materials & Material Processing	November 5^{th}–7^{th} 2016	IIT Kharagpur
3	Arun Kumar	13111002	Neutron Scattering	November 21-23 2016	BARC Mumbai
4	Vinita	15111009	Advances In Materials & Material Processing	November 5^{th}–7^{th} 2016	IIT Kharagpur
5	Vinit Kumar Mall	15111503	Advances In Materials & Material Processing	November 5^{th}–7^{th} 2016	IIT Kharagpur
6	Preeti Tiwari	13111008	Advances In Materials & Material Processing	November 5^{th}–7^{th} 2016	IIT Kharagpur
7	Devyani Bajpai	15112006	Advances In Materials & Material Processing	November 5^{th}–7^{th} 2016	IIT Kharagpur
8	Sudha Bharti	15112015	Advances In Materials & Material Processing	November 5^{th}–7^{th} 2016v	IIT Kharagpur
9	Chandra Bhal Singh	13111503	International Conference on Technologically Advanced Materials & Asian Meeting on Ferroelectricity	November 7^{th}–11^{th} 2016	University of Delhi, New Delhi

10	Narendra Kumar Verma	13111005	International Conference on Technologically Advanced Materials & Asian Meeting on Ferroelectricity	November 7th–11th 2016	University of Delhi, New Delhi
11	Dinesh Kumar	13111504	International Conference on Technologically Advanced Materials & Asian Meeting on Ferroelectricity	November 7th–11th 2016	University of Delhi, New Delhi
12	Monika Singh	15111004	International Conference on Technologically Advanced Materials & Asian Meeting on Ferroelectricity	November 7th–11th 2016	University of Delhi, New Delhi
13	Jagadish Kumar G	13111004	International Conference of Young Researchers on advanced Material	December 11-15, 2016	IIsc Banglore, India
14	Priyanka Tiwari	14111009	61st DAE – Solid State Physics Symposium	December 26-30 2016	KIIT University Bhubaneswar, Odisha
15	Sandeep Kumar	14111011	International Conference on Emerging Materials and Applications (ICEMA-2017)	February 20-22 2017	University of Allahabad
16	B. Bharati	1411104	International Conference on Nanotechnology for Better Living (ICNBL)	May 25–29, 2016	NIT Srinagar
17	Gaurav C. Pandey	15111501	Electron Microscope Society of India (EMSI) International Conference on Electron Microscopy	June 2–4, 2016	IIT(BHU), Varanasi
18	Anand Sharma	14111001	International Conference on "Advances in Biological System and Materials Science in Naon World"	February19-23, 2017	BHU
19	Nitesh Kumar Chourasia	15111006	International Conference on "Advances in Biological System and Materials Science in Naon World"	February19-23, 2017	BHU
20	Satya Veer Singh	14111011	International Conference on "Advances in Biological System and Materials Science in Naon World"	February19-23, 2017	BHU
21	Anupama Gaur	14111002	MACRO 2017 International Conference on Polymer Science and Technology	January 8th–11th 2017	Thiruvananthapuram Kerala
22	Arun Kumar Mahanta	12615EN001	MACRO 2017 International Conference on Polymer Science and Technology	January 8th–11th 2017	Thiruvananthapuram Kerala
23	Arpan Biswas	13111001	MACRO 2017 International Conference on Polymer Science and Technology	January 8th–11th 2017	Thiruvananthapuram Kerala
24	Sudipta Senapati	12615EN005	MACRO 2017 International Conference on Polymer Science and Technology	January 8th–11th 2017	Thiruvananthapuram Kerala
25	Vineet Kumar Mall	15111503	20th CRSI National Symposium In Chemistry	February 2nd –5th 2017	Gauhati University, Assam
26	Preeti Tiwari	13111008	20th CRSI National Symposium In Chemistry	February 2nd –5th 2017	Gauhati University, Assam

27	Preeti Tiwari	13111008	International Conference on Advance in Biological Systems & Materials Science in Nano World	February 19th–23rd 2017	IIT (BHU)
28	Pinki Singh	13111006	International Conference on Advance in Biological Systems & Materials Science in Nano World	February 19th–23rd 2017	IIT (BHU)
29	Pappu Kumar Harijan	11615EN 002	International Conference on Advance in Biological Systems & Materials Science in Nano World	February 19th–23rd 2017	IIT (BHU)
30	Shipra Gupta	16112013	International Conference on Interface of Physical, Chemical & Biological Sciences	January 11–13 2017	Sagar (MP)
ABROAD					
1	Vishwas Acharya	15111010	International Conference on Innovations in Engineering & Technology	January 16 -17 2017	Pattaya (Thailand)

Names of students/scholars who got prizes and awards outside the Institute

S. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	**Priyanka Tiwari**	14111009	3rd best poster award	May 25–29 2016 NIT Srinagar	Post graduate women scientist category.

Faculty & their Activity

Faculty and their areas of specialization

S. No.	Name & Qualification	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS		
1	Dhananjai Pandey	Ferroics and Multiferroics, Functional Materials, X-ray and Neutron Crystallography
2	Rajiv Prakash	Materials Chemistry and Nanotechnology Conducting Polymer and Composites Sensors and Biosensors and Organic Devices
3	Pralay Maiti	Polymer Nanocomposites, Biomaterials, and Biodegradable polymer, Polymer for renewable resource and Fuel cell membrane
ASSOCIATE PROFESSORS		
1	Mrs. Chandana Rath	Nanomagnetics, Dilute Magnetic Semiconductors, Semiconducting Nanostructured Materials
2	Akhilesh Kumar Singh	Smart Materials, Structural Phase Transitions in Electroceramics, Synthesis and Characterization of Novel Electroceramics, CMR Manganites, Nanomaterials
3	Chandan Upadhyay	Ferroic and Multiferroic Materials, Magnetism in Low Dimensional System, Self assembly and Organic Electronics
ASSISTANT PROFESSORS		
1	Bhola Nath Pal	Optoelectronics and organic devices, Low voltage-low power electronics, Colloidal nanocrystal quantum dot and sol-gel metal oxide

2	Ashish Kumar Mishra	Design of carbon & 2D nanostructures, Electron microscopy & Raman spectroscopy analysis, Energy and Environmental application of nanostructures
3	Shrawan Kumar Mishra	En Energy efficient quantum materials and phase change materials. Magnetic materials and nano magnetism. Magnetic memory devices and spintronics. Charge, lattice, and spin dynamics.
4	Sanjay Singh	Magnetic shape memory alloys, Caloric materials, Magneto-structural transitions, Aperiodic crystallography, X-ray and neutron diffraction, Magnetism, Spintronics, Multiferroic Devices

Short-term courses/workshops/seminars/symposia/conferences organized by faculty members

1	Dr. Chandan Upadhyay	AICTE Sponsored QIP Short Term Course on "Geometrical & Mathematical Crystallography with applications to structural Studies.	February 14-19, 2017, SMST, IIT(BHU),

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

S. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr. Shrawan Kumar Mishra	Geometrical & Mathematical Crystallography with Application to Structural studies at BHU	February 14 – 19 2017.
2	Dr. Ashish Kumar Singh	Indo-US International Conference on Nanotechnology: Science and Application in Advanced Materials and Beyond (NSAAMB-2016).	December 19-22, 2016
3	Dr. Ashish Kumar Singh	20th Chemical Research Society of India-National Symposium in Chemistry (20th CRSI-NSC).	February 2 -5 2017 Gauhati University, Assam
4	Dr. Ashish Kumar Singh	AICTE Sponsored QIP Short Term Course on "Geometrical & Mathematical Crystallography with applications to structural Studies.	February 14-19, 2017, SMST, IIT(BHU)

Special lectures delivered by faculty members in other institutions

S. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Prof. Dhananjai Pandey	Review lecture	NIT, Durgapur	April 02-04, 2016
2	Prof. Dhananjai Pandey	INSA Council	IIT Guwahati	October 16-18, 2016
3	Prof. Rajiv Prakash	IMPRINT MoU	New Delhi	March 31-01, April 2017
4	Prof. Rajiv Prakash	Invited talk in DAAD research seminar	Delhi University	November 21-22, 2016
5	Prof. Rajiv Prakash	Institute presentation at	NITI AAYOG New Delhi	November 25, 2016
6	Prof. Rajiv Prakash	Nano Fabrication Techniques	IIT-Indore	December 22-23, 2016

7	Prof. Rajiv Prakash	Malaviya Chair	RDSO, Lucknow	January 09-10, 2017
8	Prof. Rajiv Prakash	Invited talk at MACRO-2017	Thiruvananthapuram	January 08-12, 2017
9	Prof. Rajiv Prakash	Invited talk	Kashi Naresh Govt, Degree College Gayanpur	January 01, 2017
10	Prof. Rajiv Prakash	Invited talk in HORIBA CONTECH	PUNE, India	January 27-31, 2017
11	Prof. Rajiv Prakash	Invited talk Agriculture	Agricultural Institute, Nawabgang, Allahabad	February 19, 2017
12	Prof. Rajiv Prakash	Delivered lecture	M.M.M.Univ. & Tech. Gorakhpur	March 23, 2017
13	Prof. Pralay Maiti	Invited Talk Keynote Conference, HETIS	Panjab University, Chandigarh	September 29-01 October 2016
14	Prof. Pralay Maiti	Mini Symposium	IIT-Kanpur	November 12-14, 2016
15	Prof. Pralay Maiti	Invited Talk DMSRDE	Kanpur	December 07-09, 2016
16	Prof. Pralay Maiti	Lecture Central of Plastics Engineering & Technology	Bengaluru	February 11-13, 2017
17	Prof. Pralay Maiti	Invited speaker (RAFMN - 2017)	NIT, Patna	February 15-17, 2017
18	Prof. Pralay Maiti	Project defence	DMRL, Hyderabad	February 20-22, 2017
19	Prof. Pralay Maiti	International conference on Frontiers in Chemical Sciences	Central University Jharkhand	March 16-19, 2017
20	Prof. Pralay Maiti	Invited talk Recent Trends in Chemistry Research	Visva Bharti, Central University	March 24-27, 2017
21	Dr.(Mrs) Chandana Rath	International Conference on Nanotechnology for Better Living	NIT Srinagar	May 25-29, 2016
22	Dr.(Mrs) Chandana Rath	TEQIP-II Sponsored advance materials and Nanotechnology	NIT Durgapur	June 20-24, 2016
23	Dr.(Mrs) Chandana Rath	Invited speaker in NCAEM	GIET, Gunupur, Odisha	July 27-26, 2016
24	Dr.(Mrs) Chandana Rath	Invited talk ICEMA	Allahabad University	February 21, 2017
25	Dr. Akhilesh Kumar Singh	Delivered talk at Asian Meeting on Ferroelectricity (ICTAM-AMF10)	University of Delhi	November 06-09, 2017
26	Dr. Akhilesh Kumar Singh	Invited talk in International Conference on Electroactive Ceramics and Polymers	IIT- Kharagpur	February 20-23, 2017
27	Dr. Chandan Upadhyay	Attend IUMRS-ICYRAM 2016	IIS, Bangalore	December 10-16, 2016

28	Dr. Chandan Upadhyay	Invited talk on Synchrotron	New Jalpapuri, West Bengal	January 31-07 February 2017
29	Dr. Chandan Upadhyay	Invited talk in International Conference on Electroactive Ceramics and Polymers	IIT- Kharagpur	February 20-23, 2017
30	Dr. Bhola Nath Pal	Invited Speaker for NSNN 2017	Haldi, West Bengal	March 17-20, 2017

Visits abroad by faculty members

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dhananjai Pandey	France	May 15, 2016	May 20, 2016	Scientific Council (IFCPAR) & (CEFIPRA) experiment	IIT (BHU)
2	Dhananjai Pandey	Germany	May 24, 2016	May 27, 2016	To experiment	IIT (BHU)
3	Dhananjai Pandey	Japan	June 17th , 2016	June 30th 2016	For research work	IIT (BHU)
4	Dhananjai Pandey	Hamburg, Germany	July 25, 2016	August 03, 2016	Experiments of Synchrotron X-ray Facility Petra – III DESY	DST
5	Dhananjai Pandey	Hambarg, Germany	September 21, 2016	September 26, 2016	Visit abroad	IIT (BHU)
6	Rajiv Prakash	Russelsheim Germany	May 22, 2016	May 31, 2016	Collaborative research programme	IIT (BHU
7	Chandana Rath	Italy	December 10, 2016	December 21, 2016	To carry out experiment using synchrotron source of Elettra	IIT (BHU)
8	Bhola Nath Pal	Taiwan	March 04, 2017	March 10, 2017	To Attend a symposium	IIT (BHU)
9	Shrawan Kumar Mishra	United Kingdom	February 27, 2017	March 08, 2017	Experiment	IIT (BHU)
10	Sanjay Singh	Dresden Germany	February 04, 2017	February 23, 2017	Experiment	IIT (BHU)

Books, monographs authored/co-authored :

Following Book Chapters were published.

1. Nanoparticle-induced phenomena in polyurethanes DK Patel, A Biswas, P Maiti Advances in Polyurethane Biomaterials, 171-194 (2016).
2. Thermal Properties of Food and Biopolymer Using Relaxation Techniques AK Mahanta, D Rana, AK Sen, P Maiti Glass Transition and Phase Transitions in Food and Biological Materials, 141-157 (2017).
3. Crystal-Melt Phase Change of Food and Biopolymers S Senapati, D Rana, P Maiti Glass Transition and Phase Transitions in Food and Biological Materials, 119-139 (2017).

Editorial boards of journals

S. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Rajiv Prakash	Editor-in-Chief	Frontiers in Sensors
2	Rajiv Prakash	http://grsci-techpress.org/index.php/GJME/index	German Journal of Materials Engineering (GJME)
3	Rajiv Prakash	http://www.omicsonline.com/open-access/editorialboard-biosensors-journal-open-access.php.	Biosensors Journal, OMICS
4	Rajiv Prakash	Board of Academic matters and Publication of "Nano Trends"	Nano Trends , NST Consortium Journal, India

Design and Development Activities

New facilities added

S. No.	Details (Infrastructure, Equipment, etc.)	Value (in Lakhs of Rupees)
1	9T Cryogen Free PPMS Base system along with accessories	~385.00
2	Semiconductor parameter Analyser	~22.00
3	Planetary Ball Mill PM 440 MA alongwith accessories	18.12
4	1500 ^{0}C High Temp. Furnace with MoSi2 heating element	4.12
5	Closed Loop Chilled Water-Circulating Plant	3.09
6	High Precision LCR Meter	1.46
7	Viscometer and Circulating Temp. bath	6.40

Patents filed

S. No.	Name of Faculty Member	Title of Patent
1	Chandana Rath	A Novel Method To Prepare TiO_2 Nanoparticles Through a Hydrothermal Route
2	Rajiv Prakash and Preetam Singh	New Materials for Superior Psuedocapacitors and Electrodes for Reversible Alkali-ion (Li/Na) Batteries

Research and Consultancy

Sponsored research projects

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

S. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	J.C. Bose Fellowship	2012-2017	SERB	68.00 Lakhs	Dhananjai Pandey
2	Synthesis and characterization of novel segmented polyurethane-graphene nanocomposites for biomedical applications	2013-2016	CSIR	22.00 lakhs	Pralay Maiti

3	Polymeric Nanobiohybrids for Tissue Engineering and Drug Delivery	2016-2019	SERB	25.00 lakhs	Pralay Maiti
4	Development of Ferroelectric and Rare Earth Manganite Based Radar Absorbing Materials for Stealth Applications	2012-2016	DRDO	25.00 lakhs	Akhilesh Kr. Singh
5	DNA Based Molecular Electronics	2013- 2017	DBT	38.00 Lakhs	Rajiv Prakash & Chandan Upadhyay
6	Railway Malaviya Chair (IIT-BHU) project on Advanced Polymer Composites for AC blower Fans and Bushes for Railway Coaches"	2016-2017	RDSO	17.00 Lakhs	Rajiv Prakash
7	Neutron diffraction studies on Nanoparticles of Cobalt Chromite by A/B site mixing	2015-2017	UGC-DAE, CSR, Mumbai	12.30 Lakhs	Chandana Rath
8	Physical properties of Dilute Magnetic Semiconductors	2016	IIT, BHU	15.00 Lakhs	Chandana Rath
9	Development of low-voltage, low-power, colloidal quantum dot light-emitting transistors for next generation display technology	2015	SERB	55.52 Lakhs	Bhola Nath Pal
	Seamless Synthesis of large-area 2D transition metal di-chalcogenide semiconductors and their applications in next-generation high-performance optoelectronic devices	2017	SERB	49.90 Lakhs	Bhola Nath Pal
10	CO_2 Capture in Carbon based nanocomposites	2015-16	DST Inspire	35.00 Lakhs	Ashish Kumar Mishra
11	Eco Friendly large scale sunthesis of layred nanomaterials and study of their Properties.	2016-17	Institute Project	10.00 Lakhs	Ashish Kumar Mishra
12	Emergent phenomena indiced by spin- orbit coupling at magnetic interface	2016-17	Institute Project	9 lakhs 98 thousand	Shrawan Kumar Mishra
13	Developing strategic for efficient hydrogen generation from chemical hydrogen storage material	2016-2021	DST Inspire	85 Lakhs	Ashish Kumar Singh
14	A Colorimetic Paper Immunoassay for detection of differand cancer biomatrikx based on peroxidase minetic alivity of GOD&.	2016-2018	SERB	19.20 lakhs	Narsing Raw Nirala
15	Development of Rre-Earth Oxide Based Diluted magnetic semiconductor for spintromic Applications	2016-2018	SERB	19.20 lakhs	Sandeep Kumar Singh Patel
16	Photon up conversion on dye sensitized nanostructures for efficient solar energy harvesting	2016-2018	SERB	41.52 lakhs	Neeraj Kumar Giri

Industrial consultancy projects

S. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Rajiv Prakash	Development of advanced films based on nanofillers for coating and packaging	Max India Ltd., Maxmet Divisionn, Nawanshahr-144533	450192.00
2	Rajiv Prakash	Failure Investigation of SWS-II Reboilers in Sulphur Block at HMEL Refinery	HPCL-Mittal Energy Ltd., Bhatinda-151301	135000.00
3	Rajiv Prakash	Testing of natural draft cook stove (Jambo Stove JSI)	Green GrameenInfra Pvt. Ltd., Lower Parel, Mumbai-400013	45800.00

Faculty members' participation with other universities under MoUs

1. Prof Rajiv Prakash, collaboration with Kyushu Institute of Technology, Kitakyushu, Japan on organic electronics.
2. Prof Rajiv Prakash, collaboration with University of Applied Sciences, Russelsheim, Germany on environment and biosensors.
3. Dr. B.N. Pal, collaboration with Ming Chi University of Technology on solution processed optoelectronic device fabrication and characterization including solar cell and light emitting devices.

