IIT (BHU) VARANASI
ANNUAL REPORT 2012-2013

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1.0 INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI

The Indian Institute of Technology (Banaras Hindu University) owes its existence to the far-sighted vision and relentless efforts of the founder of the first residential university of modern India, the Banaras Hindu University, Mahamana Pandit Madan Mohan Malaviyaji. Three engineering and technological institutions were established by Malaviya Ji, viz. the Benaras Engineering College (BENCO) in 1919, the College of Mining and Metallurgy (MINMET) in 1923 and the College of Technology (TECHNO) in 1932, as the constituent units of Banaras Hindu University. The first ever Bachelor's degree courses in Mechanical and Electrical Engineering, Metallurgy, Mining, Ceramics and Pharmaceutics in India were pioneered at the Banaras Hindu University while Pharmaceutics is the first in Asia. After independence, post graduate and doctoral research programmes were also introduced here. These colleges produced outstanding engineers who led various indigenous industries, academic institutions and R&D laboratories both within and outside the country. The Report of the University Education Commission headed by Dr. Sarvepalli Radhakrishnan (1948-1949) submitted to the Government of India states "The credit of first starting degree classes in mechanical and electrical engineering and in metallurgy belongs to the University of Banaras, thanks to the foresight of its great founder Pt. Madan Mohan Malaviya (1917)."

To provide a strong and integrated educational base, BENCO, MINMET and TECHNO were merged to form the Institute of Technology (IT-BHU) in 1968. The IT-BHU has been admitting students through the JEE conducted by the IITs since 1972, and has been consistently ranked amongst the top ten engineering institutions of the country inspite of its meagre funding. A survey of the engineering institutions in the country by "Outlook" magazine placed the Institute at 6th rank while that by "India Today" positions it at 7th rank for the year 2012.

The Institute has had and continues to have outstanding faculty members and turned out luminary engineers and administrators who served the nation with great distinction. The current faculty strength of the Institute is 237 as against a sanctioned strength of 558 (371 + 187 due to OBC reservation) while the number of technical and non-technical staff is 456. At present, the Institute comprises 13 Departments and 3 interdisciplinary schools one Humanities Section. Central facilities in the Institute include National Electron Microscopy Facility (NELMIF), Institute Main Workshop, Institute Library, Institute Gymkhana, Training and Placement Cell and Industrial Consultancy & Testing Services.

On June 29, 2012, the IT-BHU was converted into Indian Institute of Technology (Banaras Hindu University), Varanasi by an act of Parliament - *The Institutes of Technology (Amendment) Act 2012 (Act No. 34 of 2012 dated 21st June, 2012)*. The Indian Institute of Technology (Banaras Hindu University), Varanasi holds a unique status amongst all the IITs as a premier institution with rich legacy that emerged out of an equally outstanding University. The Institute looks forward to strengthening its infrastructure and developing the

right ecosystem that breeds excellence due to the flexibility that the IIT status brings into the system. The Institute is poised to occupy its rightful place among its peers in the international arena in the years to come.

Without any loss of time after change over to IIT, the Institute engaged itself in taking up the mammoth task of putting many of the procedures and practices similar to the IIT. The academic and administrative responsibilities of the Institute are shared by Dean Academic Affairs and four Professors-in-Charge with the Director. Transitory Ordinances governing the UG, PG and PhD Programmes have been drafted and passed by the Senate, by suitably adapting the best practices of IIT Kanpur. One round of PG admissions have been successfully completed under the Transitory Ordinances.

Planning began for the first convocation of the Institute which was to be held on 10th July, 2013 within a serene and dignified ceremony. Degrees and medals for the graduands of 2010, 2011 and 2012 years would be given away during this Convocation. Moving towards a new era and traditions, the customary convocation robes and hood have been replaced by the traditional Indian ceremonial costumes of simple nature. The hood would be replaced by an 'Uttariya'.

Academic Activities

The Institute offers four year B.Tech./B.Pharm. degree programmes, five year Integrated Dual Degree programmes (B.Tech.-M.Tech./B.Pharm.-M.Pharm.), five year Integrated M.Tech. programmes and M.Tech./ M.Pharm. programmes of two years duration. All the departments and the schools also offer Ph.D. programmes in almost of all frontier areas of research in respective branches of engineering. Admissions to UGD/IDD/IMD courses are made through the Joint Entrance Examination (JEE). Admissions to the postgraduate programmes are made through the Graduate Aptitude Test in Engineering (GATE) and Graduate Pharmacy Aptitude Test (GPAT). Ph.D. programmes are open to the candidates who qualify NET/GATE/GPAT. Provision of registration of external candidates for Ph.D., which is meant to promote collaborative R & D work, has allowed candidates from reputed industries and national laboratories to undertake research leading to Ph.D. degree.

The Institute has so far produced over 24,139 B.Tech./B.Pharm., 3,953 M.Tech./M.Pharm. and 787 Ph.D. degree holders.During the Year Four new Hostels have come in function as: (i) Guru RavindraNath Tagore Memorial apartment (32 appartments) (ii) S.N. Bose Boys Hostel (125 rooms) (iii) S. Ramanujam boys hostel (130 rooms) and (iv) Gandhi Smriti Girls hostel extension (72 Rooms).

The syllabi of all academic programmes are regularly revised as per the needs of the changing technological scenario. For the present the existing curriculum structure and syllabi will be followed with slight modifications and adaptations for the underergraduate and postgraduate programmes. The existing system of course stucture, course credits, examination, evaluation and grading will be replaced in the course of next one year to keep in consonance with those practiced by other IIT's.