Research Publications

S. No.		No.
1	Total Number of Papers Published in Refereed National Journals	---
2	Total Number of Papers Published in Refereed International Journals	30
3	Total Number of Papers Presented in National Conferences	02
4	Total Number of Papers Presented in International Conferences	01

Refereed International Journals

1. Interface engineering for enhancement in performance of organic/inorganic hybrid heterojunction diode. Rajiv K. Pandey, Richa Mishra, Peeyush Tiwari and Rajiv Prakash Organic Electronics 45 (2017) 26-32
2. Self-assembly of regioregular poly (3,3?-didodecylquarterthiophene) in chloroform and study of its junction properties Manish K Singh, Ashish Kumar and Rajiv Prakash Materials Science & Engineering B, 217 (2017) 12-17
3. Lanthanide doped ultrafine hybrid nanostructure: Multicolour luminescence, upconversion based energy transfer and luminescence solar collector application Priyam Singh, Praveen Kumar Shahi, Sunil Kumar Singh, Akhilesh Kumar Singh, Manish Kumar Singh, Rajiv Prakash and Shyam B. Rai Nanoscale, 9 (2017) 696-705.
4. Synthesis of graphene oxide and its application for the adsorption of Pb^{+2} from aqueous solution. Himanshu Raghubanshi, Shalate M. Ngobeni, Adeniyi Olugbenga Osikoya, Ntaote David Shooto, Charity Wokwu Dikio, Eliazer Bobby Naidoo, Ezekiel Dixon Dikio, Rajiv K. Pandey, Rajiv Prakash Journal of Industrial and Engineering Chemistry, 47 (2017) 169-178
5. The nanocrystalline coordination polymer of AMT–Ag for an effective detection of ciprofloxacin hydrochloride in pharmaceutical formulation and biological fluid. Madhu Tiwari, Ashish Kumar, Uma Shankar, Rajiv Prakash Biosensors and Bioelectronics, 85 (2016) 529–535
6. Nano-porous network of DMTD-Ag coordination polymer for the ultra trace detection of anticholinergic

drug. Madhu Tiwari, Ashish Kumar and Rajiv Prakash Polymer, 82 (2016) 66-74

7. Morphology-controlled approach for bulk synthesis of conducting Poly(5-aminoindole) Richa Mishra, Saloni Gupta, Ashish Kumar and Rajiv Prakash Materials Chemistry and Physics, 183 (2016) 606-614
8. Graphene as a chain extender of polyurethanes for biomedical applications DK Patel, RK Singh, SK Singh, VK Aswal, D Rana, B Ray, P Maiti RSC Advances 6 (63), 58628-58640 (2016).
9. Controlled biodegradation of polymers using nanoparticles and its application S Kumar, P Maiti RSC Advances 6 (72), 67449-67480 (2016).
10. Biodegradable poly (caprolactone) as a controlled drug delivery vehicle of vancomycin for the treatment of MRSA infection A Rai, S Senapati, SK Saraf, P Maiti Journal of Materials Chemistry B 4 (30), 5151-5160 (2016).
11. Layered double hydroxides as effective carrier for anticancer drugs and tailoring of release rate through interlayer anions S. Senapati, R. Thakur, SP Verma, S Duggal, DP Mishra, P Das, T Shripathi, M Kumar, D Rana, P Maiti Journal of Controlled Release 224, 186-198 (2016).
12. Effect of Isotacticity of Linear Poly (N-isopropylacrylamide) on its Gelation in Benzyl Alcohol CS Biswas, K Mitra, S Singh, DK Patel, B Maiti, P Maiti, B Ray Journal of Chemical Sciences 128 (6), 941-950 (2016).
13. Reversible bidirectional shape memory effect in polyurethanes through molecular flipping A Biswas, VK Aswal, PU Sastry, D Rana, P Maiti Macromolecules 49 (13), 4889-4897 (2016).
14. Processing and nanoclay induced piezoelectricity in poly (vinylidene fluoride-co-hexafluoro propylene) nanohybrid for device application A Gaur, R Shukla, B Kumar, A Pal, S Chatterji, R Ranjan, P Maiti Polymer 97, 362-369 (2016).
15. Controlled release of drug and better bioavailability using poly (lactic acid-co-glycolic acid) nanoparticles S.K. Pandey, DK Patel, AK Maurya, R Thakur, DP Mishra, M Vinayak, C Haldar, P Maiti International journal of biological macromolecules 89, 99-110 (2016).
16. Superior biomaterials using diamine modified graphene grafted polyurethane DK Patel, V Gupta, A Dwivedi, SK Pandey, VK Aswal, D Rana, P Maiti Polymer 106, 109-119 (2016).
17. Brominated Graphene as Mimetic Peroxidase for Sulfide Ion Recognition S Singh, K Mitra, A Shukla, R Singh, RK Gundampati, N Misra, P Maiti, B Ray Analytical chemistry 89 (1), 783-791 (2017).
18. Novel shape memory behaviour in IPDI based polyurethanes: Influence of nanoparticle S Srivastava, A Biswas, S Senapati, B Ray, D Rana, VK Aswal, P Maiti Polymer 110, 95-104 (2017).
19. Effect of size reduction on cation distribution and magnetic transitions in $CoCr_2O_4$ multiferroic: EXAFS, magnetic and diffused neutron scattering measurements Jagadish Galivarapu, D. Kumar, A. Banerjee, V. Sathe, Giuliana Aquilanti and Chandana Rath RSC Advances, 6 (2016) 63809-63819.
20. Size dependent magnetic transitions in $CoFe_{0.1}Cr_{1.9}O_4$ nanoparticles studied by magnetic and neutron polarisation analysis Durgesh Kumar, Jagadish Galivarapu, Alok Banerjee, Kirill Nemkovski, Yixi Su and Chandana Rath Nanotechnology 27 (2016) 175702 (10pp)
21. Magnetic Transitions in Chemically Synthesized Nanoparticles of $CoCr_2O_4$ Jagadish. K. Galivarapu, D. Kumar, A. Banerjee and Chandana Rath IEEE Trans. Magnetics 52(8) (2016) 6000506
22. Origin of ferroelectric P-E loop in cubic compositions and structure of poled $(1-x)Bi(Mg_{1/2}Zr_{1/2})O_3$-$xPbTiO_3$ piezoceramics Ashutosh Upadhyay, Rishikesh Pandey and Akhilesh Kumar Singh J. Am. Ceram. Soc. 100, 1743–1750 (2017).
23. Enhanced Quantum Cutting via Li^+ Doping from a Bi^{3+}/Yb^{3+} Codoped Gadolinium Tungstate Phosphor R.V. Yadav, R.S. Yadav, A. Bahadur, Akhilesh Kumar Singh, and S. B. Rai, Inorganic Chemistry 55, 10928-10935 (2016).
24. New Lead-free $(1-x)BaTiO_3$-$xBi(Mg_{1/2}Zr_{1/2})O_3$ Solid Solution with Morphotropic Phase Boundary and Diffuse Phase Transition Shashwat Anand, Rishikesh Pandey, Uma Shankar, and Akhilesh Kumar Singh J. Am. Ceram. Soc. 99, 3651–3658 (2016).
25. Electric field induced structural transformations across the Morphotropic Phase boundary of (1-

x)Bi($Mg_{1/2}Ti_{1/2}$)O_3-xPbTiO_3 piezoceramics Ashutosh Upadhyay and Akhilesh Kumar Singh Scripta Materialia 115, 71-74 (2016).

26. Investigation of Crystal Structure of SrLa(FeTi)O_6 and BaLa(FeTi)O_6 Perovskites by Rietveld Refinement Uma Shankar, Puneet Agrwal, Rishikesh Pandey and Akhilesh Kumar Singh Solid State Sciences 52, 78-82 (2016).
27. DDAB Triggered, Size- Sorted, Instant Phase- Switching of Silver Nanoparticles, Chandan Upadhyay Chemistry Select 2 (10), 3028-3034 (2017).
28. Colloidal ZnO quantum dots based spectrum selective ultraviolet photodetectors Y Kumar, H Kumar, G Rawat, C Kumar, A Sharma, BN Pal, S Jit IEEE Photon. Technol. Lett. 2017, 29 (4), 361-364
29. Kink effect in TiO_2 embedded ZnO quantum dot-based thin film transistors H Kumar, Y Kumar, K Singh, S Kumar, G Rawat, C Kumar, BN Pal, S Jit Electronics Letters 2017, 53 (4), 262-264
30. Correlation between structural, optical and magnetic properties of Mn-doped ZnO P Kumar, BK Singh, BN Pal, PC Pandey Applied Physics A 2017, 8 (122), 1-12

(d) Proceedings of National Conferences

1. Nanoclay Templated Poly (vinylidene fluoride) Gels P. J.P. Yadav, VK Aswal, P Maiti Macromolecular Symposia 369 (1), 43-48 (2016).
2. Structural and magnetic properties of $LaMnO_3$ nanoparticles with varying La concentration Priyanka Tiwari and Chandana Rath AIP Conference Proceedings 1832, 050099 (2017).

Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. Probing a highly efficient dual mode: down-upconversion luminescence and temperature sensing performance of rare-earth oxide phosphors Singh, A. K.; Singh, S. K.; Gupta, Bipin Kumar; et al. DALTON TRANSACTIONS Volume: 42 Issue: 4 Pages: 1065-1072 Published: 2013 Times Cited: 54
2. Poly-3-hexylthiophene based organic field-effect transistor: Detection of low concentration of ammonia Tiwari, Shashi; Singh, Arun Kumar; Joshi, Leela; et al. Sensors and Actuators B-Chemical Volume: 171 Pages: 962-968 Published: Aug-Sep 2012 Times Cited: 41
3. Musa paradisica peel extract as green corrosion inhibitor for mild steel in HCl solution Ji, Gopal; Anjum, Shadma; Sundaram, Shanthi; et al. Corrosion Science Volume: 90 Pages: 107-117 Published: JAN 2015 Times Cited: 32
4. Polycaprolactone composites with TiO_2 for potential nanobiomaterials: tunable properties using different phases Gupta, Kamal K.; Kundan, Akshay; Mishra, Pradeep K.; et al. Physical Chemistry Chemical Physics Volume: 14 Issue: 37 Pages: 12844-12853 Published: 2012 Times Cited: 30
5. A chitosan-based polyaniline-Au nanocomposite biosensor for determination of cholesterol Srivastava, Monika; Srivastava, S. K.; Nirala, N. R.; et al. Analytical Methods Volume: 6 Issue: 3 Pages: 817-824 Published: 2014 Times Cited: 25

Distinguished Visitors

Many distinguished Professors and Scientists from India and abroad visited to School for delivering lectures and collaborative research discussions.

Other activities

International collaboration/achievements by the Department/School

The School has following active international research collaborations:

1. Prof. S. Hayase (Funding JSPS-DST) LSSE, Kyushu Institute of Technology, 2-4 Hibikino, Wakamatsu-ku, Kitakyushu, 808-0196, JAPAN http://www.lsse.kyutech.ac.jp/english/
2. Prof. Ursula Deister (Funding DAAD and Instituational) University of Applied Sciences Rüsselsheim, Germany http://www.iuvt.hs-rm.de MPI-CPFS, Dresden, Germany, University Duisburg-Essen, Germany
3. Dr. Paul Stedman, Diamond Light Source, London, UK
4. Prof. Hans Hilgenkamp, University of Twente, The Netherlands

5. Prof. Mark Golden, Institute of Physics, University of Amsterdam, The Netherlands
6. Dr. Florin Radu, HZB (BESSYII), Berlin, Germany

Indian Faculty visits in the Department/School/School

Many faculty members from India visited to School for delivering lectures and collaborative research discussions.

Foreign Faculty Visits in the Department/School/School

S. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Ursula Deister	Optimization of Return and Recycling of Mobile Phone	22 September, 2016 SMST, IIT (BHU)
2	Prof. Peter Dannenmann	Using ARDUINO Micro-controllers as Small Environmental Monitoring Devices	23 September, 2016 SMST, IIT (BHU)

Physical Property Measurement System (PPMS)

Particle Size Analyser (PSA)

Powder XRD Machine

23. Computer Unit

Prof. Rajeev Srivastava
Chairman, Computer Unit Establishment Committee
IIT (BHU), Varanasi-221005

Background:

Computer Unit (A central facility of the Institute, (Ground Floor, LT-3 Building, Behind Physics Dept.)has been established as a central facility of the Institute to cater the 24x7 Internet and Computing facilities to the entire IIT (BHU) fraternity including students, faculty members and other members. The Computer Unit was inaugurated on 6th April 2017 by Prof. Rajeev Sangal, Director, IIT (BHU), Varanasi. These facilities will enhance the academic and research activities in the Institute. This unit hosts the latest servers [6 Servers (01-Dell Power Edge R-930and 05 -Dell Power Edge R-730, and a storage server], and a user area having 15 PCs connected through servers. All the servers hosted in Computer Unit and software services installed on them are accessible to the community in whole campus on local intranet. The said servers hosts the latest academic, scientific and research software.

Infrastructure Available

Following facilities are hosted in a well-designed fully air-conditioned hall on ground floor of the LT-3 Lecture theatre complex of the institute.

Hardware/Equipment:

- 6 Servers (01-Dell Power Edge R-930 and 05 -Dell Power Edge R-730)
- A Storage Server
- 15 desktop client machines
- Printer (Photocopier + Scanner): LaserJet + Ricoh (Heavy Duty Printer).
- Overhead Projector: 01 No
- UPS 20 KVA: 02 Nos.
- Furniture plus other logistics for the Computer Unit

Servers Configuration

- Dell Power Edge R-930: Populated with 4x18 core of Intel Xeon E7-8870 v3 @ 2.10 GHz processor with 45MB L3 Cache, Intel C602J Series Chipset. 256GB DDR4 2133 MHz ECC RAM, Quad Rank, x4 Data Width, 96 DIMM Slots. 8 x 1.2TB 15K RPM hot plug SAS Disk, 12Gbps 2.5 in Hot-plug Hard Drive. Integrated Hardware RAID controller, DVD-RW, 8 MB Graphics controller, GPU: NVIDIA Tesla K40C, 12 GB.
- Operating System: Red Hat Linux Enterprise Version 7.3
- Dell Power Edge R-730:Populated with 2x10 core of Intel® Xeon® processor E5-2660v3 @ 2.60 GHz with 25MB L3 Cache, Intel C610 chipset, Server populated with 128 GB DDR4 2133 MHz ECC RAM with Registered ECC DIMMs, 24 DIMM Slots. 3 X 600GB SAS 15K RPM hot plug SAS disk Bays. Integrated hardware RAID controller, DVD-ROM, 16 MB Graphic controller, 4x1 GBE NIC, Dual 8 Gbps FC ports
- Operating System: Red Hat Linux Enterprise 7.3, 7.2 and Windows server 2012 R2 Standard Edition
- Dell SC4020 Storage with FS8600 NAS: Support both SAS, SATA/NL-SAS, SSD based disks simultaneously in the same enclosure. The storage with minimum120 TB raw capacity out of which 20 TB on SAS 10K RPM drives and 100 TB on NL-SAS drives. Two controllers running in an active-active mode with automatic failover to each other in case of one controller failure. SAN and NAS controller will run with or without windows based OS. The storage support minimum of 4*16 Gbps FC ports, 4* 10Gbps iSCSI ports and 4*10Gbps ports for CIFS and NFS access, The storage provided with 16* SAS lanes of 6 Gbps across controllers for backend disk connectivity.

Software Services

We have following software installed on server and desktop clients which is accessible to all faculty and students of the Institute through their PCs on intranet in different laboratories/departments/ schools/units.

- MATLAB
- Mathematica

- CST Studio
- Origin Lab
- Kinetika
- MedeA VASP
- ANSYS
- CASA XPS
- ENDNote
- Statistica
- Simulia ABAQUS
- Gaussian, GaussView and TCP Linda Software
- Acrobat Professional
- MS Office
- ChemOffice

Computing Facilities Available (Server details and software installed on them):

In the computer Unit we have following facilities:

1. Compute – 1 Server: (R-930 Server, 4U from factor, OS - Red hat 7.3, RAID 5 with 1 Hot spare disk, 20 TB of SAN Storage is mapped on this machine for users)

Softwares and Licenses Installed:

i. MATLAB License manager and software:
(Software has been installed on some clients also further it can be installed on other client if required by various departments)

ii. Mathematica License Manager and Software:
(Software has been installed on some clients also further it can be installed on other client if required by various departments)

2. Compute – 2 Server :(R-730 Server, 2U from factor, OS - Red hat 7.2, RAID 5)
Software and Licenses Installed:

i. MedeA VASP
Software and single user license installed on this machine

ii. Ansys Software
Software client is installed on this machine. This software has also been installed on client machines in Mechanical and Civil Engineering Dept. It will be installed in other Depts as per requirements.

3. Compute – 3 Server: (R-730 Server, 2U from factor, OS – Windows Server 2012 R2, RAID 5)

Softwares and Licenses Installed:

i. CST Studio:
Research edition of the software installed on Windows Server. Also 25 classroom license can be installed on other clients out of which 1 desktop license is installed in Computer Unit

ii. Statistica Software and License Manager
(Software has been installed on some clients also further it can be installed on other client if required by various departments)

iii. Ansys License Manager
(Software has been installed on some clients also further it can be installed on other client if required by various departments)

iv. Origin LAB License Manager
(Software has been installed on some clients also further it can be installed on other client if required by various departments)

v. CASA XPS Software

4. Webserver – 1 :(R-730 Server, 2U from factor, OS – Red hat 7.3, with ResilientStorage Add-on, RAID 5)

Apache Server is installed with High Availability ResilientStorage Add on

5. Webserver – 2:(R-730 Server, 2U from factor, OS – Red hat 7.3, with ResilientStorage Add-on, RAID 5)
   Apache Server is installed with High Availability ResilientStorage Add on
   Web Access IP Address – http://10.2.60.18/
6. Authentication Server : (R-730 Server, 2U from factor, OS – Red hat 7.3, with Open LDAP Installed in a virtual environment)
   LDAP Server has been configured for user creation and authentication. A web based interface has been installed for adding users and managing their passwords by themselves.
   For adding users: http://10.2.60.17/lam/
   For changing password:http://10.2.60.17/self
   5383 students profile has been registered for accessing compute servers with in the campus
7. Dell SC4020 Storage with FS8600 NAS:
   After RAID configuration, approx. usable on SAN is 65-70 TB, out of which 20 TB is allocated on compute-1 for providing space to users for their home directory and 3 TB is allocated on cluster of two web servers on High Availability. 2 TB is allocated on compute-3 (windows based server).
   2 TB assigned for NAS Storage. Rest storage will be used as per future requirements.