The academic year 2012-13 has had a successful run. The number of students at the postgraduate (IDD+IMD+M.Tech./M.Pharm+Ph.D) level has seen a significant increase in comparison to the admissions in the undergraduate programmes.This shows a welcome trend. The enrollment in the Doctoral programme as well as the publication record of the faculty and students for the academic year has witnessed considerable improvement in the recent past. Faculty and students published a large number research papers in journals and conference proceedings. Books & Book chapters published by the faculty are 10 and 13 respectively. These are listed at the end of this report. Further, faculty members and researchers of the Institute have published over 650 research papers in peer reviewed journals.

Research & Development Activities

Sponsored research projects form the life-line of the R&D activities of the Institute. Highly qualified faculty and talented research scholars are active in frontier areas of research and their efforts are supported by sponsoring agencies like, UGC, CSIR, DOE, DST, ARDB, DAE, AICTE, DRDO, RDSO, MRES and many reputed industries such as TISCO, HINDALCO, ONGC, SAIL, BHEL, MECON, UPSEB, FCI, Coal India etc. During this year also, a number of projects have been sanctioned. The total financial support for the ongoing projects in the Departments and Schools are around Rs. 10 crores including FIST/UGC-SAP funding. UGC provided Rs. 2 crores for Infrastructure development to CAS Departments of Metallurgical Engineering, Mining Engineering, Electronics Engineering and Chemical Engineering & Technology.

The projects which are currently in progress are largely in the hi-tech, emerging and thrust areas. It is noteworthy to mention that the Department of Metallurgical Engineering is a participating department in DST supported research project on Nanoscience & Nanotechnology a trans-faculty research centre involving mediacl and physics while the Department of Chemical Engineering and Technology participates in MRES, UGC and AICTE supported research project on hydrogen energy. During the year the Department of Metallurgical Engineering successfully completed an inter-institutional project funded by INDO-French Centre for Promotion of Research, New Delhi. The School of Mines, Nancy, France, Dept. of Met. Engg., IT-BHU, Dept. of Physics, BHU and Department of Physics, IIT, Delhi were participants in this project. During the year the Department of Metallurgical Engineering has been chosen for establishing an Advanced Research Centre for Iron & Steel by the Ministry of Steel. The Department of Chemical Engineering & Technology is being considered for award of EPMA (Electron Probe Micro Analysis) facility by the Department of Science and Technology, Govt. of India under its FIST Level II Scheme.

Major funding agencies such as Board of Research in Nuclear Sciences (BRNS) and Defence Research and Development Organisation (DRDO) made extension presentations regarding their future thrust areas and funding strategies and screened many proposals.

In addition to the above, the Departments and Schools of the Institute have also been successful in raising funds to the tune of several lakhs of rupees for organizing seminars and symposia, summer/winter schools and co-curricular and extra-curricular activities of the students, etc. Our alumni have generously contributed in the organization of all such activities. We record and express our gratefulness to all of them. During the last year, we have 34 R&D projects sanctioned to our faculty members in the Institute. The details are listed at the end of the report 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. 2 crores were successfully completed.

Infrastructure Development

The Institute strives to provide state-of-the-art equipment to its faculty, students and staffs to facilitate cutting edge research and development in the frontier areas of science, engineering and technology. It received a plan grant of Rs. 68.50 crores and a non-plan grant of Rs. 50.80 crores out of which a Central Facility consisting of many sophisticated equipment for research with versatile utility is being created. The Departments/Schools and Units are given moderate grants to revitalize the teaching laboratories

During the year 2012-13, IIT (BHU) strengthened its relations with various National and International institutes and organizations through research projects and collaborations. The Institute also signed five MoUs and four are in progress. During the year, the following institutes/universities/organizations have joined hands with IIT (BHU) Varanasi for joint research work in diverse fields of science and technology:

- Lawrence Technology University, 21000 West Ten Mile Road, Southfield, Michigan, USA.
- Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, Kitakyushu, Japan.
- Bhabha Atomic Research Center, Trombay, Mumbai, and Department of Atomic Energy, Government of India.
- Tata Consultancy Services, Chennai.
- Department of Biotechnology, CGO Complex, Lodi Road, New- Delhi

In Progress MOUs under construction:

1. Power Grid Corporation of India, Gurgaon.
2. Hindustan Aeronautics Limited India.
3. Cybermotion Technologies Pvt. Ltd., Hyderabad, India.
4. Electrical Department, Indian Railways

During the year 2012-13, several Departments have purchased major equipments - Department of Chemical Engg. & Technology has procured X- Ray Photoelectron Spectrophotometer, X Ray Diffractometer, Thermal analyzer (DTA/ TG) and High Performance Liquid Chromatograph. Department of Ceramic Engineering has purchased several equipment which includes Digital temperature programmer/ controller, Magnetic Stirrer cum hotplate, Ultrasonic Bath, Rapid Moisture meter , Aggregate compact tester, slump cone tester, Blains Permeability apparatus, etc. Civil Engg. Department has procured Universal Testing Machine (100 kN Digital), Direct Shear Test Apparatus with Microprocessor loading Unit, Acoustic Doppler Velocity Meter, Fully Automatic Double Beam Atomic Absorption Spectrophotometer, Computerised Multi-stations Hydrostatic Pressure Testing Machine etc. Department of Metallurgical Engg has purchased Hightemperature Calorimeter 96EVO, DSC 404F3 Pegasus Apparatus, and Universal shear Testing Machine. Department of Mining Engg has purchased Sartorius semi microbalance, Water and soil analysis kit, LCD data ball system, Rotop sieve shaker etc. Pharmaceutics Department has procured Binocular microscope, Microtome, HPLC, Distilled water plant and Compound Microscopes. School of Bio-chemical Engg has purchased Bioreactor (2 L), Environmental X control Orbital Shaker, Brookfield Vicometre etc. School of Materials Science & Technology purchased 7 Tonne Cryogen free magnets, UV-Visible Spectrophotometer. Several Departments and School have purchased high-end Computers, Servers and several softwares.