Conclusion :

As per the available statistics, the software facilities hosted on the servers are being heavily used by the students, faculty members and other research staff of the Institute. In future, we are planning for its expansion to accommodate other remaining facilities.

24. Library

Year of Establishment : 1916

Introduction/Outline/Goal

The Indian Institute of Technology (Banaras Hindu University), Varanasi library system consists of the Main Library, and five departmental libraries, which collectively support teaching, research and extension programs of the institute. All students, faculty members and employees of the institute are entitled to make use of the library facilities on taking library membership. The library, besides having an excellent print collection of over 1,17,840 volumes of books , journals, theses, reports, standards, pamphlets, it also provides access to over 13,000 electronic journals and more than 30,000 of electronic books and databases in science, engineering and technology.

Acquisition Unit

Collection building is one of the important functions of the library that supports academic and research work of the students, faculty, staff and other users. Library collection comprising of books, journals, theses, reports, standards, pamphlets and other reading material in science, engineering, technology, humanities, social sciences and management is considered one of the best in the country and is itsgreatest asset. The total collection of the library as on March 2017stands as follows:

Books (Reference and General)	= 87,591
Text Book Bank	=21,509
ST/SC Book Bank	= 8740
Bound Volume of periodicals	=17,738
Theses	=358
Compact Disc	=1057

Total Rs. 22,67,829/- were utilized, and 3565 volumes were added during this financial year. This year Rs. 44,462/- has been deposited against the loss of books and Rs. 13, 242/- against the overdue charges. The library administration motivated retired faculty and passed out students to donate books to the library. As a result, this year library received many references and Text Books.

Periodical Section

Periodical Section procures and maintains print and online journals for the academic need of the Institute. The Senate Library Committee has decided to subscribe online version of journals if it is available. Therefore, we have a subscription to very few print journals.In this financial year Rs. 5,25,86,108/-have been utilized for the subscription and renewal of online / print journals, standards, databases and e -books.

New Resources Added(During the financial year 2016-17Journals (Print/Online)
Journals/Online Books

S. No.	Name of Publisher	Mode of Access
1	Acta Press (1 title)	Online
2	IEEE (e- books)	Online
3	Royal Society of Chemistry (all e- books)	Online
4	Taylor and Francis (6 titles)	Online
5	Wiley (7 titles)	Online
6	Wiley Online (e- books)	Online
7	World Scientific (1 title)	Online

Database/Standards

S. No.	Name of Publisher	Mode of Access
1	ACI +MCP	Online
2	ASME	Online
3	AWWA	Online
4	British Pharmacopoeia	Online
5	IEC	Online
6	SCOPUS	Online
7	Springer Materials	Online

5. E-Resources Accessible to Institute

The Main Library provides web-based access to more than 15,000 full- text journals and 09 databases 24x7 on the institute -wide network as follows:

Name of Publisher/journal	Remarks
	Indian Journal of Radio & Space Physics (IJRSP)
ACM Digital Library	Journals (42+), conference proceedings, magazines, newsletters, and multimedia titles.
American Ceramic Society	1.American Ceramic Society Bulletin
American Concrete Institute	ACI Structural Journal
American Scientific Publishers	Only one title subscribed. Advance Science, Engineering and Medicine (ASEM)
American Society of Civil Engineers (ASCE)	Full -text access to 33 journals and transactions.
American Society of Mechanical Engineers (ASME)	
ASTM Standards and Engineering Digital Library	1,000+ Special Technical Publications, 50+Manuals and Monographs and 10,000+Journal Articles.
Communications of the ACM	
Emerald (Emerald Engineering Collection)	928 Scholarly Journals (Including Engineering Collection).
Indian Geotechnical Society	Indian Geotechnical Journal
Informa Healthcare	1. Drug Development and Industrial Pharmacy 2. Pharmaceutical Biology 3. Expert Opinion on Drug Delivery
Institute of Electrical and Electronic Engineers (IEEE/IEE)	126 journals from IEEE, 21 journals from IET, magazines, transactions and 900 + conference proceedings as well as active IEEE standards
Institute of Materials, Minerals and Mining	Advances in Applied Ceramics : Structural, Functional and Bioceramics
Institution of Civil Engineers (ICE)	(ICE Virtual Library) ICE complete Engineering journals collection covers 30+ journals with their archives (2003 onwards).
Maney Online	1. International Materials Review 2. Mining Technology

METADEX	Subject Coverage: Steels, Metals, Alloys, Compounds, Metal matrix composites, Nonferrous metals, Processing, Properties, Testing, Analysis.
Microwave Journal	Online + print
NACE International	1.Corrosion
Proquest – Ceramic and Metal Collection (Full Text)	3,000 periodicals, conference proceedings, technical reports, trade journal/newsletter items, patents, books and press releases. View title list
Science Direct	10 subject collection of Engineering, Pharmacy, Computer Engg, Physics, Chemistry
Wiley Online Library (Selected Titles)	1. Journal of Pharmacy and Pharmacology 2. Geophysical Research Letter 3. Lubrication Science 4. Steel Research International 5. SMALL 6.Water Resources Research
World Scientific	1.International journal of Air Conditioning and Refrigeration

Through UGC INFLIBNET and Central Library BHU

American Chemical Society	Through the consortium(INFLIBNET) ACS is giving access to 38 current full-text e-journals including the ACS Legacy Archives having back files of all the journals from vol.1 issue.1
American Institute of Physics	17 full - text journals.
American Physical Society	10 full - text e - journals.
Annual Reviews	33 full - text e - journals.
Banaras Law Journal	
Cambridge University Press	224 curren t full - text e - journals.
Economic & Political Weekly	
Indian Journals	
Institute of Physics	46 full - text topmost journals
JSTOR	JSTOR is giving access to 1401 full - text e - journals.
Microwave journal	
Nature	
Oxford University Press	222 full - text e - journals with back files since 1998.
Portland Press	8 peer - reviewed journals have been provided with 1996 onwards backfiles.
Project Euclid	2002 onwards back volumes of 23 journals is accessible.
Project Muse	407 full - text journals.
Royal Society of Chemistry	29 full text journals + 6 Databases.
Sage HSS Online Journals	6 Scholarly Journals.
Science Direct	Access to more than 2000 journals
Science Online	

SIAM	14 full - text journals
Springer Link	1950 full - text journals
Taylor and Francis	1076 Scholarly Journals.
Westlaw India	300,000 full - text decisions from 20 High Courts.
Wiley-Blackwell Publishing	908 Scholarly Journals
DATABASES	
Annual review	
CAB Abstract	
GALE (The Making of the Modern World)	
Indian Citation Index	
MathScinet	
SciFinder Scholar	
Springer Protocols (1980-2013)	Biomedical and Life Sciences.
Web of Science	
E-BOOKS	
Cambridge University Press	
Encyclopaedia Britanica	
Pearson E-Books	
Sage E- Books	
Springer E- Books	
Taylor& Francis E- Books	

Technical Services Unit:
Even after an acute shortage of staff at the technical section, we decided to switch over to DDC classification scheme from the existing CC classification scheme. More than 8000 volumes have been classified and catalogued using the classification scheme DDC. We have planned to convert all the books into DDC in due course of time.

Circulation Unit:
Main Library is open from 9am to 10.30 pm hrs on all working days except Sundays. The library membership increased by about 15% to more than 6000 including students, faculty and staff. From this year, the upper limit of borrowing of books for students, faculty and staff was increased by more than 50% and the loan period extends for 180 days for faculty and class one staff and 90 days for other grade staff.

Computer Aided Reference Service Unit:
Untildate, we are not able to develop a computer -aided reference service unit. However, through mail and chat, we try to satisfy the user's queries and demand.

Library Automation
Library provides OPAC and circulation services using the library software “LibSys7”.

Initiative for Digital Library

The Main library is the part of the university- wide network and has adequate computing infrastructure including 60 computers to cater the needs of the users. The library home page (www.iitbhu.ac.in/library) a single window to all its resources and services, serves as a popular interface between users and the library.The library has its Institutional Digital Repository.

Any Other Information/Activities

User Education/workshop organized

In the current situation where increasingly large numbers of resources areavailable in digital form, which can be accessed across the campus on the desktops, obviating the need to visit the physical library, User education plays a greater role to inform, alert, educate and train users about various resources of the library. During the year, Main Library organized following User Awareness programs for users.

Organized one Day Author workshop in collaboration with the "Springer Nature" on 7th Oct 2016 at ABLT Hall, IIT (BHU) Varanasi. More than 500 faculty and research scholars participated in this workshop from IIT (BHU) and BHU.

Springer Nature Author workshop at ABLT HALL, IIT (BHU) Varanasi.

Conference, refresher course attended/ article published/Book chapter contribution by Staff.

This year the Deputy Librarian participated and contributed the following:

Upadhyay, N. & Maurya, S. (2017) " Role of libraries in the promotion of Quality publication and research : A case study of Main Library IIT(BHU) Varanasi". National Conference on conceptualizing the social responsibilities of libraries,19-20, March 2017, BHU Varanasi.

Upadhyay,N. (2017) "Meeting the challenges of Renovation and Expansion in an old non-functional Library Building: a case Study of Main Library, IIT (BHU) Varanasi". International conference on Changing Landscape of Science and Technology Libraries, 2-4, March 2017, IIT Gandhinagar, India.

"2016 Higher Education Forum" jointly organized by the INFLIBNET and Elsevier on 14th September 2016 at New Delhi.

Infrastructure/facility developed during the year

The first floor of library building come up, and procurement of library furniture is under process. The library has created approx 30,000 sq feet space on the first floor of existing building. Very soon, three big halls having approx 300 sitting capacity with Air-conditioned environment and wi-fi facility will be opened for students. The library has planned to renovate the ground floor and use the whole ground floor as Book stack Area. The work will be started soon. A state-of-the- art new library building has been planned for the library which is in under process.

Newly constructed First Floor Halls

Unused courtyard renovated for Reading Purpose

25. Student Life

IIT (BHU) Varanasi provides students with a vibrant campus life, providing an ideal setting for the all-round development of the students and a forum for interaction amongst themselves, with the rest of the University community as well as outsiders. The IIT (BHU) Gymkhana, housed in Kings' Pavilion, is the primary hub of all extracurricular activities in the Institute.

The Gymkhana functions through its five councils:

1. Games and Sports Council
2. Cultural Council
3. Science and Technology Council
4. Film and Media Council
5. Social Service Council

These councils are headed by their respective Counsellors who work in close coordination with the Dean (Student Affairs). On the student side, each council has a General Secretary and two Joint General Secretaries, with each club being headed by a Secretary and two Joint Secretaries.

Games and Sports Council:
This council is responsible for organizing all games and sports events in the institute. Besides organizing inter-hostel competitions in 16 games, it also holds all institution open competitions including the popular Adil Memorial football tournament in the month of August every year. The Institute also sends its team to participate in outstation events and competitions of other IITs. We are proud to inform that the students of the institute have excelled in competitions of other IIT's including the Inter IIT sports meet. The major festival organized by this council, SPARDHA, has many leading colleges from across the country, participating in large numbers.

Cultural Council:
Varanasi is popularly called the Cultural Capital of India. Having inherited this glorious spirit, the Cultural Council strives to maintain the rich heritage and has clubs like Quiz, Literary, Theatre, Dance, Fine Arts, Indian and Western Music. These clubs organize workshops in their respective areas for freshers during their first semester and later, open competition for all students. The annual socio-cultural fest of the college is Kashiyatra and is being held in winters earlier in the year. The students' chapter of SPIC MACAY has also been added recently to the council.

Science and Technology Council:
With the goal of 'Learn to innovate, Innovate to change', this council consists of clubs like Aeromodelling Club, Astronomy Club, Robotics Club, Automobile Club, Club of Programmers, Green Club, Club of Economics and Finance, and Technical and Rural Outreach Club, which organize various workshops, contests and events on related technological fields around the year. The council hosts the annual techno-management fest “Technex”.

Film and Media Council:
Comprising the clubs of Media, Photography, Design, Cine, Animation and Outreach, the Film and Media Council takes the responsibility of designing flexes and banners, taking charge of photography in college events, coming up with video compilations, conducting campus interviews, or releasing the monthly college newspaper. The FMC Weekend, a digital arts and creativity festival, is the annual flagship event of this council.

Social Service Council:
Human beings are social animals. We depend on the society for various things. But this dependency isn't just one way. We must serve the community as much as it is our right to be a part of it. To shape this simple thought into reality, IIT-BHU came up with an energetic and ambitious solution “Social Service Council” with the sense of responsibility to create a better society for all. It comprises of Kashi Utkarsh, Sahyog a helping hand, Social Project Club, Health and Hygiene Club. The Social Service Council works with enthusiasm and the will to benefit the society without expecting anything in return.

Kashi Utkarsh is the most decorated club of the Social Service Council. The entire team of Kashi Utkarsh works

on different basis and is primarily organized into 7 teams, namely, 'Secondary Education Team', 'Navodaya Team', 'Patiya Basti Team', 'Silai and Mehendi Team', 'Gyaan Udyaan', 'Kakarmatta Basti Team' and 'Library and Computer Classes Team'. That works for the betterment of society in different aspects of working for the well-being of the children's residing in bastis by organizing various activities.

'Silai and Mehendi Team', 'Gyaan Udyaan', 'Kakarmatta Basti Team' and 'Library and Computer Classes Team'. That works for the betterment of society in different aspects of working for the well-being of the children's residing in bastis by organizing various activities.

The educational awareness club or Sahyog aims to extend helping hands to mutually share the knowledge and simultaneously make the light of education fathom the darkest parts of the society. The Social Project Club seeks to contribute to the community through focused and rigorous approaches to finding different roots and causes for the run-down of society and thereby forecasting its impacts and finding remedial measures. Lastly, Health And Hygiene seeks to generate and propagate awareness about the importance of salubrious living habits and developing a feeling of sanitation, health, hygiene and cleanliness among the fellow human beings.

The Students' Parliament

The fact that we are in a nation where pluralism is celebrated, freedom of speech venerated and vociferously defended, and as many scholars have noted that we are among the fastest growing economies of the world, shows the strength of our democracy. And if our institution is a mirror to society then it is natural to replicate the model of democracy here.

This was the premise on which the Students' Parliament was conceived. The process of writing the constitution was undertaken under the patronage of our Rajeev Sangal. Dr. R.S. Singh, from Chemical Engineering department, was instrumental in preparing the initial draft.

The first ever Students' Parliament of the Institute came into existence in January 2015 through elections which witnessed the participation of over 5000 students. The Parliament represents a deliberative body, discussing various issues affecting students' lives. It has several standing committees headed by their respective Convenors, which work towards improving the academic, extra-curricular and hostel life of the students.

The executive wing of the parliament is represented by various General Secretaries and Secretaries who are appointed through a rigorous selection process as prescribed by the Students' Constitution. These individuals guide students in organizing the multifarious activities of the Students' Gymkhana through the Clubs.

The parliament consists of various committees which are as follows.

Parliamentary Affairs Committee

- Primarily focused on keeping the functioning of the parliament smooth and consistent, through regular feedback from the various committees.

Finance Committee

- The purpose is to increase financial transparency of the Gymkhana and maintain accountability.

Festivals Committee

- Looks after all the matters related to the college festivals

Nominations Committee

- Appoints new members to the positions vacated by graduating student members in the previous session of the Parliament.

Hostel Affairs and General Welfare Committee

- It acts as an authority which observes the functioning of the hostels.

Security Committee

- The job of overseeing the security arrangements in the campus at all times and serve as a student representative body to the Institute Proctorial Board.

Training & Placement Committee

- Serves as students' advisory body for the Training and Placement Cell.

Web Management Committee

- Set up to look after the websites of Gymkhana, festivals and student-related activities.

UG and PG Academic Affairs Committees

- Looks into matters related to the curriculum and works on policies like credit transfer and semester exchange.

Alumni Relations Committee

- Responsible for organizing various interactive sessions of students with the visiting Alumni on the campus.

Grievance Redressal & Enquiries Committee

- Works on grievance redressal on various issues brought up by students and redirect them to respective committees whenever required.

Achievements of the parliament

Security Committee helped in planning the installation of CCTV cameras in all hostels at the entrance, in messes and canteens; increasing the number of guards available for IIT to 108, an extension of the library timings from 9 p.m. to 10:30 p.m.

Training and placement committee succeeded in enabling a new proxy 10.1.1.42 solely dedicated to conducting pre-placement tests.

Web Management Committee solved the internet connectivity issues to some extent as NKN Line has been successfully installed in ABLT-1,2,3 and 4. Fresher's Portal has been successfully created for the newly admitted First Year students.

Alumni Relations Committee successfully facilitated the Graduate Mentorship program for the new graduate students in summer 2015. It also organised various Interaction Sessions of the students with the visiting Alumni on the campus such as 1979 batch reunion, 1990 batch, 1969 batch and the session with Mr. Nikesh Arora. For the first time, Student Mentorship Program (a one to one mentorship program for the students) was initiated. It even organized the Grand Alumni Meet, the first of this scale, to celebrate the BHU centenary year from 30th December 2015 to 1st January 2016.

College Festivals :

IIT (BHU) Varanasi hosts a plethora of activities and events all through the year in various areas of science and technology, sports and games, cultural activities, and film and media. Apart from the three major fests organized every calendar year, many of the departments of the Institute organize their own annual fests with great enthusiasm and impressive participation. These events are nothing less than a celebration of the knowledge, skills, technology and the zeal that drives us forward and makes us who we are and will be.

1. Spardha

Spardha is the annual games and sports festival of IIT (BHU), Varanasi, Spardha, has witnessed the presence of great sports personalities like Sakshi Malik an Olympic bronze medalist and Padma Shri Mohammed Saeed, a former field hockey player and an Olympic Gold Medalist, and many more prominent figures in its different editions as the Chief Guest for the opening ceremony. In its glorious history of over 30 years, Spardha has grown to become the largest and one of the most awaited college sports festival of northern India where athletic competition is drawn from all over the country. Moreover, Spardha has immense participation from different colleges across the country.