Awards and Honours

The Institute has played a significant role in pushing the frontiers of knowledge. Our faculty, students and staff have created a niche for the Institute in the world of science and technology. This has been duly recognised in the form of various awards and honors to the faculty including fellowships of professional societies, editorships of international joirnals and best paper awards to the students. This year 23 Awards and honors, 5 fellowship and 6 editorships have been given to our faculty members and the same are listed at the end of the report.

Financial Resource Mobilization

The Institute has a satisfactory financial year during 2012-13. The total grant-in-aid received during the financial year from MHRD, Govt. of India under non-plan was Rs. 50.80 crore, under normal plan Rs. 68.50 crore respectively.

Recognitions and Awards

1. Prof. M. A. Quraishi (CHM) received Meritorious award instituted by National Corrosion council of India (16th National conference on corrosion Control) held at Kalkata.
2. Best poster award awarded for paper entitled,"Synthesis of Ag-Cu alloy nanoparticles in presence of starch, PVP and PVA as polymeric stabilizers: Structural and LSPR

studies", by Manjeet Sinha, I. Sinha, R. K. Mandal at Third International Multicomponent Polymer Conferences 23-25 March 2012, Kottayam, Kerala, India.

3. Dr. K.K.Shukla (CSE) Member, Technical Program Committee, Intl Conf Bio-inspired Computing- 2012, Gwalior
4. Prof. Ram Pyare (CER) Nominated Chairman, Examination Committee, Indian Institute of Ceramics, Kolkata.
5. Dr. S. Das (MATH) Academic Visitor in the Department of Civil and Construction Engineering at City University, Hong Kong, Japan during February 29 - March 10, 2012.
6. Dr. S. Das (MATH) Academic Visitor in the Institute of Mathematical Science, University of Malaya, Malaysia during June 15- July 14, 2012.
7. Dr. S. K. Shukla (MEC) Nominated as Member, American Chemical Society (ACS) for 2012-2013.
8. Prof. V. K. Srivastava (MEC) DFG-INSA EXCHANGE AWARD, Indian National Science Academy, New Delhi, India, (2012).
9. Prof. V. K. Srivastava (MEC) Visiting Professor , Dept. of Polymers & Composites Technology and Mechanical Engineering, Ecole Des Mines De Douai, Douai, France, (2012).
10. Prof. V.K. Srivastava (MEC) Visited Faculty of Industrials Engineering, Swinburne University of Technology, Hawthorn, Australia under AISRF project from 20th May to 15th June 2013.
11. Prof. Santosh Kumar et.al., awarded best paper of the session for the paper 'Recent developments in Hydroforming: A review' in the Int. Conf.on Agile Manifacturing held at IIT (BHU) during Dec. 16-19, 2012.
12. Dr. S.K.Singh (PCH) awarded with certificate of merit of Dr. PD Sethi award for one of his research publication in the Journal of Ethnopharmacology in 2012.
13. Dr. B. Mishra (PCH) SPER Eminent Teacher Award by Society of Pharmaceutical Education and Research in March 2013 at Delhi.
14. Dr. B. Mishra (PCH) Chaired SPIRIT 2013 – A National Seminar organized by Pharmaceutical Society of Department of Pharmaceutics, IIT (BHU) during 16-17, March 2013.
15. Prof. Nira Misra (BME), Prof. Pralay Maiti (SMST), and Govinda Kapusetti, National award for technology innovation- 2013, in polymers in public health care, presented by Ministry of Chemicals & Petrochemicals, Govt. of India.
16. Prof. Nira Misra (BME), Govinda Kapusetti, and Prof. Pralay Maiti (SMST), Research article was awarded entailed "Bone cement/layered double hydroxide nanocomposites as potential biomaterials for joint implant" for "Best research article in health care" in Global Medical Discovery- 2012, Canada.
17. Prof. Pralay Maiti (SMST) awarded for APA Young Scientist Award.

18. Prof. Surendra Kumar (CHE), Indira Gandhi Vidya Gaurav Award 2012.
19. Prof. Surendra Kumar (CHE), Bharat Vidya Ratan Award -2012.
20. Prof. Surendra Kumar (CHE), Honorary Visiting Professor, SASTRA University, Thanjavur, Tamilnadu.
21. Prof. Ram Prasad (CHE) IT BHU Global Alumni -2012 Award for Publications (Cash of Rs. 5000/- and Certificate).
22. Prof. P.K. Mishra (CHE) DST-Lockheed Nomination of Indo-US Science Forum for Technology Commercialization at IC2 Institute, University of Texas-Austin, 2012.
23. Dr. R.S. Singh (CHE), IT BHU Global Alumni -2012 Award for Publications (Cash of Rs. 5000/- and Certificate).
24. Prof. S. N. Ojha (MET), MHRD appointed -member, Board of Governers, NIFFT Ranchi.
25. Dr. R.K. Singh (EEE), Received best oral presentation award during the technical session "Digital control of Power Electronics-2" in the IEEE IECON 2012 held at Montreal, Canada.

Fellowships

1. Dr. S. K. Shukla (MEC), Elected Fellow of Institution of Engineers (India), Kolkata.
2. Prof. D.Pandey (SMST) awarded for J.C. Bose Fellowship.
3. Prof. S.N. Upadhyay (CHE), DAE Raja Ramanna Emeritus Fellow.
4. Prof. G.V.S. Sastry (MET), Elected as Fellow Electron Microscope Society of India (EMSI).
5. Prof. N.K. Mukhopadhyay (MET), Elected as Fellow Electron Microscope Society of India (EMSI).

Editorships

1. Prof. A.S.K. Sinha (CHE)- Member, Editorial Board, Frontier in Energy, Springer.
2. Prof. Santosh Kumar (MEC), Member, Editorial Board, Scientific Journal (Journal of Modeling and Simulation in Design and Manufacturing, ISSN -0976-7827), RRL Bhopal.
3. Prof. R.K. Mandal (MET), Member, Editorial Board, CMC-Transtech.
4. Prof. N.K. Mukhopadhyay (MET), Member, International Advisory Board, Int. Conf. Quasicrystals, (ICQ12) Poland.
5. Prof. N.K. Mukhopadhyay (MET), Key-Reader (Editorial Board) Metallurgical and Materials Transactions A (USA), Editor in Jornal of institution of Engineers-Metallurgy and Materilas Series D (Springer)
6. Shri Vikas Jindal (MET), Managing Editor, Banaras Metallurgist.
7. Dr Santwana Mukhopadhyay (MATH), Editor in (i) Mathematics and Mechanics of Solids (From August 2012-till date), (ii) International Journal of Thermoelasticity (From August 2012-till date), (iii) Computational Methods in Science and Technology (CMST)-from 2012 till date

Students' Activities

IIT (BHU), Varanasi continually strives to encourage an equitable balance between academics and co- & extra- curricular activities among its students. The Institute strongly believes that an abiding social and humane engagement is the hallmark of its student body. To translate such thinking into reality, the Institute nurtures social, cultural and sporting activities pursued by the students' gymkhana and other student groups.

The Institute has selected for the year 2012, Ms. Akanksha Sinha, B.Pharm., for IIT-Blue for Cultural Activities and Mr. Arvind Duhan, B.Tech. (Ceramic Engg.) for IIT-Blue for Basketball. IIT-Blue is the highest recognition that the Gymkhana bestows on its student. Besides these, the Co-Curricular Wing, Sports and Games Wing and Cultural Wing of Gymkhana have chosen to give four, five and three IIT-Colours respectively.

After the conversion of erstwhile IT-BHU into IIT (BHU), Gymkhana has constituted four councils, namely, Science and Technology Council, Cultural Council, Sports Council and Film and Media Council.

Science and Technolgy Council

For the first time the Institute has sent a contingent to IIT Bombay Techfest where our team secured many positions and brought various prizes in robotics competitions. Technex, annual Techno- mangement festival of IIT (BHU) hosted 1100 participants from all over the country.

Other Significant Achievements for the year 2012-13 are:

1. Won First Position in GE Edison Challenge in 2010 and 2012 and 2013.
2. Won Second Positions in Google Marketing events.
3. Won Second Position in EXL PAN-IIT CASE STUDY COMPETITION.
4. Represented IIT (BHU) in 16th Readers and Writers Conclave organized by Swedish Consulting Society.

Cultural Council

Cultural Council also went to IIT Delhi where they won All India Dance, Dramatics and Literary Competition. Cultural wing brought laurels in dramatics, dance and literary competition in various institutions. Our Quiz Team won the Regional Round-Patna of "Simply Finance Quiz" by Tata Mutual Funds. They also won in TATA CRUCIBLES for year 2012. KASHI YATRA, the cultural extravaganza of IIT (BHU) hosted various cultural events and professional performances.

Sports and Games Council

Our Institute sports and athletics team went to Udghosh, annual sports festival of IIT, Kanpur in 2013 where the team won 4 medals in Tae-kwon-do. The team also won medals in cricket and was runner up in Basketball and Cricket.

The team of our Institute also won Gold in cricket in IIT, Delhi in 2012. Sports and Games Council organized SPARDHA for year 2012 which hosted around 1200 participants from various engineering institution.

Film and Media Council

Film and Media Council was started for the first time to promote animation and film activities. Film and Media Council has collaborated with Banaras Film Society for organization of Banaras Film Festival. They also organized many events on photography and video animation.

Tedx-IIT (BHU)

The Institute also organized for the first time, TEDx event which hosted many prominent personalities like Mr. S. P. Shukla, Mr. Arun Anant among others.

This year the following fellowships from external agencies have been received.

1. ICDS fellowship to Mr. Saurabh Shah by Government of Bihar.
2. Ms. Swapanika Nag went to Youth Delegation selected to meet Chinese Premier by MHRD, Government of India.
3. Mr. Fuhar Dixit was honored by Mahindra Medal for outstanding contribution in leadership activities.
4. Ms. Pakhi Mahwar, Mr. Karan Bajaj, Mr. Nishnat Gupta got full sponsorship for attending Jagrati Yatra.
5. Mr. Vibhor Jajoo got full fellowship for attending conference in USA by DST.
6. Mr. Vivek Munemanik went to Japan for Tae-kwon-do to represented India.