2. Kashiyatra

IIT (BHU), Varanasi witnesses the extravaganza of its annual socio-cultural fest, Kashiyatra, during the winters earlier in the year. Cast in a three-day long fiesta, it is a blend of various musical, artistic and literary events. From the soulful classical singing to aggressive metal, Kashiyatra experiences a wide range of music with singers like Padmashree Bharti Bandhu and Nikhil D'Souza to bands like Undying Inc. and Astitvaand many other prominent artists across the globe in different years. Endorsing a huge external participation with Substantial amount of prize money, the Institute, over these three days, hosts a plethora of events covering each aspect of the cultural component by organizing events of theatre, dance, Indian and western music, quiz, literary skills and fine arts.

3. Technex

Technex brings with it three days of passion, excitement and wonder. Technex witnesses a huge participation of different colleges across India. The participants compete in various contests in fields such as robotics, computer science, aeromodelling, automobiles, management etc. Various guest lectures with eminent personalities from organizations like NASA, CERN, IDSIA Switzerland are organized, besides talks from leading corporate executives of various fields. A multitude of exhibits like India's first 3-D printed humanoid robot, Manav, Swarm Robotics and the ubiquitous Veer Bhadra Mishra memorial airshow take place. In addition, many attractive Pronites are held that include a fun-filled comedy night by various prominent artists of their respective fields.

Building Bridges: Alumni Interaction

The Office of Dean of Resources and Alumni (DoRA) exists primarily as a channel to facilitate communication with the alumni, and to work closely with the different administrative departments in the Institute for implementation of the same. For example, the alumni scholarships are handled by the Office of Dean of Academic Affairs. The proposed Research Park, for which alumni help has been pledged, is being coordinated by the Office of Dean of Research and Development (DoRD). Additionally, some work is indirectly managed by DoRA, like the corpus for the Malviya Chair for Railway Technology. In matters of Student Affairs, the DoRA office coordinates with the office of Dean of Student Affairs to come up with list of stalwarts in different cultural fields that our Institute has produced, so that they can be involved in various activities of our Institute.

Current status of alumni involvement in the activities of the Institute

Presently, alumni involvement is being sought for infrastructure projects like a world class modern library, a cultural complex by the name of Shatabdi Sanskritik Sankul, a seminar hall centre by the name of Shatabdi Gosthi Sankul, etc. There is a proposal from the DST to open up a Research Technology Park in our Institute with an investment of around Rs. 150 crore, of which around Rs. 7 crore is to be generated by the Institute. In the last Alumni meet, the IIT BHU Global Alumni Asssociation (IBGAA) pledged to raise $1 million for this purpose. The idea is to involve them not just financially, but in its working as well. A modern step taken by Institutes, including IITs, involves opening up of liaison offices in business centres and major cities abroad. This will enable us to collaborate in R&D, provide opportunities to our students for projects and credit-transfer programmes. The alumni associations can help immensely in this matter. Expertise of alumni is also being sought in projects related to academia and society.

Student Alumni Interaction Cell (SAIC)

The Student Alumni Interaction Cell (SAIC) aims to act as a connecting link and create a bridge between the student fraternity and the alumni. This cell is going to pave a new path for mutual benefits. In this regard, a Student Mentorship Program has been initiated for existing students to get guidance and counselling from eminent alumni

who have excelled in their particular fields. Besides, the cell would also facilitate Infrastructure development, Hostel development and Scholarship Programmes through funds garnered from the Alumni. Another visionary scheme is the endowments for Research Projects, both at institute level and foreign internships. The cell has garnered positive responses from both the alumni and student body. The Facebook page of the cell has been able to disseminate its activities quite effectively. A large number of alumni have registered for the Mentorship Programme and the number is growing. The cell has also started its official newsletter 'Smaran', published twice in a month. Induction of new programmes and schemes are on the way and the cell is on the threshold of a huge expansion.

First-ever Alumni Meet, SwatantrataBhawan

26. Scholarship

Scholarship to B.Tech/IDD Students for 2016 - 17

S. No.	Name of Scholarship		2013-14 Batch for 2016- 17	2014-15 Batch for 2016- 17	2015-16 Batch for 2016- 17	2016-17 Batch	Total Students
1	Merit-cum-Means Scholarship		204	192	211	--	607
2	Central Sector Scholarship	SC	8	6	6	--	20
	Top Class Student	ST	5	1	4	--	10
3	National Scholarship Portal		--	--	--	17	17
4	BENCO-64 Scholarship		1	1	1	--	3
5	N.C. Jain Scholarship		--	--	2	6	8
6	IPA Devinder Pal Scholarship		--	--	1	--	1
7	IPA Ramabhai Foundation Scholarship		--	--	1	--	1
8	76 Batch Scholarship					1	1
	Total		**218**	**200**	**226**	**24**	**668**

List of Ph.D. Scholars/M.Tech./M.Pharm./IDD/IMD who are receiving Teaching Assistantship/Stipend for the Session 2016-17

S. No.	Name of Departments/Schools	JRF @Rs. 25,000/- p.m.	SRF @Rs. 28,000/- p.m.	M.Tech. I	M.Tech. II	IDD/IMD
1	Mining Engineering	21	12	24	22	14
2	Ceramic Engineering	24	15	11	19	12
3	Civil Engineering	35	11	27	21	17
4	Bio-Chemical Engineering	5	16	7	8	8
5	Humanistic Studies	4	--	--	--	--
6	Electronics Engineering	12	22	33	29	
7	Mechanical Engineering	46	34	43	33	17
8	Physics	13	20	--	--	10
9	Mathematical Sciences	6	16	--	--	17
10	Electrical Engineering	28	31	44	26	20
11	Materials Science & Technology	16	20	12	13	14
12	Chemical Engineering	27	36	43	36	
13	Bio-Medical Engineering	15	10	8	6	9
14	Metallurgical Engineering	17	18	24	35	13
15	Pharmaceutics	19	27	36	28	7
16	Chemistry	15	30	--	--	8
17	Computer Science & Technology	15	16			18
	Total	**318**	**334**	**312**	**276**	**184**

27. Student Placements

About Placement Week:

Details of Placement	
Starting Date of Placements	December 01, 2016
Total No. of Companies Visited For Placements	127
Total Job Offers Made	728
Students Receiving 2 Offers	71
Students Receiving More Than 2 Offers	10
Students Receiving More Than 3 Offers	01
Pre Placement Offers	96
Highest Placement Package Offered	120 LPA
Lowest Placement Package Offered	3.7 LPA
Average Package For Eligible Students	11.20 LPA

Total Eligible Students for Placements:

Name of Department/School	B. Tech	IDD	IMD	M. Tech	B. Pharma	M. Pharma	Ph. D
Ceramic Engineering	41	11	-	15	-	-	05
Chemical Engineering	99	-	-	34	-	-	11
Civil Engineering	69	20	-	17	-	-	0
Computer Engineering	62	19	-	-	-	-	12
Electrical Engineering	80	21	-	24	-	-	05
Electronics Engineering	83	-	-	27	-	-	07
Mechanical Engineering	82	19	-	29	-	-	04
Metallurgical Engineering	49	14	-	25	-	-	05
Mining Engineering	65	19	-	19	-	-	0
Pharmaceutics		12	-		13	27	12
School of Biochemical Engineering	-	11	-	08	-	-	08
School of Biomedical Engineering	-	12	-	06	-	-	03
School of Material Science & Tech.	-	16	-	13	-	-	01
Industrial Chemistry	-	-	13	-	-	-	07
Engineering Physics	-	-	20	-	-	-	04
Mathematics & Computing	-	-	09	-	-	-	03
TOTAL	630	174	42	217	13	27	87

Total Eligible Students: 1190

Details of the number of students placed during 2016–2017:

Name of Department/School	B. Tech	IDD	IMD	M. Tech	B. Pharma	M. Pharma	Ph. D
Ceramic Engineering	18	06	-	01	-	-	
Chemical Engineering	54		-	01	-	-	
Civil Engineering	28	09	-	05	-	-	
Computer Engineering	60	18	-	-	-	-	
Electrical Engineering	72	17	-	09	-	-	
Electronics Engineering	79		-	10	-	-	
Mechanical Engineering	65	12	-	07	-	-	
Metallurgical Engineering	34	06	-	02	-	-	
Mining Engineering	42	11	-	00	-	-	
Pharmaceutics	-	02	-	-	05	08	
School of Biochemical Engineering	-	04	-	01	-	-	
School of Biomedical Engineering	-	04	-	00	-	-	
School of Material Science & Tech.	-	10	-	00	-	-	
Industrial Chemistry	-		07	-	-	-	
Engineering Physics	-		03	-	-	-	
Mathematics & Computing	-		18	-	-	-	
TOTAL	452	99	28	36	05	08	18

Total No. of Students Placed in the year 2016-17: 646

28. Resource and Alumni

Introduction:

The Resource & Alumni office of the Institute works for the functions as delineated by the Director of the Institute (Vide letter No. IIT (BHU)/2014-15/504/L Dated 9th September 2014 and Subsequent modification. The following works/functions are carried out as

I. Planning, Allocation and Monitoring of existing infrastructure and reorganization.
II. Institute Works Committee related resource functions. (through Chair, IWC)
III. (a). Alumni Processes and Functions (through Alumni Committee)
IV. (b).Gandhi Technology Alumni Centre-Guest Houses Including GRTA. (Through Coordinator, GTAC).
V. Local and Regional (Varanasi) Alumni Interaction.
VI. Seeking and Raising Endowments.
VII. (a) MoUs with other Academic Institutions.
VIII. (b) Newer Dimensions.
IX. Green Cell (through Chair Green Committee).

Vision:

The vision is to fuel academic and functional processes of the institute by galvanizing alumni activity and purposeful organization of resources. Our vision is also at involvement of alumni in such a manner so as to attract best of minds from India and abroad to work with us for achieving excellence in Research and Innovation driven Engineering Sciences Education.

Mission:

We aim at involvement of Alumni in mentoring, evaluation and hand holding of students in Design and Innovation and Entrepreneurship activities of the Institute, apart from encouraging them to participate in the organization of academic processes.

We have the mission of involving our undergraduate, postgraduate students research personnel and faculty colleagues to put concerted efforts in processing and creation of knowledge, application of knowledge and development of solutions to problems for the purpose of addressing professional issues and concerns of society through innovative ways for sustainable and humanistic development.

Events: 2nd Alumni Meet

The meet witnessed registration of almost a hundred alumni with their families. With inaugural on 27th Feb 2017 evening, the extravaganza continued till the valedictory on 1st Mar 2017 afternoon. The meet saw alumni reliving and cherishing their old college memories. It was filled with many informal events with performances of students and alumni and also the mesmerizing Ganga Aarti and boat ride. It saw attendance from plethora of batches ranging from 1962 to 2006. Quite a number among them were constituted by batches of 1967 and 1991 since they were celebrating their 50 and 25 years respectively. The entire meet was hosted inside the campus premises and all the alumni were accommodated in guesthouses of the campus. Overall, the meet was a huge hit and left everlasting memory on the alumni that were part of it.

Photos of Meet:

https://drive.google.com/drive/folders/0B7J1TQr33MeTMDlrRHV3c1hmSVE

Distinguished Alumnus Award:

Following Alumni was decorated with Distinguished Alumnus Award on the occasion of 2nd Alumni Meet of the Institute.

S. No.	Name	Department	Category
1	Dr. Sarvajna Dwivedi	Pharmaceutics	Research and Development
2	Mr. Rajan K Pillai	Mechanical Engineering	Profession
3	Mr. Sunil Khanna	Electronics Engineering	Profession and Society

Other Activities:

Hon. Director has been pleased to approve the following two committees for Centenary Celebration of IIT (BHU) 2019-20 (as the Benaras Engineering College-BENCO was established in 1919):

Centenary Celebration Committee

A.	Director, IIT (BHU),	Chairman
B.	Dean (Resource & Alumni), IIT (BHU)	Convener
C.	Dean (Academic Affairs), IIT (BHU)	Member
D.	Dean (Research & Development), IIT (BHU)	Member
E.	Dean(Students' Affairs),IIT (BHU)	Member
F.	Dean (Faculty Affairs), IIT (BHU)	Member

Centenary Vision/Roadmap committee

A.	Director, IIT (BHU)	Chairman
B.	Prof. R. K. Mishra, Deptt. Of Electrical Engg., IIT (BHU)	Member
C.	Prof. S. K. Sharma, Deptt. Of Mining Engg, IIT (BHU)	Member
D.	Prof. R. S. Singh, Deptt. Of Chemical Engg, IIT (BHU)	Member
E.	Prof. B. Mishra, Pharmaceutics, IIT (BHU)	Member
F.	Dean (Resource & Alumni), IIT (BHU)	Convener

Lecture Series:

In-Charge Institute Lecture Series Session 2016-17 (Prof. S. K. Sharma, Mining Engineering, IIT (BHU)):The details of the lectures

S. No.	Lecture No	Speaker	Topic
1	19	Pawan Gupta	
2	20	Somdev Tyagi	Education for Living Happily
3	21	Dr. R. Balasubramaniam	A Development Vision for India
4	22	Professor Vidyanand Jha	Innovation in India
5	23	Professor Robert (Erdelyi) von Fay-Siebenburgen	Living with a Star
6	24	Professor Ashok Jhunjhunwala	Decentralized Solar : Can it Help India Get Half its Power by 2030
7	25	Dr. Abhay Bang	From Sevagram to Shodhagram: In search of Health
8	26	Professor Brij N. Agrawal	Applications of Adaptive Optics in Imaging Satellites, Ground Telescopes, and Lasers
9	27	Professor Yoginder Paul Chugh	"Creativity and How to nurture it in the curriculum"

Endowment Created:

During the period of FY-2016-17 (01/04/2016 to 31/03/2017)

S. No.	Name of Person/Trust	Amount Donated	In favor of	Type	Purpose
1	Mr Gunasheelan, Mining 87	Rs. 10,00,000/-	MCIIE	Endowment	To MCIIE
2	Shri N.C. Jain	Rs. 46,37,500,/-	Registrar, IIT (BHU)	Endowment	Extra money for N. C. Jain Scholarship
3	Shri Sunder S. Rajan	Rs. 22,61,000/-	Registrar, IIT (BHU)	Endowment	Ms. Indira Ananthachari Endowment fund

4	IBGAA	Rs. 4,24,960/-	Registrar, IIT (BHU)	Endowment	Jay Agrawal Scholarship
5	IBGAA	Rs. 2,92,380/-	Registrar, IIT (BHU)	Endowment	Hira Fotedar Scholarship
6	BHU	Rs. 30,37,143 (Corpus)+3,61,843 (Interest)	Registrar, IIT (BHU)	Endowment	From BHU for 36 Scholarship
7	Shri Bhanu Pratap Singh	Rs. 50,000/-	Registrar, IIT (BHU)	Endowment	For Umesh Pratap Singh Gold Medal
8	Shri K.P. Upadhyay	Rs. 50,000/-	Registrar, IIT (BHU)	Endowment	For Y.d. Upadhyay Gold Medal.
9	IIT BHU Alumni Association of Western India	Rs. 1,00,000/-	Registrar, IIT (BHU)	Shatabdi Granthagar	For Shatabdi Granthagar

Year Wise funds and Donors

	Total Funds from Alumnus (Lakhs of Rupees)	Total No. of Donors
2014-15	Approximately Rs. 60 Lakhs	1 (IBGAA)
2015-16	Rs. 524.55 Lakhs	10
2016-17	Rs. 122.14826 Lakhs	9

29. Research and Development

1. Details of Post Doctoral Fellow position sanctioned in Financial Year 2016-17

S. No.	Name of Faculty under shoes Supervision PDF position is sanctioned	No. of Post Doctoral Fellow Position sanctioned
1	Prof. S.K. Singh, Department of Pharmaceutics, IIT(BHU)	01
2	Prof. M.K. Mondal, Department of Chemical Engg. & Tech., IIT(BHU)	01
3	Prof. P.K. Mishra, Department of Chemical Engg. & Tech., IIT(BHU)	01
4	Prof. Pradeep Srivastava, School of Biochemical Engineering	01
5	Prof. Yogesh Chandra Sharma, Department of Chemistry, IIT(BHU)	01
6	Prof. Prabhakar Singh, Department of Physics, IIT(BHU)	01
	Total	**01**

2. Institute Research Project (for Individual Faculty) granted in F.Y. 2016-17

S. No.	Name of Faculty	Designation	Departments	Amount Sanctioned	Topic of Research Proposal
1	Prof. P. Chakrabarti	Professor	Department of Electronics Engineering	14,10,000.00	Design, fabrication and characterization of some electroluminescent devices based on zinc oxide doped with rare earth elements
2	Prof. PK Jain	Professor	Department of Electronics Engineering	15,00,000.00	Analytical modelling, design, PIC simulation and Development of Sectoral waveguide mode converter
3	Prof. PC Pandey	Professor	Department of Chemistry	14,66,250.00	Design and development of novel nanocatalyst for selective hydrogen evolution
4	Prof. M.K. Mondal	Professor	Department of Chemical Engg. & Tech.	15,00,000.00	Thermochemical conversion of waste biomass and its utilization
5	Prof. Sandip Chatterjee	Professor	Department of Physics	15,00,000.00	Magnetic and Transport Properties of some topological insulators
6	Prof. Vinay Kumar Singh	Professor	Department of Ceramic Engineering	14,95,000.00	To study biodegradation behaviour in titanium based metal matrix ceramic composites
7	Dr. Manoj Kumar Meshram	Associate Professor	Department of Electronics Engineering	14,72,167.00	Design and development of artificial electromagnetic material for improvement of antenna performance
8	Dr. Gauri Shankar Prasad Singh	Associate Professor	Department of Mining Engineering	8,22,250.00	Development of a modelling approach for three dimensional simulation of progressive roof caving in longwall workings
9	Dr. Hiralal Pramanik	Associate Professor	Department Chemical Engg. & Tech.	14,47,792.00	Development of unitized regenerative fuel cell (URFC) for in-situ production of hydrogen and electricity