Books Published

1. Catalytic Oxidation of Diesel Soot Emissions Control, V.R. Bella and R. Prasad (CHE), LAP Lambert Academic Publishing, Germany.
2. A Handbook of Tropical Residual Soil Engineering: (Ed.): Bujang B K Huat, David Toll & Arun Prasad (Taylor & Francis) (CIV).
3. Matrix Analysis of Structures, 2013, CENGAGE Learning India Pvt. Ltd., ISBN -13: 978-81-315-1858-8. by Pramod Kumar Singh (CIV).
4. Efficient Algorithms for Discrete Wavelet Transform,.SpringerBrief Series in Computer Science, DOI: 10.1007/978-1-4471-4941-5_2 by K. K. Shukla (CSE) and A. K. Tiwari.
5. Passive building designs & CFD Applications, Lambert Academic Publishing, Germany, 2013, 978-3-659-32692-9 by S.K.Shukla (MEC), Atul Dwivedi, and Ali Abdulruda Farhan.
6. Desiccant Cooling System-Performance Studies and Applications, Lambert Academic Publishing, Germany, 2013, 978-3-659-41002-4 by S.K.Shukla (MEC) and Prachi Rai.
7. Manufacturing Science-Ist, Katariya Publication, New Delhi, INDIA by S.P.Tewari (MEC).
8. Assessment of surface integrity in grinding' Lambert Academic Publishing, Gmbh Germany, ISBN: 978-3-8484-0688-3 by M. Vashista (MEC) and S. Paul.

9. Electrical Machines, 2nd Revised edition, Cengage (I) Pvt Ltd., Delhi 2013 (in Press) by R. K. Srivastava (EEE).
10. Lecture Notes on Maxwell's Equations', by B.N. Dwivedi, LAMBERT Academic Publishing (2013) ISBN: 978-3-659-43561-4. (https://www.morebooks.de/store/gb/book/ lecture-notes-on-maxwell's-equations/isbn/978-3-659-43561-4).

Book Chapters Published

1. R.S. Singh, B.N. Rai, Kiran Singh and S.N. Upadhyaya, "Removal of Toluene Vapour from Air Stream Using a Biofilter packed with Polyurethene Foam," Environmental Science and Engineering, Daya Publishing House, 439-456, New Delhi, 2013, ISBN 978-81-7035-4.
2. B.N. Rai, Kiran Singh and R.S. Singh, "A Review of Aqueous Phase Catalytic Oxidation for Environmental Application," Environmental Science and Engineering, Daya Publishing House, 439-456, New Delhi, 2013, ISBN 978-81-7035-4.
3. Bharavi Mishra K. K. Shukla, Data Mining Techniques for Software Quality Prediction Copyright © 2013.IGI Global (source title: Designing, Engineering, and Analyzing Reliable and Efficient Software).
4. Pranab K. Muhuri, K. K. Shukla, Task Scheduling under Uncertain Timing Constraints in Real-Time Embedded Systems (Source Title: Embedded Computing Systems: Applications, Optimization, and Advanced Design, Information Science Reference, USA).
5. Sandeep Kumar, R.B. Mishra, "Chapter Title: A Multi agent Negotiation Based approach to Selection and Composition of Semantic Web Services", Book-Title: Agent Based Semantic Web Service Composition, Springer-Verlang, 2012.
6. S.K. Upadhyay, "A study of Watson Wavelet transform. A tool of Signal Analysis in multitude measurement of Physical Phenomena", Chapter 12 , Book: Inter disciplinary, Advances in Geography, Publishers: R.K. Books New Delhi, 2013.
7. Santwana Mukhopadhyay, Shweta Kothari, Roushan Kumar, "Dual phase-lag thermoelasticity", Chapter 706, Encyclopedia of Thermal Stresses, Springer. (in press, 2013).
8. Subir Das, "Study of the solution of Swift-Hohenberg equation with fractional order time derivative", World Scientific Review (Accepted, 2013).
9. S.K.Shukla, Modern Mechanical Engineering (In Press), Applications of Solar Distillation and Solar Drying Technologies with Phase Change Material Storage, Springer.
10. S. Kumar, Metal Forming: Technology and Process Modeling, Edited by U.S. Dixit, R.G. Narayanan (Chapter 5: Metal Extrusion), ISBN: 978-1-25-900734-7, 978-1-25-900734-0 Published by Tata McGraw Hill Education, 2013.
11. R. K. Saket and Dr. Saeid Eslamian (2013): "Application of Urban Waste Water for Hydro Electric Power Generation", Hand Book Title: Hand book of urban water reuse,

Edited by: Dr. Saeid Eslamian (Isfahan University of Technology, Isfahan, Iran), publisher: Taylor and Francis, London, Wit 3jh (uk). Publication Year: 2013 (In Press).

12. I. Sinha,"Liquid Phase Synthesis of Ag-Cu Alloy/ Bimetallic Nanoparticles" Chapter 11 pp 311-331 (2012) Vol. 2 (ISBN: 1-62699-002-6) titled "Fundamentals, Synthesis and Characterization" of the 8 Vol. Set on nanotechnology (Series ISBN: 1-62699-000-X), Publisher: Studium Press LLC, P.O. Box 722 200, Houston, TX 77072-USA.
13. R. K. Gautam, Manvandra Kumar Singh, Anita Mohan and Sunil Mohan, Development of Copper Based Tungsten Carbide (WC) Nano - Composite and their Mechanical and Tribological Properties in the book Recent Advances in Composite Materials, Ed. V.K.Srivastava, First edition, Bloomsbury Publishing India Pvt.Ltd., pp. 301-09 (2013).

Major Projects Sanctioned

1. To Develop technology for low manufacturing of a series of veneering porcelain powders and liquid products for metal – ceramic frame work, used on mass scale in the dental field of medical, especially for rural area (DST).
2. Characterization of Doped Iron-Alumina Nanostructured Metal Matrix Composites (MMC) Synthesized using Powder Metallurgy (P/M) Technique (The Institution of Engineers, India).
3. Effect of Processing Parameter on the Properties of Nanostructured Iron -Alumina (Fe-Al_2O_3) Metal Matrix Composites (MMC) Produced Using Powder Metallurgy (P/M) Technique (Council of Science and Technology, Uttar Pradesh).
4. Exploring the Effect of Processing Parameters on the Corrosion Behavior of Iron – Alumina / Zirconia Metal Matrix Nanocomposites (MMNC).
5. Development of Air Breathing Microfluidic Fuel Cell for the Direct Use of Ethanol as Fuel for Power Generation (DST).
6. Earthquake Resistant 4-Storey Confined Brick Masonry Apartment Type Building Design and Construction (UGC).
7. Water Supply & Sanitation Mission (WSSM), GoUP & MoRD (GoI) Monitoring & Management of Rural Water Supply (U.P. State Technical Agency).
8. Design and Development of Wide Band Vivaldi Antenna Array for Airborne Applications (DARE, DRDO).
9. Development of a methodology for human error classification analysis and reduction to improve safety and productivity for underground coal mines. (CSIR).
10. Development and Scaled-up Synthesis of Anionic, Cationic and Nonionic Flocculants Based on Amphoteric Amylopectin for Mineral Industry Effluents & Municipal Waste Water Treatmen.(DST).
11. Development of Azidothymidine (Anti HIV Drug) and its reactive Phase-I metabolite electrochemical sensor based on low cost screen printed electrodes (DST).
12. Design and Synthesis of novel Matrix Metallo Proteinase (MMP-2 & 9) Inhibitors as therapeutic agents for Alzheimer's disease (DBT).
13. Synthesis and characterization of nano-sized powders of $BaTi_{1-x}Sn_xO_3$ system for

multifunctional applications, (DRDO).

14. Development of Ferroelectric and Rare Earth Manganite Based Radar Absorbing Materials for Stealth Applications (DRDO).
15. Synthesis of Ni-Zn, Co-Zn and Ni-Co-Zn Ferrite and Studies Effect of Shape, Size and Composition on Their Microwave Properties (DRDO).
16. DNA based Molecular Electronics (DBT).
17. A Strategic Approach to Develop "Ideal" O_2 Sensor Platforms Based on Doped Ormosils (DBT).
18. Synthesis and characterization of novel segmented polyurethane-graphene nanocomposites for biomedical applications (CSIR).
19. Low temperature magnetic transitions in disordered $BiFeO_3$ (UGC DAE, CSR).
20. Development of Tribological Test Method to Measure Galling Resistance for Various Metal Pairs Under Dry, Lubricated and Water Lubricated Environment (BRNS).
21. Development and Dissemination of Low Carbon Technologies in Rural and Urban Areas" Sanctioned by Council of Science and Technology, (CST, UP).
22. Vibratory stress relieving of non ferrous welds (UGC).
23. To prepare e-content & videos in the area of manufacturing technology for UG and PG students and industry users (MHRD-ICT).
24. Development of micro-Sheet hydroforming process for Missile Components (DRDL).
25. Technology development and fabrication of table top CNC machine for Micro tubular hydroforming setup (BRNS).
26. Study of Cracks in L- support of spider arm of unit 1 &3 of Hydro Generators of Obra Hydel Power Station, Obra (U.P.Jal Vidyut Nigam Limited, Lucknow, India).
27. Study of Weibull Statistical Design Criterion for Nuclear Graphite Components (BARC).
28. Establishment of new national MEMS Design centres (NPMASS, Aeronautical Development Agency, Bangalore).
29. Assessment of surface integrity of different plastically deformed steels using Barkhausen Noise Analysis (DST).
30. Study of Weibull Statistical Design Criterion for Nuclear Graphite Components (BRNS).
31. Improved operation of distribution network incorporating load modeling (CPRI, MOP).
32. Stabilization of AC/DC Network with UPFC (CPRI, MOP).
33. Development of new electrolyte materials with optimized electrical / ionic conductivity for Solid Oxide Fuel Cells, Naval Research Board (NRB), Ministry of Defence (DRDO)
34. 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, BRNS, DAE.

2.0 ABOUT ORGANIZATION

IIT Council (list of all members) (April 2012 to March 2013)