10	Dr. Praveen Chandra Pandey	Associate Professor	Department of Physics	13,80,000.00	Study of semiconductor quantum dots and thin films for solar cell and optoelectronics applications
11	Dr. R.K. Singh	Associate Professor	Department of Electrical Engineering	14,66,250.00	A Hybrid Renewable AC/DC Distributed Generation for Low Power Applications
12	Dr. Santosh Kumar Singh	Associate Professor	Department of Electrical Engineering	15,00,000.00	Robust Predictive Controller for High Power Density Electric Drive
13	Dr. RK Gautam	Associate Professor	Department of Mechanical Engineering	10,41,106.00	Tribological behaviour of microwave sintered Cu-Cr alloy based hybrid composites
14	Dr. Chandan Upadhyay	Associate Professor	School of Material Science & Tech.	15,00,000.00	Study of relaxation mechanism of magnetic nanoparticles
15	Dr. Jayakumar Kandasamy	Assistant Professor	Department of Chemistry	15,00,000.00	Synthesis of DI-AMINE with Carbohydrates Backbone: Applications in Asymmetric Catalysis
16	Dr. Pradeep Kumar	Assistant Professor	Department of Chemical Engg. & Tech.	14,95,000.00	Dechlorination of polychlorinated biphenyl (PCBs) from various matrices
17	Dr. Cherian Samuel	Assistant Professor	Department of Mechanical Engineering	8,60,940.00	Identification of Pollution levels on the streets of Varanasi to distinguish high pollution clusters and developing a traffic routing model for an environment optimized traffic flow strategies
18	Dr. Ankit Gupta	Assistant Professor	Department of Civil Engineering	14,17,950.00	Capacity and LOS Analysis of Signalized Intersections under Heterogenous Traffic Conditions and New Generation Vehicles
19	Dr. Nand Kishore Prasad	Assistant Professor	Department of Metallurgical Engineering	14,66,250.00	In-vitro evaluation of efficacy of magnetic hyperthermia treatment
20	Dr. Sunil Kumar Mishra	Assistant Professor	Department of Pharmaceutics	14,67,240.00	Protective role of medicinal plants extracts against cyclophosphamide induced liver injury through attenuation of oxidative stress, inflammation and apoptosis
21	Dr. Pradip Kumar Roy	Assistant Professor	Department of Ceramic Engineering	14,66,250.00	Development of High Piezoelectric Co-efficient Lead Free BCZT Ceramics for Sensor Applications
22	Dr. Ruchi Chawla	Assistant Professor	Department of Pharmaceutics	14,99,938.00	Nanocarriers for brain delivery via intranasal route

3. Sponsored Projects

S. No.	Title of Project	Year of completion	Name of the PI/Co-PIs	Department	Name of the Funding Agency	Period of the Project Sanction	Project Sanctioned letter No. & Date	Total Cost of Project (in Rs.)	Total Amount Received (in Rs.)	Project Code No.
1	Fractional Calculus approached for Two Dimensional Ground Water Contamination in Unsaturated Porous Media	2017-18	Dr. Subir Das	Mathematical Sciences	BRNS, BARC, Mumbai	3 Years	2013/36/ 48- BRNS/ 2483 Date 05.12.2013	22,95,750.00	11,16,525.00 + 7,86,625.00	GP/LT/ DMS/ 13-14/01
2	DST-INSPIRE Fellow	2018- 19	Dr. Bratindranath Mukherjee, P.I.	Metallurgical Engg.	DST	5 Years	DST/INSPIRE Faculty Award/ IFA12-ENG-29 04.10.2013	19,00,000.00	19,00,000.00 + 16,65,638.00	GP/LT/ Met./ 13-14/01
3	Effect of Mean Stress on High Cycle Fatigue (HCF) Properties of GTM-SU-718 Alloy	2015-16 27.02.2017	Prof. Vakil Singh, P.I/ Dr. G.S. Mahobia, Co-P.I.	Metallurgical Engg.	DRDO	18 Months	GTRE/MMG/ BMRI/1335/ 13/CARS/A/13 dated 01.01.2014	9,06,000.00	5,20,000.00+ 2,00,000.00	GP/LT/Met ./13-14/02
4	Exploring the Effect of Processing Parameters on the Corrosion Behavior of Iron-Alumina/ Zirconia Metal Matrix Nanocomposites (MMNC)	2016-17	Prof. Devender Kumar, P.I. Prof. Om Prakash, Co-PI, Prof. MM Singh, Co-PI	Ceramic Engg.	CSIR	3 Years	22(0616)/13/ EMR-II dated 26.02.2013	13,64,000.00	13,64,000.00 + 6,01,789.00 + 1,17,884.00	GP/LT/ Cer./ 13-14/01
5	Development of Microfluidic tools for neuromuscular synatogenesis and nanotoxicological studies	2019-20	Dr. Sanjeev Kumar Mahto	Biomedical Engg.	DST	5 Years	DST/INSPIRE Faculty Award/ 2013/DST/ INSPIRE/04/ 2013/000836 Dated 1.7.2014	35,00,000.00	7,00,000.00 + 5,25,502.00 + 6,36,523.00	GP/LT/ SBM/ 2014-15/01
6	Development and evaluation of an innovative poly herbal Bi layer wound dressing material	2016-17	Dr. Pradeep Srivastava	Biochemical Engg.	DRDO	3 Years	DLS/RD-81/ 48222/LSRB-275 Dated 16.01.2014	32,03,200.00	23,63,000.00 + 2,74,844.00	GP/LT/ SBC/2014-15/01
7	A Versatile Bidirectional Optional Battery Charger	2015-16 1.09.2016 (Completed)	Dr. Rajeev Kumar Singh, PI,Prof. R.K. Mishra, Co-PI, Prof. D.Singh, Co-PI	Electrical Engg.	SERB	2 Years	SB/S3/EECE/ 0121/2-13 Dated 02.09.2013	20,54,400.00	15,43,200.00+ 4,00,000.00	GP/LT/ EE/ 13-14/01
8	Design, Development and Performance Analysis of Silicon Carbide Converter for Aerospace Application	2016-17	Dr. Santosh Kumar Singh, PI	Electrical Engg.	SERB	3 Years	SB/FTP/ETA-38/2012 Dated 16.08.2013	23,92,000.00	19,62,000.00 + 3,00,000.00	GP/LT/ EE/ 13-14/02
9	Development of Air Breathing Microfluidic Fuel Cell for the Direct Use of Ethanol as fuel for Power Generation	2016-17	Dr. Hiralal Pramanik, P.I.	Chemical Engg. & Tech.	SERB	3 Years	04.06.2013	24,69,000.00	17,95,000.00 + 4,60,000.00 + 2,00,000.00	GP/LT/ ChE/ 13-14/01

10	DAE-Raja Ramanna Fellow	2016-17	Prof. S.N. Upadhyay (Emeritus Professor),P.I.	Chemical Engg. & Tech.	DAE	12.01.2016	04.05.2013	18,01,764.00	6,00,588.00 + 6,00.588.00+ 4,58,786.00	GP/LT/ ChE/ 13-14/02
11	Development of technology for the generation of biological hydrogen: a second generation fuel	2017-18	Ms. Neha Srivastava under guidance of Prof. P.K. Mishra	Chemical Engg. & Tech.	DST	3 Years	19.05.2014	12,77,438.00	4,99,548.00+ 1,18,628.00 6,00,000.00	GP/LT/ ChE/ 14-15/03
12	DST/INSPIRE Faculty Award (IFA-12-PH-21)	2018-19	Dr. S.K. Singh	Physics	DST	5 Years	01.01.2013	95,00,000.00	19,00,000.00+ 19,00,000.00+ 14,17,548.00+ 12,12,619.00	GP/LT/ Phy/ 13-14/01
13	IFA-12-Ph-22 DST/ INSPIRE FACULTY Award/2012 INPIRE FACULTY AWARD	2018-19	Shri Sunil Kumar Mishra	Physics	DST	5 Years	27.05.2013	76,00,000.00	19,00,000.00+ 16,91,680.00	GP/LT/ Phy/ 13-14/02
14	Development of new Electrolyte materials with optimized electrical/ionic/ conductivity for Solid Oxide Fuel Cells	2016-17	Dr. Prabhakar Singh	Physics	DRDO	3 Years	DNRD/05/ 4003/NRB/293 dated 11.08.2014	24,72,360.00	16,51,580.00+ 4,81,580.00+ 7,10,000.00	GP/LT/ Phy/ 13-14/03
15	A Systematic Study on the Correlation Between Structural, Magnetic and Electrical Properties of Multiferroric Cd1-xAxV2O4 and Bi (Mn1-xAx)o3 [A=Fe,Co,Ni]	2016-17	Dr. Sandip Chatterjee	Physics	BRNS-DAE	3 Years	08.01.2014	19,28,500.00	16,30,250.00	GP/LT/ Phy/ 13-14/04
16	Dynamic of Ions in Tellurite Glasses of Variable Composition	2016-2017	Dr. Prabhakar Singh (PI.)	Physics	CSIR	3 Years	04.10.2013	9,00,000.00	5,55,725.00+ 3,34,675.00+ 3,87,865.00	GP/LT/ Phy/ 13-14/05
17	Study of Magnetospheric Wave-Particle interaction, Aurora, Airglow and Conductivities on Planets and their Satellites	2017-18	Dr. D. Giri/ R.P. Singhal/ O.N. Singh	Physics	ISRO	3 Years	23.10.2015	38,00,3,000.00	13,03,200.00+ 8,30,765.00	R&D/ ISRO/LT/ Physics/ 15-16/06
18	Study of Tool Wear in Diamond Turn Mechining & Micro Machining Process	2014-15	Prof. Sandeep Kumar, P.I., Dr. U.S. Rao, Co-PI, Dr. Amit Tyagi, Co-PI	Mechanical Engg.	Bhabha Atomic Research Centre, (BARC) Mumbai	2 Years	16.02.2013	24,05,800.00	12,02,900.00 + 9,62,320.00+ 2,40,580.00	GP/LT/ ME/ 13-14/01
19	Development of Sheet Hydro-forming Process for missile Components	2015-16	Prof. Santosh Kumar, P.I.	Mechanical Engg.	Defence Research & Develop-ment Lab (DRDL), Hyderbad	2 Years	DRDL/24/08P/ 12/0450/41775 13.02.2013	9,80,000.00	4,99,978.00+ 3,19,978.00	GP/LT/ ME/ 13-14/02
20	Technology and Fabrication of Tabletop CNC Machine for Micro-Tubular Hydro forming Setup	2015-16	Prof. Santosh Kumar, PI	Mechanical Engg.	BARC, Mumbai	2 Years	17.03.2014	49,32,000.00	25,11,000.00+ 19,88,923.00	GP/LT/ ME/ 13-14/03

21	Assessment of residual stress upon friction stir welding of steel	2017-18	Dr. Mohd. Zaheer Khan Yusufzai	Mechanical Engg.	SERB	3 Years	17.02.2014	45,00,000.00	38,50,000.00	GP/LT/ ME/ 14-15/04
22	Quenching behavior of dry heated ord with nanofluid	2016-17	Dr. Pradyumna Ghosh	Mechanical Engg.	BRNS	2 Years	16.04.2014	33,56,800.00	14,10,950.00+ 18,62,757.00	GP/LT/ ME/ 14-15/05
23	Synthesis and Characterization of Novel Segmented Polyurethane-Graphene Nanocomposites for Biomedical Applications	2015-16	Prof. Pralay Maiti, P.I.	SMST	CSIR	3 Years	31.10.2012	12,01,667.00	12,01,667.00+ 2,38,333.00+ 2,91,251.00+ 1,58,800.00	GP/LT/ SMST/ 13-14/03
24	Cognitive Linguistic study of perception verbs in Hindi and English: In the context of machine translation	2016-17	Dr. Swasti Mishra	Humanities	DST (CSRI)	2 Years	01.05.2014	13,64,000.00	6,82,000.00+ 6,50,000.00	GP/ST/ COMP.E/ 14-15/01
25	Design of High Temperature Facility for Graphite Dust Formation and Transport.	2016-17	Dr. Prasant Shukla	Mechanical Engg.	BRNS (DAE)	2 years	2013/36/67-BRNS/0577 dated 10 June, 2014	51,84,000.00	46,67,000.00+ 7,26,040.00	GP/ST /14-15/ ME/07
26	Development & evaluation of nanocarrier for enhanced anti-microbai activity of anacrdic acid against human and plant pathogens	2017-18	Dr. Sanjay Singh	Pharmaceutics	DST	3 Years	DST/SSTP/UP/ 13-14/XII Plan/ 132 (G) dated 8.09.2014	58,66,996.00	28,65,836.00+ 10,00,000.00	GP/LT/ Pharm/ 14-15/01
27	Centre for Energy and Resources Development	2016-17	Dr. S.K. Shukla	Mechanical Engg.	MHRD FAST Scheme	2 Years	5-5/2014-T.S-VII dated 14.09.2014	2,50,00,000.00	1,50,00,000.00+ 1,00,00.000.00	GP/LT/ ME/2014-15/06
28	FIST Programme under the Head, Department of Chemical Engineering, IIT(BHU)	2018-19	The Head	Chemical Engg.	DST (INSPIRE & First Division)	5 Years	SR/FST/ETI-358/2013 (G)	2,40,00,000.00	2,04,00,000.00	GP/LT/ Chem. Engg./ 2014-15/07
29	J.C. Bose Fellowship	2017-18	Prof. Dhananjay Pandey	SMST	SERB	5 Years	SR/S2/JCB-24/ 2012 Dated 8.08.2012	68,00,000.00	21,60,000.00+ 13,60,000.00+ 14,00,000.00	GP/LT/ SMST/ 2014-15/05
30	Design and Synthesis of novel Matrix Metallo Proteinase (MMP-2 & 9) Inhibitors as therapeutic agents for Alzheimer's Disease	2018-19	Dr. S.K. Singh	Pharmaceutics	Deptt. of Biotech-nology	3 Years	BT/PR9624/ MED/30/1253/ 2013 Dated 29.11.2014	60,52,000.00	49,34,000.00	GP/LT/ Pharm/ 14-15/02
31	Wavelets and operational matrix based techniques for integral and differential equations	2018-19	Dr. Rajesh Kumar pandey	Mathematical Sciences	SERB, New Delhi	3 Years	SR/FTP/MS-016/2010	10,20,000.00	3,83,413.00	GP/LT/ Math/ 14-15/02
32	INSPIRE Faculty Award	2019-20	Dr. Neha Agnihotri	Physics	DST, New Delhi	5 Years	DST/INSPIRE Faculty Award/ 2014/DST/ INSPIRE/04/ 2014/001437	76,00,000.00	19,00,000.00+ 12,63,928.00	GP/LT/ Physics/ 2014-15/07

33	Neutron Diffraction Studies on Nanoparticles of Cobalt Chromite by A/B Site Mixing	2018-19	Dr. Chandana Rath	SMST	UGC, New Delhi	3 Years	UDCSR/AO/ MUM/CRS-M-202/2015/633 dated 16.02.2015	11,22,000.00	35,000.00+ 8,710.00+ 4,05,000.00	GP/LT/ SMST/ 2014-15/04
34	Design and Development of a smart Energy Grid Architecture with Energy storage	2018-19	Prof. R.K. Pandey	Electrical Engg.	DST	3 Years	DST/TM/SERI/2k 12/84(G)	2,13.86,000.00	1,68,98,000.00	GP/LT/ EE/15-16/03
35	Evaluation and Optimisation of Biodiesel Production from Microalgae	2019-20	Prof. Yogesh Chandra Sharma	Chemistry	DST	3 Years	DST/IMRCD/ IBSA/P1/2014/ (G) Dated 29th Dec., 2014	5192400.00	2250800.00	GP/LT/ Chemistry/ 15-16/01
36	Electromagnetic Analysis, Design and simulation of an X-band Gyro-Twystron Amplifier	2017-18	Dr. M. Thottappan/ Prof. P.k. Jain	Electronics Engg.	SERB	3 Years	YSS/2014/ 000467dated 18.09.2015	29,10,448.00	20,06,448.00	R&D/ SERB/LT/ EE/15-16/ 04
37	Design Development and Fabrication of an Incremental Sheet Hydro forming Machine Setup	2017-18	Dr. Santosh Kumar	Mechanical Engg.	SERB	3 Years	SB/S3/MMER/ 0068/2014 dated 12.12.2014	48,00,000.00	36,00,000.00	R&D/GP/ LT/ME/ 14-15/08
38	Development of SrTiO3 based Anode Materials for Intermediate Temperature Solid Oxide Fuel Cells	2017-18	Dr. Prabhakar Singh/Prof. A.S.K. Sinha	Physics	BRNS	3 Years	34/14/15/2015/ BRNS dated 30.06.2015	14,71,150.00	29,74,400.00+ 4,91,561.00+ 1,29,840.00	R&D/GP/ LT/Physics/ 2015-16/08
39	Study and Analysis of Mathematical Models of Nonlinear Fractional Order Diffusion Equations"	2017-18	Dr. Subir Das	Mathematical Sciences	SERB	3 Years	SB/S4/MS:840/13 07.05.2015	16,92,000.00	6,50,000.00	R&D/GP/ LT/Math/ 15-16/03
40	NOx Removal from Diesel Exhaust by combined NOx storage Reduction and NH3 SCR System	2017-18	Dr. Sweta	Chemical Engg.	SERB	3 Years	SB/FTP/ETA-0144/2014 Dt:08.07.2015	27,35,000.00	23,30,000.00	R&D/GP/ LT/ChE/ 15-16/04
41	Development of Electropulsing Facility for Synthesis of Bulk Nanostructured Materials	2016-17	Dr. Rampada Manna Prof. G.V.S. Sastry/ Prof. R.K. Pandey/ Prof. S.N. Ojha	Metallurgical Engineering	B.R.N.S.	2 Years	34/14/18/2015/ BRNS dated 06.097.2015	26,48,400.00	21,16,150.00+ 1,94,050.00	R&D/BRNS/ ST/Met/ 15-16/03
42	De Novo Synthesis of orthogonally protected uronic acid building blocks: Access to various important oligosaccharides	2017-18	Dr. Jeyakumar Kandasamy	Chemistry	SERB	3 Years	YSS/2014/000236 dated 18.09.2015	28,00,000.00	15,58,400.00+ 6,52,000.00	R&D/SERB/ LT/Chemistry/ 15-16/02
43	Delineating the molecular interactome of Calcineurin, post phagosome formation in mycobacterial pathogenesis	2017-18	Dr. Somdeb Das Gupta	Biomedical Engg.	SERB-DST	3 Years	YSS/2015/000471 dated 13.09.2015	21,30,000.00	12,00,000.00	R&D/DST/ LT/SBM/ 15-16/02

44	MHD Waves in the Solar Atmosphere and Refined Magneto-seismology	2017-18	Dr. Abhishek Kr. Srivastava/ Dr. Anita Mohan	Physics	ISRO	3 Years	B.19012/124/ 2015-II dated 7/12/2015	24,23,000.00	11,60,000.00	R&D/ ISRO/ LT/ Physics/ 15-16/09
45	Development & Evaluation of Infrared Nanoparticles for Cellular-wide sensitive E-field Mapping	2017-18	Dr. Manoj Kumar	Chemical Engg.	DST Nano Mission	3 Years	SR/NM/NS-1320/2014(G) Dated 30.12.2015	51,52,965.00	35,49,765.00	R&D/DST/ LT/ChE/ 15-16/05
46	Efficient Generation of a Query-Specific Extractive Summary on Multiple Documents – A Distributive Approach	2017-18	Dr. Ravindranath Chowdary	Computer Science	SERB	3 Years	YSS/2015/ 000906 dated 31.12.2015	16,64,000.00	6,93,333.00	R&D/GP/ SERB/LT/ Comp.E/ 15-16/02
47	Pyrolysis of Biomass for the Producation of Bio-oil: Experimental and Computational Study	2016-17	Dr. J.P. Chakraborty	Chemical Engg.	DST	3 Years	SR/FTP/ETA-56/ 2012 dated 21.12.2012	23,50,000.00 (T/F Case)	1,57,469.00	R&D/DST/ LT/ChE/ 15-16/06
48	Observations and Modeling of solar transients & space weather candidates	2017-18	Dr. Abhishek Kr. Srivastava	Physics	SERB	3 Years	YSS/2015/ 000621 dated 09.11.2015	17,76,000.00	5,92,000.00	R&D/ SERB/ LT/ Physics/ 15-16/10
49	Polymeric Nanobiohybrids for Tissue Engineering and Drug Delivery	2018-19	Prof. Pralay Maiti	SMST	SERB	3 Years	EMR/2015/ 001409 dated 21.12.2015	23,11,000.00	11,03,000.00	R&D/ SERB/LT/ SMST/ 16-17/06
50	Development of a Rubber based sheet Hydro forming setup	2017-18	Prof. Santosh Kumar	Mechanical	DRDL, CARS Hyderabad	2 Years	DRDL/24/08P/ 15/0301/42307 dated 1.11.2015	9,84,000.00	4,99,978.00	R&D/ CARS/ST/ Mechanical/ 16-17/09
51	Studies on Improvements in Stiffness of Aluminum Alloy Fibres	2017-18	Dr. Rampada Manna/ Dr. K. Chattopadhyay	Metallurical Engg.	D.R.D.O., CARS, Jodhpur	18 months	DGNSM/06/ 6006/CARS/ ALFIBRES dated 08.02.2016	40,11,040.00	20,00,000.00	R&D/ CARS/ST/ Met/ 16-17/04
52	Photolabile Protected Monosaccharides: Syntehsis and Application to Oligosaccharides Synthesis Using a Continuous flow	2018-19	Dr. Jeyakumar Kandasamy	Chemistry	Germany	3 year	e-mail confirmation dated 20.09.2016	44,62,460.00	6,61,860.00+ 14,30,800.00	R&D/DST/ Max/MoU/ LT / Chemistry/ 16-17/03
53	Evaluation of some compounds in experimental Alzherimer Disease	2017-18	Dr. Sairam Krishnamurthy	Pharmaceutics	Natreon Inc., U.S.A.	2 years	Email confirmation dated 13/09/2016	29,40,000.00	16,20,000.00	R&D/ Natreon Inc./USA/ ST/ Pharmaceutics/ 16-17/03
54	Evaluation of some compounds in experimental Alzherimer Disease	2017-18	Dr. Sairam Krishnamurthy	Pharmaceutics	Natreon Inc., U.S.A.	2 years	Email confirmation dated 13/09/2016	22,06,800.00	11,12,400.00	R&D/ Natreon Inc./USA/ ST/ Pharmaceutics/ 16-17/04

55	Design Investigations of High Power MM Wave W Band Gyratron	2017-18	Prof. P.K. Jain/ Dr. M. Thottappan	Electronics	DRDO, CARS, Begalooru	2 Years	MTRDC/MMG/ 14240/LPO/204/ 15-16/MTR-18 dated 22.03.2016	9,90,000.00	8,00,000.00	R&D/ CARS/ST/ Electronics 16-17/05
56	Development of high Thorough put Processing route for CIGS PV absorber films by spray pyrolysis of Pre-synthesised Nanoparticle Ink	2018-19	Dr. M.I. Ahmand/ Dr. S. Das	Ceramic	SERB	3 Years	ECR/2016/ 000854 dated 27/09/2016	46,03,010.00	32,33,380.00	R&D/ SERB/LT/ Ceramic./ 16-17/02
57	Development of low voltage, low power, colloidal quantum dot light-emitting transistors for next generation display technology	2018-19	Dr. Bhola Nath Pal/Prof. P. Maiti	SMST	SERB	3 Years	EMR/2015/ 000689 Dated 22.08.2016	55,52,323.00	40,67,019.00	R&D/ SERB/LT/ SMST/ 16-17/07
58	Pharmacological Effect of novel formulation in experimental allergic encephalomyelitis rodent model	2017-18	Dr. Sairam Krishnamurthy	Pharmaceutics	DISTO Pharmac-eutics	1 Years	Sanctioned letter Nil dated 24.03.2016	5,04,000.00	2,40,000.00	R&D/ DISTO/ ST/Pharm-aceutics/ 16-17/05
59	Fabrication of low-cost High-through out Flow Cytometer using tunable nanolenses.	2018-19	Dr Ankur Verma	Chemical Engg.	DST, New Delhi	3 Years	ECR/2015/ 000434 dated 18.10.2016	52,09,600.00	35,36,530.00	R&D/ SERB/LT/ Chem/ 16-17/08
60	Numerical methods for integral equations and differential equations by using Wavelets and operational matrix	2018-19	Dr. Vineet Kumar Singh	Mathematical Sciences	SERB, New Delhi	3 Years	YSS/2015/ 001017 Dated 18.11.2016	6,93,000.00	4,31,000.00	R&D/ SERB/LT/ Maths/ 16-17/09
61	Seamless synthesis of large-area 2D transition metal di-chlcogenide semiconductors and their applications in next-generation high-performance optoelectronic devices	2018-19	Dr. Santanu Das/ Dr. Bhola Nath Pal	Ceramic Engineering	SERB, New Delhi	3 Years	ECR/2016/ 001112 dated 29.11.2016	49,89,600.00	35,96,530.00	R&D/ SERB/LT/ Cer/ 16-17/09
62	Development of solution methods for Abel's integral equations and generalized Abel's integral equation	2018-19	Dr.Rajesh Kr. Pandey	Mathematical Sciences	DAE, Mumbai	3 Years	2/48(11)/2016/ NBHM(RP)/R&D II/16948 dated 22.12.2016	3,32,500.00	1,80,500.00	R&D/DAE/ LT/Maths/ 16-17/04
63	Photolabile Protected Monosaccharides: Syntehsis and Application to Oligosaccharides Synthesis Using a Continuous flow	2018-19	Dr. Jeyakumar Kandasamy	Chemistry	DST, New Delhi	3 year	DST/INT/MPG/ P-09/2016 dated 18.10.2016	45,70,400.00	18,47,200.00	R&D/ DST/Max/ MoU/LT / Chemistry/ 16-17/04/ Part/2

64	Development of nickel free nitrogen austenitic stainless steel for biomedical applications	2018-19	Dr G.S. Mahobia/ Dr. Kausik Chattopadhyay/ Prof. Vakil Singh	Metallurgical Engg.	Min. of Steel, GoI	3 Years	11(12/GBS/ 2015-TD dated 26.12.2015	2,84,44,800.00	1,61,00,000.00+ 67,00,000.00	R&D/Min/ Steel/LT/ Met/16-17/ 05
65	Co2 Capture in Carbon nanocomposites	2019-20	Ashish Kumar Mishra	SMST (T/F IISER Bhopal)	DST, New Delhi	5 years	IFA14-MA25 dated 07.12.2016	35,00,000.00	10,31,233.00	R&D/DST/ LT/SMST/ 16-17/08
66	On characterizing and Obtaining the Complete Efficient Solution Set of an Interval Optimization Problem under a D-Dominance and a variable Dominance Structure	2018-19	Dr. Debdas Ghosh	Mathematical Sciences	SERB, New Delhi	3 Years	ECR/2015/ 000467 dt. 05.12.2016	15,02,500.00	5,67,430.00	R&D/ SERB/ LT/Maths/ 16-17/05
67	"Design and development of miniaturized pattern/frequency reconfigurable MIMO antennas and its performance improvement using artificial electromagnetic material"	2018-19	Dr. Manoj Kr. Meshram	Electronics	SERB, New Delhi	3 Years	EEQ/2016/ 000744 dt. 31.01.2017	42,52,000.00	30,84,000.00	R&D/ SERB/ LT/ECE/ 16-17/06
68	DST-INSPIRE Faculty Award (IFA-13 PH 54)/ Understanding structure and dynamics of the Interstellar medium	2019-20	Dr. Prasun Duttta	Physics (T/F IISER Bhopal)	DST, New Delhi	5 Years	IFA13-PH54 dated 07.12.2016	35,00,000.00	5,09,026.00	R&D/DST/ LT/Phy/ 16-17/11
69	Construction of Cold Inducible Expression System	2019-20 15.02.2020	Dr. Ashish Kr. Singh	Biochemical Engg.	DBT, New Delhi	3Years	BT/PR20258/ BBE/117/188/ 2016 dated 16.02.2017	36,10,300.00	19,47,100.00	R&D/DBT/ LT/BCE/ 16-17/02
70	Sanction order for inspection of 751 GPIs to the 11 technical Institution	2017-18 19.03.2018	Dr. P.K. Mishra	Chem Engg.	CPCB, Delhi	1 Years	19004/NGRBA/ CPCB/2015-16 dated 20.03.2017	1,23,50,400.00	61,75,200.00	R&D/ CPCB/ST/ Che/ 16-17/09
71	Enhancement of Lipid Content in Microalge Scenedesmus Obliquus Using Genetic Engineering Tool: a step towards biodiesel	2019-2020 23.02.2019	Dr. Ashish Kr. Singh	Biochemical Engg.	CST, U.P.	3 Years	CST/4024 dt. 05.01.2017	4,50,000.00	1,50,000.00	R&D/CST/ LT/BCE/ 17-18/03
72	Characterization and validation of Schlieren Technique for Capturing Shock Wave	2019.20 1.03.2019	Dr. Amitesh Kumar	Mechanical Engg.	DRDO. New Delhi	2 Years	ARMREB/ ADMB/2016/ 182 dt. 08.09.2016	17,84,800.00	12,31,376.00	R&D/ DRDO/ Mec/ 17-18//10

4. List of Projects Sanctioned in Financial Year 2016-17 in IIT (BHU) & Total Project Cost

1	Photolabile Protected Monosaccharides: Syntehsis and Application to Oligosaccharides Synthesis Using a Continuous flow	2018-19	Dr. Jeyakumar Kandasamy	Chemistry	Germany	3 year	e-mail confirmation dated 20.09.2016	44,62,460.00	6,61,860.00+ 14,30,800.00	R&D/ DST/Max/ MoU/LT / Chemistry/ 16-17/03
2	Evaluation of some compounds in experimental Alzherimer Disease	2017-18	Dr. Sairam Krishnamurthy	Pharmaceutics	Natreon Inc., U.S.A.	2 years	Email confirmation dated 13/09/2016	29,40,000.00	16,20,000.00	R&D/ Natreon Inc./USA/ ST/Pharm-aceutics/ 16-17/03
3	Evaluation of some compounds in experimental Alzherimer Disease	2017-18	Dr. Sairam Krishnamurthy	Pharmaceutics	Natreon Inc., U.S.A.	2 years	Email confirmation dated 13/09/2016	22,06,800.00	11,12,400.00	R&D/ Natreon Inc./USA/ ST/ Pharmac-eutics/ 16-17/04
4	Development of high Thorough put Processing route for CIGS PV absorber films by spray pyrolysis of Pre-synthesised Nanoparticle Ink	2018-19	Dr. M.I. Ahmand/ Dr. S. Das	Ceramic	SERB	3 Years	ECR/2016/ 000854 dated 27/09/2016	46,03,010.00	32,33,380.00	R&D/SERB /LT/Ceramic /16-17/02
5	Development of low voltage, low power, colloidal quantum dot light-emitting transistors for next generation display technology	2018-19	Dr. Bhola Nath Pal/ Prof. P. Maiti	SMST	SERB	3 Years	EMR/2015/ 000689 Dated 22.08.2016	55,52,323.00	40,67,019.00	R&D/SERB/ LT/SMST/ 16-17/07
6	Fabrication of low-cost High-through out Flow Cytometer using tunable nanolenses.	2018-19	Dr Ankur Verma	Chemical Engg.	DST, New Delhi	3 Years	ECR/2015/ 000434 dated 18.10.2016	52,09,600.00	35,36,530.00	R&D/SERB/ LT/Chem/ 16-17/08
7	Numerical methods for integral equations and differential equations by using Wavelets and operational matrix	2018-19	Dr. Vineet Kumar Singh	Mathematical Sciences	SERB, New Delhi	3 Years	YSS/2015/ 001017 Dated 18.11.2016	6,93,000.00	4,31,000.00	R&D/SERB/ LT/Maths/ 16-17/09
8	Seamless synthesis of large-area 2D transition metal di-chlcogenide semiconductors and their applications in next-generation high-performance optoelectronic devices	2018-19	Dr. Santanu Das/ Dr. Bhola Nath Pal	Ceramic Engineering	SERB, New Delhi	3 Years	ECR/2016/ 001112 dated 29.11.2016	49,89,600.00	35,96,530.00	R&D/SERB/ LT/Cer/ 16-17/09

9	Development of solution methods for Abel's integral equations and generalized Abel's integral equation	2018-19	Dr.Rajesh Kr. Pandey	Mathematical Sciences	DAE, Mumbai	3 Years	2/48(11)/2016/ NBHM(RP)/ R&D II/16948 dated 22.12.2016	3,32,500.00	1,80,500.00	R&D/DAE/ LT/Maths/ 16-17/04
10	Photolabile Protected Monosaccharides: Syntehsis and Application to Oligosaccharides Synthesis Using a Continuous flow	2018-19	Dr. Jeyakumar Kandasamy	Chemistry	DST, New Delhi	3 year	DST/INT/MPG/ P-09/2016 dated 18.10.2016	45,70,400.00	18,47,200.00	R&D/DST/ Max/MoU/LT /Chemistry/ 16-17/04/ Part/2
11	Co2 Capture in Carbon nanocomposites	2019-20	Ashish Kumar Mishra	SMST (T/F IISER Bhopal)	DST, New Delhi	5 years	IFA14-MA25 dated 07.12.2016	35,00,000.00	10,31,233.00	R&D/DST/ LT/SMST/ 16-17/08
12	On characterizing and Obtaining the Complete Efficient Solution Set of an Interval Optimization Problem under a D-Dominance and a variable Dominance Structure	2018-19	Dr. Debdas Ghosh	Mathematical Sciences	SERB, New Delhi	3 Years	ECR/2015/ 000467 dt. 05.12.2016	15,02,500.00	5,67,430.00	R&D/SERB/ LT/Maths/ 16-17/05
13	"Design and development of miniaturized pattern/frequency reconfigurable MIMO antennas and its performance improvement using artificial electroma-gnetic material"	2018-19	Dr. Manoj Kr. Meshram	Electronics	SERB, New Delhi	3 Years	EEQ/2016/ 000744 dt. 31.01.2017	42,52,000.00	30,84,000.00	R&D/SERB/ LT/ECE/ 16-17/06
14	DST-INSPIRE Faculty Award (IFA-13 PH 54)/ Understanding structure and dynamics of the Interstellar medium	2019-20	Dr. Prasun Duttta	Physics (T/F IISER Bhopal)	DST, New Delhi	5 Years	IFA13-PH54 dated 07.12.2016	35,00,000.00	5,09,026.00	R&D/DST/ LT/Phy/ 16-17/11
15	Construction of Cold Inducible Expression System	2019-20 15.02.2020	Dr. Ashish Kr. Singh	Biochemical Engg.	DST, New Delhi	3 Years	BT/PR20258/ BBE/117/188/ 2016 dated 16.02.2017	36,10,300.00	19,47,100.00	R&D/DBT/ LT/BCE/ 16-17/02
16	Sanction order for inspection of 751 GPIs to the 11 technical Institution	2017-18 19.03.2018	Dr. P.K. Mishra	Chem Engg.	CPCB, Delhi	1 Years	19004/NGRBA/ CPCB/2015-16 dated 20.03.2017	1,23,50,400.00	61,75,200.00	R&D/CPCB/ ST/Che/ 16-17/09
17	Enhancement of Lipid Content in Microalge Scenedesmus Obliquus Using Genetic Engineering Tool: a step towards biodiesel	2019-2020 23.02.2019	Dr. Ashish Kr. Singh	Biochemical Engg.	CST, U.P.	3 Years	CST/4024 dt. 05.01.2017	4,50,000.00	1,50,000.00	R&D/CST/ LT/BCE/ 17-18/03
18	Characterization and validation of Schlieren Technique for Capturing Shock Wave	2019.20 1.03.2019	Dr. Amitesh Kumar	Mechanical Engg.	DRDO. New Delhi	2 Years	ARMREB/ADMB/ 2016/182 dt. 08.09.2016	17,84,800.00	12,31,376.00	R&D/DRDO /Mec/ 17-18//10

5. List of MoUs signed by the IIT(BHU) in the Financial Year 2016-17*

S. No.	Name of the field	Particulars	Date
National MoUs signed by IIT(BHU) in the F.Y. 2016-17			
1	MoU	Department of Biotechnology, Ministty of Science and Technology, Government of India, New Delhi	21.04.2016
2	MoU	M/s Clean Max Enviro Engery Solution Pvt. Ltd. (SECI) Solar Energy Corporation of India	04.07.2016

S. No.	Name of the field	Particulars	Date
International MoUs signed by IIT(BHU) in the F.Y. 2016-17			
1	MoU	Ming Chi University of Technology, New Taipei, Taiwan	21.04.2016
2	MoU	Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Science, Irkutsk, Russia	13.08.2016
3	MoU	Max Planck Institute of Colloids and Institute (MPIKG) Potsdam, Germany	17.08.2016
4	MoU	University of Connecticut, Storrs, CT, USA (UCONN)	31.01.2017

6. Details of the funds earned under Testing/Consultancy Projects in the F.Y. 2016-17

S. No.	Name of Department	Testing	Consultancy	Total Amount Earned
1	Civil Engineering	21,320,327.00	24,528,738.00	45,849,065.00
2	Mining Engineering	189,750.00	12,621,367.00	12,811,117.00
3	Chemical Engg. & Tech.	1,447,987.00	118,630.00	1,566,617.00
4	Metallurgical Engg.	1,159,370.50	1,093,230.00	2,252,600.50
5	Electical Engg.	244,071.00	-	244,071.00
6	SMST	-	45,800.00	45,800.00
7	Ceramic	9,000.00	-	9,000.00
8	School of Biomedical Engg.	930,350.00	-	930,350.00
	Total	25,300,855.50	38,407,765.00	63,708,620.50

30. Institute Works Department

The Institute Woks Department, IIT (BHU) was established in the year 2014. It is entrusted with the responsibilities of repair, maintenance, reconditioning and renovation of hostel and administrative buildings and providing various services. The department also undertakes various civil and electrical works related to area development among the hostel and academic buildings. The department awards contracts in a transparent manner in the best interest of the Institute by ensuring all round integrity with the maintenance of best possible standards under adequate supervision.