1. Shri M. M. Pallam Raju, Hon'ble Minister of HRD
2. Smt Vasanthi Stanley, Hon'ble Member of Parliament (Rajya Sabha)
3. Shri Janardhana Swamy, Hon'ble Member of Parliament (Lok Sabha),
4. Shri Ashok Thakur, Secretary (HE), MHRD, New Delhi
5. Dr. Lalji Singh, Chairman, BoG, IIT(BHU) Varanasi
6. Dr. Anil Kakodkar, Chairman, BoG, IIT Bombay
7. Dr. Vijay P. Bhatkar, Chairman, BoG, IIT Delhi
8. Prof. M. Anandakrishnan, Chairman, BoG, IIT Kanpur
9. Prof. M.M. Sharma, Chairman, BoG, IIT Madras.
10. Shri Shiv Nadar, Chairman, BoG, IIT Kharagpur
11. Shri Ajai Choudhary, Chairman, BoG, IIT Patna.
12. Prof. Goverdhan Mehta, Chairman, BoG, IIT Jodhpur
13. Shri S. K. Roongta, Chairman, BoG, IIT Bhubaneswar
14. Shri B. V. R. Mohan Reddy, Chairman, BoG, IIT Hyderabad
15. Shri M. Natarajan, Chairman, BoG, IIT Mandi
16. Dr. R. P. Singh, Chairman, BoG, IIT Guwahati
17. Prof. V. S. Ramamurthy, Chairman, BoG, IIT Ropar
18. Dr. Baldev Raj, Chairman, BoG, IIT Gandhinagar
19. Shri Ajay Piramal, Chairman, BoG, IIT Indore
20. Shri Analjit Singh, Chairman, Board of Governors, IIT Roorkee
21. Prof. Devang V. Khakhar, Director, IIT Bombay
22. Prof. R.K. Shevgaonkar, Director, IIT Delhi
23. Prof. Indranil Manna, Director, IIT Kanpur
24. Prof. Damodar Acharya, Director, IIT Kharagpur
25. Prof. Bhaskar Ramamurthi, Director, IIT Madras
26. Prof. Gautam Barua, Director, IIT Guwahati
27. Prof. Pradipta Banerji, Director, IIT Roorkee
28. Prof. Dhananjai Pandey, Director, IIT (BHU) Varanasi,
29. Prof. Sudhir K. Jain, Director, IIT Gandhinagar,
30. Prof. Anil K. Bhowmick, Director, IIT Patna
31. Prof. U.B. Desai, Director, IIT Hyderabad,
32. Prof. M.K. Surappa, Director, IIT Ropar
33. Prof. Madhusudan Chakraborty, Director, IIT, Bhubaneshwar
34. Prof. Timothy Gonsalves, Director, IIT Mandi
35. Prof. Pradeep Mathur, Director, IIT Indore
36. Prof. Prem Kumar Kalra, Director, IIT Jodhpur
37. Prof. Ved Prakash, Chairman, UGC

38. Shri J. Satyanarayana, Secretary, Department of Information Technology
39. Dr. S.S. Mantha, Chairman, AICTE
40. Prof. Sabyasachi Bhattacharya, Ex-Director, TIFR
41. Shri Vineet Joshi, Chairman, CBSE
42. Shri Tarun Das, Chief Mentor, CII, Gurgaon
43. Shri Ashok Thakur, Secretary, (HE) MHRD
44. Smt. Amita Sharma, Addl. Secretary (TE), MHRD
45. Shri R. D. Sahay, Joint Secretary, Deptt. of MHRD

3.0 MEMBERS OF THE BOARD OF GOVERNORS (as on 31.03.2013)

Presently, in accordance with Clause 10(a) of the Institutes of Technology (Amendment) Act, 2012, thereby inserting Clause (k) in the principal Act – The Institutes of Technology Act, 1961, as amended from time to time, the Executive Council of BHU is functioning as Board of Governors.

1. Prof. Lalji Singh
   Vice-Chancellor
   Banaras Hindu University
   Varanasi – 221 005
2. Dr. Pushpa Mittra Bhargava
   Padma Bhushan
   Former & Founder Director of Centre for Cellular
   and Molecular Biology Hyderabad.
3. Prof. Goverdhan Mehta
   Padma Shri
   National Research Professor & Lilly-Jubilant Chair Professor
   University of Hyderabad, Hyderabad.
4. Dr. T.V. Ramakrishnan
   Fellow of Royal Society, London (FRS)
   Distinguished Associate
   Centre for Condensed Matter Theory, Bangalore.
5. Prof. Arjula Ramchandra Reddy
   Vice-Chancellor
   Yogi Vemana University
   Kadappa, Andhra Pradesh.
6. Dr. G.N.Qazi
   Vice-Chancellor
   Jamia Hamdard (Hamdard University)
   Chairman of Drugs and Pharmaceutical
   Research Programme of Government of India.

7. Dr. Naresh Trehan
Chairman
Medanta – The Medicity
Haryana.

8. Dr. D.S. Rathore
Former Vice-Chancellor
Himachal Pradesh Krishi Vishwavidyalaya
Palampur.

9. Dr. P.B. Singh
Director, Institute of Urological Sciences
Max Super Speciality Hospital, Delhi.

4.0 MEMBERS OF THE FINANCE COMMITTEE (as on 31.03.2013):

To be constituted

5.0 MEMBERS OF THE BUILDING & WORKS COMMITTEE (as on 31.03.2013)

1. Prof. Dhananjai Pandey - Chairman
Director, IIT (BHU), Varanasi

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.

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 110002

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, Habsiguda
Hyderabad 500007