1. Major works in progress by CPWD during the period

S. No.	Name of work	Amount (in lakhs of Rs.)
1	C/o Transit Married Hostel at IIT (BHU) (Block- C)	451.56
2	C/o 1st & 2nd floor of Department of Mathematics Science Building	253.43
3	C/o Control Room building i/c internal E.I. at IIT (BHU)	171.40
4	C/o faculty apartment (G+5) of 1st block at IIT (BHU)	1807.08
5	C/o faculty apartment (G+5) of 2nd block at IIT (BHU)	1756.81
6	C/o Girls Hostel (G+6) along with boundary wall at IIT (BHU)	5629.75
7	C/o (G+1) floor part-I of Teaching Learning Cell building (Green building)	572.04
	Total	**10642.07**

2. Major works completed by CPWD during the period

S. No.	Name of work	Amount (in lakhs of Rs.)
1	C/o Transit Married Hostel at IIT (BHU), (Block B)	828.67
2	C/o Ground floor and complete construction of first floor of Girls Common Room of IIT (BHU) behind Director's Office at BHU, Varanasi and C/o 1st Floor over exiting Library Building of IIT (BHU)	975.93
3	C/o 2nd floor Computer Engineering Annexe building & 2nd , 3rd floor of Computer Engineering building	285.67
	Total	**2090.27**

3. Major civil works completed by IWD during the period

S. No.	Name of work	Amount (in lakhs of Rs.)
1	Beautification of sewage treatment plant opposite Ramanujan Hostel, IIT(BHU)	5.00
2	Repair to patch plaster scrapping w/w and distempering with oil bound distemper in common place & exterior painting of part-1 of Aryabhatt Hostel	5.44
3	P/F MS Grills with painting work in window of different workshop IIT(BHU)	5.51
4	Water proofing treatment (Brick Koba) of in front side of Deptt. of Physics, IIT(BHU)	7.07
5	Repair to patch plaster scrapping w/w and distempering painting work common place replacement channel gate in Limbdi & sewer line manhole work toilets renovation in Saluja Hostel (Back side of Limbdi Hostel)	8.95

6	Repair to patch plaster scrapping w/w and distempering with oil bound distemper in common place & exterior painting of mess area barbed wire fencing of S.N. Bose hostel & water proofing treatment brick koba of terrace common place painting pf of profile sheet on old truss in Saluja hostel	9.02
7	Renovation of right side ground and first floor toilet of Vivekanand Hostel, IIT(BHU)	9.10
8	Removing of plaster and re-plastering work of corridor wall at 1st floor scraping distempering white washing enamel paint of first floor in Morvi Hostel, IIT(BHU)	9.15
9	Supply and install the LPG pipeline system GI ducting exhaust blower and AR washer at Aryabhatta Hostel	9.35
10	Renovation of left side ground and first floor toilet and w/w distempering & painting of mess kitchen & toilets at Vivekanand Hostel, IIT(BHU)	9.98
11	Repair to patch plaster scrapping w/w and distempering with oil bound distempering & p/f vitrified floor tiles false ceiling and other works in Deptt. of Metallurgical Engg.	11.52
12	Construction of Storm water Drain around the Rajputana Ground, IIT(BHU)	11.15
13	Supply the Kitchen Equipment items of Aryabhatta Hostel, IIT(BHU)	12.70
14	Construction of 4m dia 8 m tall at (-) 8m to GL wet wall for 600 KLD CSBT Ramanujan Hostel. Additional order of Agreement No. 1C dated 20.08.2015	12.75
15	Toilets renovation 2nos common place w/w distempering painting replacement of channel gate barbed wire fencing in Rajputana & exterior painting common place painting w/w distempering painting of portion earth filling S. Ramanujan Hostel	15.99
16	W/W distempering painting of inner side and Acrylic paint of outer side work in GSC Ext.	16.83
17	Water proofing treatment brick koba changing grill of window barbed wire fencing and w/w distempering and painting work in CV Raman Hostel	18.61
18	Dinning and Seating Furniture at Aryabhatta Hostel	19.32
19	Repair to patch plaster of wall & ceiling scrapping of old paint or w/w P/A of Acrylic smooth exterior painting of outer wall and ground floor corridor distempering w/w of common place and mess area work in Morvi Hostel	20.43
20	Construction of Cycle stand in Vivekanand, SC Dey, Limbdi, Rajputana, GSMC New Hostel Morvi CV Raman S.N. Bose, S. Ramanujan Hostel IIT(BHU)	21.98
21	Construction of Chain link fencing and water proofing treatment brick koba of front side in Deptt. of Chemical Engg.	23.78
22	P/L Vitrified tiles kota stone marble flooring granite flooring at stair trade & riser aluminium partitions & painting work of production lab at 1st Floor Deptt. of Mechanical Engg.	24.64
23	Special repair of slab & bean gunting work of corridor at 1st Floor in Morvi Hostel	24.77
16	**TOTAL**	**313.52**

4. Major civil works in progress by IWD during the period

S. No.	Name of work	Amount (in lakhs of Rs.)
1	P/F Aluminum partition RCC platform and painting works in Deptt. of Humanistic Studies at second floor NCC Building IIT(BHU)	6.00
2	Construction of vehicle stand and outdoor tiles in the porch of Deptt. of Computer Science & Engg. IIT(BHU)	8.63

3	P/L inter locking pever block and RCC cover of rain water drain sarrounding of new building Deptt. of Mechanical Engg., IIT(BHU).	9.41
4	Constructions of Visitors room with attached bath room and toilets in Gandhi Smriti Mahila Chhatravash (Ext.) IIT(BHU)	9.66
5	P/F vitrified tiles flooring scrapping putty & distempering & false ceiling works of computer lab photonics lab composite material lab, bio physics lab, material sci. lab excluding false ceiling in material lab and renovation condensed matter physics lab at ground floor in deptt. of physics IIT(BHU)	9.92
6	Providing and laying vitrified tiles flooring and scrapping putty & distempering works of 1st year two IMD Physics Lab, 2nd Year 4th Year IMD Physics Lab at first floor & 3rd year IMD Physics lab at 2nd floor in Deptt. of Physics IIT(BHU)	9.95
7	Renovation of civil work in auditorium G-11 at Deptt. of Electrical Engg. IIT(BHU)	9.95
8	Construction of water storage tank and laying of GI Pipe for water distribution in different hostels IIT(BHU)	19.59
	TOTAL	**83.14**

5. Major electrical works completed by IWD during the period

S. No.	Name of work	Amount (in lakhs of Rs.)
1	Electrical illumination and rewiring of different workshop IIT(BHU)	5.08
2	Electrical rewiring work (100 rooms first floor) in Morvi Hostel	8.23
	TOTAL	**13.31**

6. Major electrical works in progress by IWD during the period

S. No.	Name of work	Amount (in lakhs of Rs.)
1	Construction of Sub-station & SCADA under Improvement of Power Supply Project for IIT(BHU), Varanasi	1271.61

31. Main Workshop

Introduction

The vision of the founder of Banaras Hindu University, Pt. Madan Mohan Malviyaji, regarding the engineering education in this university can be seen in his own Wordings as stated below.

"To advance and diffuse such scientific, technical and professional knowledge combined with necessary practical training as is best calculated to help in promoting indigenous industries and in developing the material resources of the country."

It is with this idea that Malviyaji went for a full scale Workshop in this engineering college, which was christened as Benaras Engineering College (BENCO).This workshop was used to produce every engineering item that was used in construction of producing machine tools – such as, Lathe and other product like electric fans, etc. This unit was providing technical assistance to Martin Burn Electricity Co. and also Diesel Locomotive Works for the maintenance and fabrication of their several items. It may kindly be noted that for a long time, this unit was a part of teaching department, i.e., the Mechanical Engineering Department. To make good use of the resources, both in terms of machines and manpower with the unit, it was providing technical and on the job technical training to less privileged section of the society. This was making extra manpower available to the University for producing useful products and taking various kinds of maintenance work, thereby saving enormous amount of money of the University. For example, the whole fleet of University vehicles was maintained by this workshop.

Activities (IIT-Main Workshop - 2017)

The Main Workshop of the Indian Institute of Technology (BHU) is offering the following services to the Institute/University/Outsiders.

At Institute Level

1. Training to B.Tech. Pt-I students of all branches and B.Tech. Pt-II Mech. Engg. Students to expose them to various manufacturing practice and processes.
2. Providing facilities for fabrication involved in project work to all the engineering students.
3. Helping students by way of fabricating the models and equipments for research.
4. Helping students by way of fabricating the models for Institutional Tech. Fest & Department fest like: Technex, Comet, etc.
5. Helping students in shaping the product that come out of their creative & innovative thinking.

At The University Level

1. Providing product such as furniture etc. (for IIT Hostels, Faculty Exchange Building, etc.); switch –boards to Electric & Water Supply Unit of the University, etc.
2. Providing maintenance services to the various units of the Institute and also of the University.
3. Providing technical and support services in purchase and maintenance of the University vehicles of all types.
4. Providing facilities and also the technical know-how for development of industrial and innovative products.

To Outsiders

1. Training to the students of other engineering colleges.
2. Providing processing and production facilities to outsiders.

Data of Staff Details (Name of Shop In-Charge)

S. No.	Emp. No.	Name of Employee	Designation	Shop/Lab. & In-charges
1	18838	Dr. Santosh Kumar Mandal	Technical Officer	Office
2	18828	Sri L.S. Rao	Technical Officer	Office
3	18836	Sri B.Rajak	Technical Officer	Office
4	13668	Sri G.K. Shukla	Senior Technician	I.D. Lab. & Office
5	13608	Sri Kishun Prasad	Junior Technician	I.D. Lab. & Office

6	13626	Sri Mahendra Kumar	Junior Technical Supdt.	Carpentry In-charge
7	13628	Sri Shree Kumar	Junior Technical Supdt.	Carpentry
8	13632	Sri Jagdish Prasad	Junior Technical Supdt.	Carpentry
9	13633	Sri Vikrama Prasad	Junior Technical Supdt.	Carpentry
10	18070	Sri Chandra Bhushan	Senior Technician	Carpentry
11	18675	Sri Jagdish	Senior Technician	Carpentry
12	13623	Sri L.B. Singh	Technical Supdt.	Black Smithy In-charge
13	13637	Sri Haldhar Vishwakarma	Junior Technical Supdt.	Black Smithy
14	18667	Sri Banarasi Rao	Senior Technician	Black Smithy
15	18664	Sri Brijesh Kumar Singh	Senior Technician	Black Smithy
16	19268	Sri Ravi Shankar Singh	Junior Technical Supdt.	IDC In-charge
17	13631	Sri Lal Prakash Singh	Junior Technical Supdt.	IDC
18	13999	Sri Yamuna Ram	Junior Technical Supdt.	IDC
19	18032	Sri Sunil Kumar	Senior Technician	IDC
20	18670	Sri Kunwar Bahadur	Senior Technician	IDC
21	18671	Sri Dheelep Kumar B.	Senior Technician	IDC
22	13630	Sri R.K. Sharma	Junior Technical Supdt.	Fitting In-charge
23	13636	Sri Lallan Prasad	Junior Technical Supdt.	Fitting
24	18665	Sri Bipin Kumar Rai	Senior Technician	Fitting
25	13605	Sri Baccha Lal	Technical Supdt.	Foundry In-charge
26	11561	Sri Bhola Nath	Junior Technical Supdt.	Foundry
27	16534	Sri Ram Bhaju Prasad	Senior Technician	Foundry
28	18606	Sri Rajendra P, Vishwakarma	Senior Technician	Foundry
29	19274	Sri Gopal Rana	Senior Technician	Foundry
30	13642	Sri Ram Dular	Technical Supdt.	Machine In-charge
31	13615	Sri K.N.A Choudhary	Technical Supdt.	Machine
32	13627	Sri Raj Naraian	Junior Technical Supdt.	Machine
33	13629	Sri Bechai Prasad	Junior Technical Supdt.	Machine
34	13635	Sri Doodh Nath Singh	Junior Technical Supdt.	Machine
35	18044	Sri Santosh Kumar Maurya	Senior Technician	Machine
36	18607	Sri Karun Vishwakarma	Senior Technician	Machine
37	18603	Sri Vijay Kumar Singh S/o Sri R.P.Singh	Senior Technician	Machine
38	18602	Sri Ravindra Kumar	Senior Technician	Machine
39	18605	Sri Ajay Kumar Yadav	Senior Technician	Machine
40	13629	Sri Bechai Prasad	Junior Technical Supdt.	Machine

41	18040	Sri Vijay Kumar Singh S/o Sri Ram Alam Singh	Senior Technician	Welding In-charge
42	18052	Sri Dilip Kumar Sharma	Senior Technician	Welding
43	18666	Sri Billu Guria	Senior Technician	Welding
44	18031	Sri Lakhmi Chand	Technical Supdt.	Auto In-charge
45	18051	Sri Vijay Kumar S/o Sri Sohan	Senior Technician	Auto
46	18663	Sri Jitendra Kumar	Senior Technician	Auto
47	18669	Sri Arvind Kumar Singh	Junior Technical Supdt.	CNC In-charge
48	18676	Sri Ashwani Kumar Tiwari	Senior Technician	CNC
49	18672	Sri Vinay Kumar Singh	Senior Technician	CNC
50	19267	Sri Chandra Mohan Singh	Junior Technical Supdt.	Electroplating In-charge
51	13634	Sri T.B. Singh	Junior Technical Supdt.	Electroplating
52	18604	Sri Anil Kumar Vishwakarma	Senior Technician	Electroplating
53	13619	Sri Munna Lal	Technical Supdt.	Sheet Metal In-charge
54	18646	Sri Gopal Kumar Kharwar	Senior Technician	Sheet Metal

Any Other Information:

Library Facilities.

85 Nos. of Video CDs related to Power Hand Tools, Welding, CNC, Foundry, Carpentry, Mechanical Engineering manufacturing techniques & Safety are available in Workshop for instruction to the students of B. Tech during workshop practice classes.

32. Malaviya Centre for Innovation, Incubation and Entrepreneurship

Malaviya Centre for Innovation Incubation and Entrepreneurship (MCIIE) was registered in the year 2008 as a not-for-profit society under India's society registration act of 1860. Till the year 2014-15 it remained largely supported by National Science and Technology Entrepreneurship Development Board (NSTEDB) under Department of Science & Technology (DST), Government of India. Onward, since 1 April 2015 the recurring expenditure of MCIIE is being met by fund provided by IIT (BHU) Varanasi.

Indian Institute of Technology (BHU) Varanasi

- **Registered since 2008, as not for profit society under society registration act 1860**
- **Governed through its own Governing body**
- **Office Bearers (As on date)**
  - **President : Prof. Rajeev Sangal, Director, IIT (BHU)**
  - **Secretary : Prof. P.K. Mishra**
  - **Treasurer : Dr. Pradeep Srivastava**

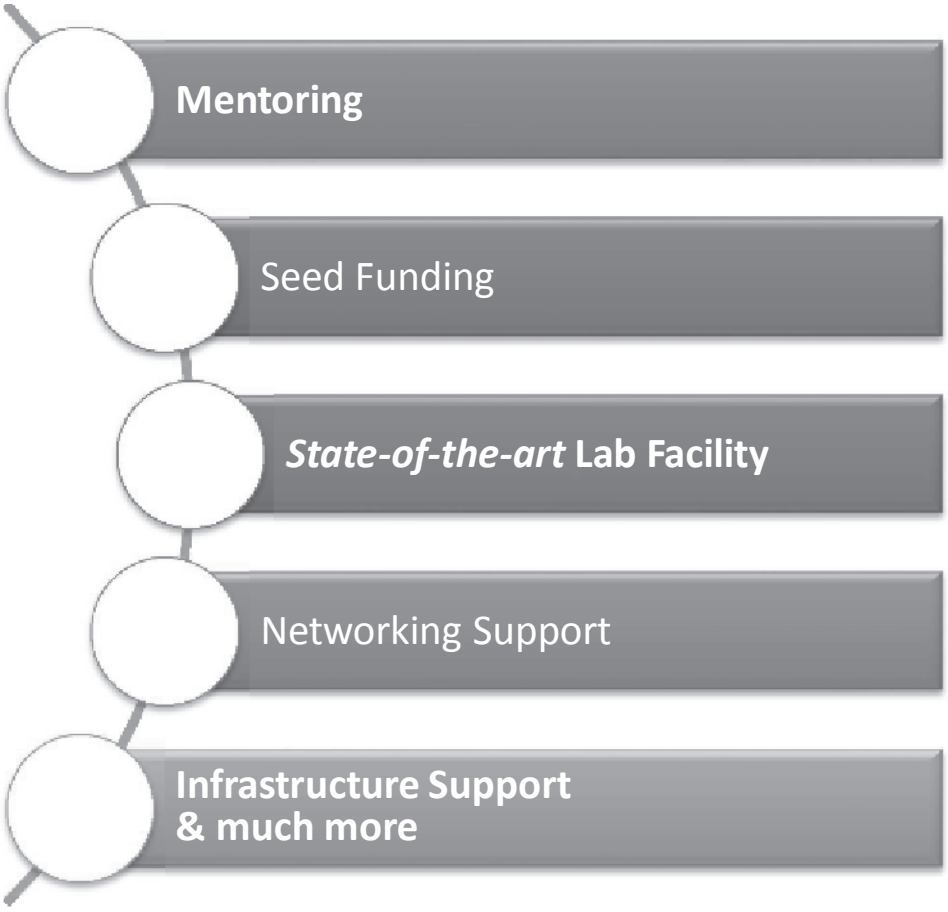
Partners

- NSTEDB, Department of Science & Technology, Govt. of India, New Delhi
- DSIR, Govt. of India, New Delhi
- TIFAC, New Delhi
- Ministry of MSME, Govt. of India
- EDII, Ahmedabad

About

The Malaviya Centre for Innovation and Incubation (MCIIE) at IIT (BHU) Varanasi is functional since 2011. The MCIIE aims to promote Techno-Entrepreneurship and enterprise creation. One of our key interventions is to provide Business Incubationto technology start-ups.

We nurture potential ideas through an ambit of support services and requisite infrastructure support and help them grow from idea to flourishing businesses. The support services offered to incubate have been depicted as under:



MCIIE also offers office infrastructure support including work space, shared office services, access to high speed internet, access to its laboratory and specialized equipment and value added services like mentoring, seed support, access to finance, technical assistance and networking support.

Objectives

MCIIEatIITBHUaimstoachievethefollowing:

New Venture Creation through providing incubation and host of other support in the areas of Information and Communication Technology (ICT), Biotechnology, Food Technology, Agriculture and allied sectors.
Technology Commercialisation, targeted at providing a much needed platform for speed ycommercialization of technologies developed in the academic and R&D institutions to reachtheend users.
Interfacing and Networking between academic, R&D institutions, industries and financial institutions.
Value Addition through its services provided to its incubates as well as to the existing technology dominated SMEs, MCIIE aim at value addition.
Creating value added jobs & services,
Fostering the entrepreneurial spirit.

For Whom ?

The admission to MCIIE is open to aspiring start-ups in the areas of, Information and Communication Technology (ICT), Biotechnology, Food Technology, Agriculture and allied sectors, promoted by:

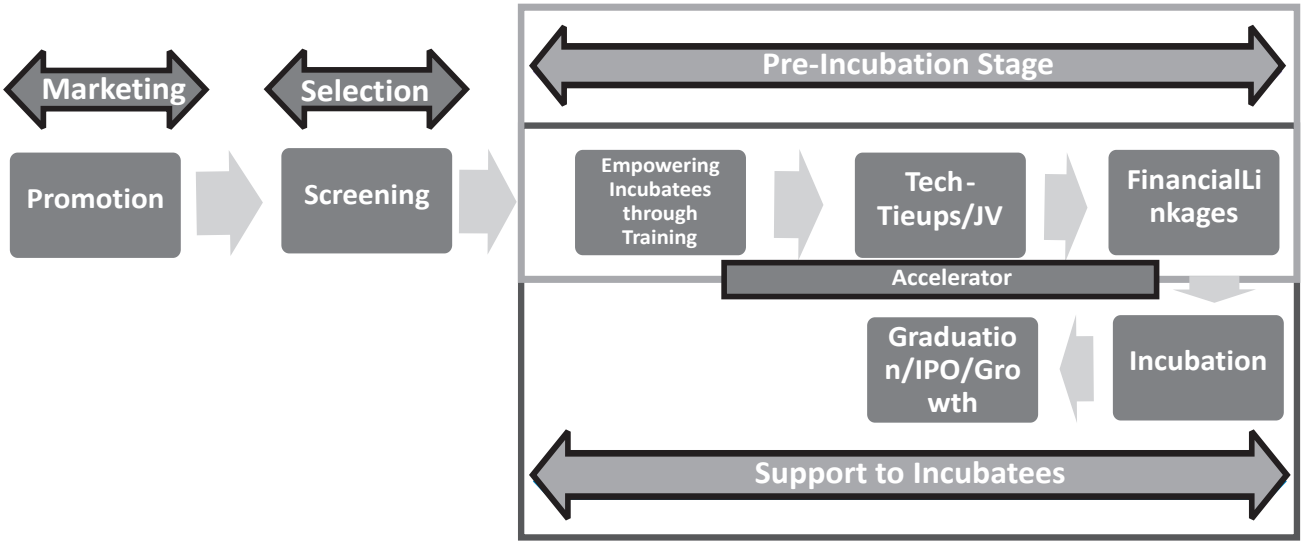
StudentsandalumniofIIT(BHU).
Facultymembers(presentorformer)ofIIT(BHU)
R&Dpartners(sponsorsofR&Dandconsultancyprojects),

How to get incubated

MCIIE designed and also implemented a new process for selection of Startup-preneurs.

New Process for Incubatees selection/Screening:

1. Promotion – School, Engineering Colleges of Purvanchal region
2. Screening – Psychometric Testing, Presentation, Interview, Counselling to rejected applications
3. Training &Empowering Incubatees- Business Training, Administrative training, Setting up a small enterprise (rules, procedures, formalities), Business opportunity identification (screening, firming-up), Market assessment, Entrepreneurial competencies (strengthening soft skills), Business plan preparation, Essentials of managing a small enterprise, Inputs on how to implement a project
4. Counselling / Technology Tie-up & JV – Counselling, Consultancy, Coaching, Mentor identification, Tie up for grey areas, Finalizing their business ideas, Developing their own business plans, The process of project implementation, Technology tie-ups, Business partnerships (Joint Venture collaborations, Seeking necessary licenses and completing legal documentation including IPR services
5. Financial Linkages – Linking with Financial Institutions, Govt. funds and grants, appropriate financial linkages is identified based on project requirements and entrepreneur investment capability, Need based advice and support is provided by the financial counsellor, "Venture Capital Fund for Selected Incubatee".,
6. Incubation – Prototyping, Business and Technology Consultancy, Marketing, Promotion, Essential linkages are facilitated with institutions dealing with infrastructure operators, Guidance and support on issues related to procurement, installation and commissioning,
7. Graduation/Growth/Exit Access to information and data / Developing growth business plans, Business Counseling, Co-entrepreneurship & Angels Program, Technology upgrading: Raw materials sourcing, sourcing of technology, Quality management & upgrading to ensure adherence to international markets, Legal support, networking, networking with Gov. Organization (both Financial & Non-Financial Institutions) Business Counsellor and Financial Counsellor closely monitor the project implementation process



Incubation Status

Present and Graduate Incubates at TBI, IIT (BHU)

Companies physically incubated at MCIIE, IIT(BHU)				
S.No	**Name of Start-up**	**Name of Start-up**	**Promoter/ Innovator**	**Other Comments**
1	Agati Health Care	Mamta Sharma [Ph D, Biochemistry, BHU, 1998]	Nutraceutical Products Colostrum based Products	Product Development Phase
2	Kashi Handicrafts	Prince Diwakar Osho Sidhant Sonveer Singh [Pursuing B Tech, from IIT (BHU)]	Craft Emporio aims to do online selling of art and crafts made by indigenous artisans and craftsmen of India. It brings on scene the local designers/artists from the hinterland of India to showcase their talent to a bigger audience.	Presently selling its products.
3	IMinBitTechIndia	Naveen Kumar[B Tech, IIT (BHU), Civil Engg. ; 2014] Rohit Mittal [B Tec&MTech, IIT (BHU), Civil Engg.; 2015]	Water saving RO water filters	Patent applied Product launched in market, Semi Finalist CII Innovation Award –2016, Top 20, Global Cleantech Innovation Programm -2016
4	Shrimali Organics	AbhijeetKushwaha, M.Tech, Chem. Engg., IIT (BHU)	Water based adhesive	Pilot Plant Study
5	Rosehub Edutainment	Ramkesh Patel and Sagar Das	Rosehub promotes innovation and creativity in Education.	Preliminary stage
6	Tech Machinery & More	Gaurav Kedia and Binod Daga	Machine and more is an online market place for trading of new and used machinery and related services. The idea of the market place is create one stop for all the needs related to machinery. So if you want to buy a new machinery or you want to sell a used machinery or you need a spare part, or need any other service related to machinery, you can do all at machineandmore.com.	Patent applied for Swacch Dhara
7	Vyala Technologies	Rishabh Gupta	We aim at providing better healthcare facilities in hand of common man. We are on mission to provide best health supplement technology to enhance facilities.	Preliminary stage
8	Young Skilled India	Abhishek Gajraj	mission is to improve professionalism and productivity of every Indian by building the necessary skills through networking. YSI aims to connect every qualified Indian for the better opportunity.	Preliminary stage

9	Innotracks	Harshit K. Pandey	We at InoTracks Pvt Ltd work towards developing smart solutions to a legion of problems pertaining to transport systems, ranging from real-time tracking of vehicles to ensuring safety checks in school buses.	Pilot Study Done in BHU
10	iRegalia	Gaurav Jain	iRegalia is a P2P e-commerce marketplace for trading of premium clothes and accessories. Promotes the monetization of one's wardrobe and maximizing the use of cloth to reduce the unnecessary impact on environment by textile industry.	Preliminary stage
11	Matrade	Sujit Kumar Singh & Ait Kumar	Our Business is related to milk industry. they are committed to provide pure unprocessed healthy milk in different way. Today most of the people are trying hard to get healthy drink but it is very rare to get unprocessed pure milk.	Mentor: Prof. Ramesh Chand, mentor Report awaited
12	Sariska Logistics	Gaurav Rathore	Logistics	App Building Stage
13	Clean Electric	Akash Gupta	E-Van & Refrigerated Battery Pack	Prototype Stage
14	Gogol	Alok Tripathi	E-Commerce	In the process of Incubation
15	E-Gyanam	Mrityunjay Saxena	Cyber Security	In the process of Incubation
16	Nisarguna	Avishek Kumar	Garden on Concrete	In the process of Incubation
17	JaksMedSolutions	Jitendra Parihar	Oxygen Humidifier	Prototype required for incubation approval
18	Work Jini	Shantanu Sinha	E-Commerce	In the process of Incubation

Companies Graduated from TBI

1	BridgedotsTechservices Pvt. Ltd. http://www.bridgedots.com/	Nikhar Jain [B Tech, IIT (BHU), Chemical Engg.; 2009] TanmayPandya [B Tech, IIT (BHU), Chemical Engg.; 2009] AbhishekPoddar [B Tech, IIT (BHU), Chemical Engg;. 2008]	Technology development related to Cleantech, Polymers and Advanced Materials	Winner of DST Lockheed Martin Award 2015 Developed technologies related to Extraction of Silica from Rice Husk Ash. Water Repellent Coating for Non Woven PP bags. Construction Chemicals. In process of graduating out has established an office in Delhi.
2	Edulution Technologies LLP http://etlabs.in/	RaghavKansal [B Tech, IIT (BHU), Civil Engg.; 2011]	Digital Marketin Solutions	Various services offered by the company includes online media buying, social media marketing, search engine marketing, mobile marketing, e-commerce solutions, mobile applications and corporate blogging among others.

3	Sigrid Education Services Private Ltdhttp:// www.sigrideducation.com/	Akash Kasaundhan Chem. Engg., 2011, IIT (BHU)	India Intelligence Test content co-creation Platform“Sigrid Notes”.	Launched an App for its Sigrid notes.
4	ArteyeSoftwares http://www.eteach.co.in/	AjitMaheshwari [B Tech, IIT (BHU), Ceramic Engg.; 2008]	A technology platform for co-creation of multi media educational content in an intuitive, easy and cost effective manner	Merged with Designomedia Pvt. Ltd. Has office at Nagpur.

Recognition by MSME

MCIIE at IIT (BHU) Varanasi hasbeen recognized by MSME, Govt. of India, for implementation of the scheme "Supportfor Entrepreneurial and Managerial Development of SMEs through Incubator".

Further, following four incubatees of MCIIE sanctioned for grant under the above said scheme:

	Applicant	Title of the technology/innovation
1	Suresh Shukla	iNetClean –Adult Content Filter
2	Naveen Kumar	Reverse Osmosis Potable Water System with Improved Yield
3	Abhijeet	Synthesis of Water Born Adhesives (e.g. polymers / copolymers)
4	Abhishek Poddar	Extraction of Highly Dispersible Silica fro Rice husk ash
5	Ambrish Nigam	Online digital library for school going students and preparing for competitive entrance exams at the level of schools
6	Osho Siddhant	Development of an exclusive E-Comm platform for handicrafts and other handmade goods

Workshops/Events/Interaction:

Technology Business Incubator MCIIE IIT BHU hosted the Principal Secretary and other notable dignitaries from Chhattisgarh State Govt. During this visit; they had brief conversation with different startups from MCIIE, about their ideas, practices, problems, achievements and possibilities. – 28th August 2017

Technology Business Incubator hosted a meeting with Prof.(Smt.)Annpurna Shukla; Hony. Founder Director of VIFD Varanasi along with Asst. Director - Mrs. Indira Mishra and other notable dignitaries. We had a brief discussion to find out new possibilities of cooperation towards the growth of both organisations. Our Company YounSkilledIndia signed a MOU with VIFD for Women empowering courses for Kashi Anathalaya Association – August 25th 2017.

MSME Br Varanasi conducted a workshop on Zero Defect Zero Effect a one day workshop for Entrepreneurs, more than 40 entrepreneurs from Ramnagar Industrial area and Varanasi were attended . – 23rd August 2017

An interactive session with Mr. Daniel Breitwieser, Co-Founder Fypsterand Chief Visionary, Entrepreneurship Lecturer Amsterdam University of Applied Sciences at International Business School at Hogeschool van Amsterdam, he shared his own experience of doing Startup in Europe and discussed with MCIIE incubatees the entrepreneurship scenario and ecosystem of MCIIE &Purvanchal region – 30th July 2017

Aquvio and incubate of MCIIE secured grand success, Dr. APJ Abdul KalamChallengewon by Naveen and Rohit,for more news read: http://economictimes.indiatimes.com/…/articles…/59786322.cms

स्टार्टअप के लिए विद्यार्थियों को आज मिलेंगे दस-दस लाख रुपये

एक्टीयू

अब बर्बाद नहीं होगा पानी

डायबिटीज डिस्ऑर्डर बताएगी डिवाइस

एक मिनट में छह किलो धान कूटेगी यह मशीन

Our Incubate Company Rosehub, has produced 4 major Video and print documentation projects for National Bank for Rural and Agriculture Development (NABARD), Uttar Pradesh during the year 2016-17. On 14th of July '17, the documentaries were launched and the book was released during the celebration of the 36th foundation day of NABARD, under the presence of Shri Surya Pratap Shahi, Agriculture Minister of Uttar Pradesh along with the top most Officers of various prominent banking organizations like SBI, SIDBI, NABARD etc. The whole team of Rosehub was present during the event and received tremendous feedback and worm appreciation for their effort.

MCIIE, IIT(BHU) organizing a one day workshop in association with TotalStart by on 27th March 2017, Dr. Suryanil Ghosh a Dreamer-Implementer is a Serial Entrepreneur, an Angel Investor, an Entrepreneurship Ecosystem Developer, an Intrapreneur, a Technocrat and an Educator with about 25+ years of global experience.He delivered a lecture on Program for Incubating and Scaling Micro and Small Entrepreneurs"andinterated with MCIIE incubatees- 27th March 2017

MCIIE &MSME conducted aEntrepreneurship Awareness Camp On "Support for Entrepreneurial and Managerial Development of SMEs through Incubator" – 18th March 2017

MSME Entrepreneurship Awareness Camp

On

"Support for Entrepreneurial and Managerial Development of SMEs through Incubator"

Date: **18th March 2017**, Time: **11:00 AM to 12:35 PM**

Venue: **Entrepreneurship Hall, MCIIE IIT (BHU), Varanasi**

Programme Details

Garlanding the Bust of Pt. Madan Mohan Malviya Ji	
Welcome with Angvastram	
Programme Compereing & Welcome Address	**Paritosh Tripathi** Manager, MCIIE IIT (BHU),Varanasi
MSME Scheme on Incubation	**Shri. O.P Patel** Assistant Director(E.I), Br. MSME- Development Institute, Varanasi
DC-MSME Schemes	**Shri. Surendra Sharma** Assistant Director(G&C), Br. MSME- Development Institute, Varanasi
Address by Chief Guest – Improving Startup Ecosystem in Varanasi region	**Prof. P.K .Mishra** Coordinator, MCIIE IIT (BHU),Varanasi
Vote of Thanks	**Shri. Surendra Sharma** Assistant Director(G&C), Br. MSME- Development Institute, Varanasi
Refreshment	

Winner of HultPrize BHU represented India in Dubai for HUltPrize International. Mr. Dhruv Goel, Mr. Dhruv Chawla &Debjyoti Biswas secured 6th rank in international round of Hult Prize. - 27th January 2017

Interaction with more than 200 Farmers in PM adopted Village Jayapur to promote Bioenergy in association with UP Government Bioenergy Board, for Farmers empowerment through better business prospects in Purvancal region. -29th July 2017

SIBI Innovation centre visited MCIIE for Due Diligence of our IncubateeiMinBit under Invent Programme- 26th January 2017

Summary of Plan/Non-Plan Funds Utilisation for 2016-17

Plan

(Figures in Crores of Rupee)

Opening Balance	Nil
Normal Plan Grant Sanctioned during 2016-17	94.40
Total Available	**94.40**
Capital Expenses during 2016-17 :	
Buildings & Constructions	16.07
Furniture & fixtures	0.42
Equipment	26.54
Books, journals & periodicals	8.26
Revenue expenditure: Scholarship payments	34.36
Other	18.33
Total Expenses (2016-17)	103.98
Total (closing balance)	**(-) 9.58**

Non Plan

(Figures in Crores of Rupee)

Grant Sanctioned during 2016-17	132.51
Opening Balances	14.83
Tuition Fees	12.09
Hostel fees	1.22
Interest Income	0.98
Other Fees	2.31
Other Income	2.05
Total Available	**165.99**
Expenditure During 2016-17	
Pay & Allowances	89.34
Service pension & family pension: Retirement benefits	7.17
Library Services	0.59
Health Services	1.28
Administrative Expenses	2.31
Departmental/laboratory/workshop expenses	2.39
Transport subsidy	0.04
Student support activities	0.76
Computer facilities	0.03
Housekeeping & estate maintenance	0.76
Water/electricity charges	7.29
Examination expenses	0.25
Other Expenses	2.89
Total utilised	**115.10**

Depreciation provided	**0.76**
Total expenditure	**115.86**
Deficit	**Nil**

Endowment account balance as on 31st March 2017 : Rs. 6.38 Crore
Corpus account balance as on 31st March 2017 : Rs. 33.81 Crore

KBD printers #09336673008

INDIAN INSTITUTE OF TECHNOLOGY
(BHU), VARANASI