6. Prof. R. Mahanty - Member
Department of Electrical Engg., IIT (BHU), Varanasi

7. Dr. S. P. Mathur - Member Secretary
Offtg. Registrar, IIT (BHU), Varanasi

6.0 MEMBERS OF THE BOARD OF STANDING COMMITTEE (GRIEVANCE) (as on 31.03.2013) Yet to be constituted

7.0 DEPARTMENTWISE SENATE COMPOSITION & OTHER DETAILS (FROM 29.06.2012 TO 31.03.2013 IF ANY)

List of Senate Members of IIT (BHU), Varanasi

1. Prof. Dhananjai Pandey, Director, IIT(BHU),Chairman
2. Professor M.S. Sodha, (Ex-Professor & HoD Department of Physics & Ex-Deputy Director, IIT Delhi) B-113, Nirala Nagar, LUCKNOW-226 020.
3. Professor Kripa Shanker, Department of Industrial Management Engg., Indian Institute of Technology, KANPUR-208 016.
4. Professor H.R. Tewari, Department of Humanities & Social Sciences, Indian Institute of Technology, KHARAGPUR-721 302.
5. Prof. S.K. Singh, Dean, Faculty of Management Studies, BHU.
6. Prof. S.C. Lakhotia, Professor Emeritus, Department of Zoology, BHU
7. Prof. Ritwik Sanyal, Faculty of Performing Arts, BHU
8. Dr. Medha Jha, Admin. Warden, GSMC
9. Dr. Rajneesh Tyagi, Dept.of Mechanical Engineering
10. Dr. D. Giri, Dept. of Applied Physics
11. Dr. R. S. Singh, Dept. of Chemical Engg. & Tech.
12. Dr. Vikas Jindal, Dept. of Metallurgical Engineering
13. Dr. Anurag Ohri, Dept. of Civil Engineering
14. Dr. Chandan Upadhyay, SMST
15. The Assistant Librarian, Main Library, IIT(BHU) Invited Member
16. The Assistant Workshop Superintendent, Main Workshop – Invited Member
17. Dr. S.P. Mathur, Registrar (Offtg.), Secretary

List of Senate Members from various Departments/Schools of IIT (BHU), Varanasi

Department of Ceramic Engineering

1. Prof. Om Parkash (HOD)
2. Prof. Devendra Kumar
3. Prof. S.P. Singh
4. Prof. Ram Pyare

Department of Chemical Engineering

1. Prof. S. Kumar
2. Prof. K.K. Srivastava
3. Prof. A.K. Verma
4. Prof. A.S.K. Sinha (HOD)
5. Prof. Ram Prasad
6. Prof. B.N. Rai
7. Prof. Pradeep Kumar Mishra
8. Prof. Pradeep Ahuja

Department of Civil Engineering

1. Prof. P.K. Singh (HOD)
2. Prof. Veerendra Kumar
3. Prof. Goutam Banerjee
4. Prof. Devendra Mohan
5. Prof. Prabhat Kumar Singh
6. Prof. Prabhat Kumar Singh Dixit

Department of Computer Engineering

1. Prof. R.B. Mishra (HOD)
2. Prof. A.K. Agrawal
3. Prof. A.K. Tripathi
4. Prof. K.K. Shukla

Department of Electrical Engineering

1. Prof. Shiva Pujan Singh (HOD)
2. Prof. S.C. Gupta
3. Prof. S.N. Mahendra
4. Prof. D.S. Chauhan
5. Prof. S.K. Nagar
6. Prof. Arun Kumar Kapoor
7. Prof. D. N. Vishwakarma
8. Prof. R.K. Pandey
9. Prof. Rakesh Kumar Srivastava
10. Prof. Rakesh Kumar Mishra
11. Prof. Ranjit Mohanty
12. Prof. Devender Singh
13. Prof. R. S. Gorayan

Department of Electronics Engineering

1. Prof. S.P. Singh (HOD)
2. Prof. P. Chakrabarty
3. Prof. Anand Mohan
4. Prof. S.K. Balasubramaniam
5. Prof. P.K. Jain
6. Prof. R.R. Das
7. Prof. V.N. Mishra
8. Prof. Satyabrat Jit

Department of Mechanical Engineering

1. Prof. Virendra Pratap Singh (HOD)
2. Prof. S.K. Sharma

3. Prof. J.P. Dwivedi
4. Prof. A.K. Agrawal
5. Prof. A.K. Jha
6. Prof. Mithileshwar Prasad
7. Prof. V.K. Srivastava
8. Prof. Santosh Kumar
9. Prof. A. Bhattacharya
10. Prof. Om Prakash
11. Prof. S.P. Tewari
12. Prof. K.S. Tripathi
13. Prof. A.P. Harsha
14. Prof. Sanjay Kumar Sinha
15. Prof. Sandeep Kumar

Department of Metallurgical Engineering

1. Prof. G. V. S. Sastry (HOD)
2. Prof. S. N. Ojha
3. Prof. T. R. Mankhand
4. Prof. R. K. Mandal
5. Prof. N. K. Mukhopadhyay
6. Prof. Sunil Mohan
7. Prof. (Mrs.) N.C. Shanti Srinivas
8. Prof. B. Nageswara Sarma

Department of Mining Engineering

1. Prof. Aarif Jamal (HOD)
2. Prof. B. K. Shrivastava
3. Prof. Netai Chandra Karmakar
4. Prof. Piyush Rai
5. Prof. Sanjay Kumar Sharma

Department of Pharmaceutics

1. Prof. B. Mishra (HOD)
2. Prof. R.S. Srivastava
3. Prof. S.K.Singh
4. Prof. Sanjay Singh
5. Prof. S.K. Srivastava

Department of Applied Chemistry

1. Prof. M.A.Quraishi (HOD)
2. Prof. M. M. Singh
3. Prof. (Mrs.) R. B. Rastogi

4. Prof. Prem Chandra Pandey
5. Prof. A.K. Mukherjee
6. Prof. (Mrs.) Ranjana Ghosh
7. Prof. Syed Hadi Hasan
8. Prof. Vandana Srivastava
9. Prof. Yogesh Chandra Sharma
10. Dr. Dhanesh Tewary, Incharge, UGD/IDD/IMD Part – I

Department of Applied Mathematics

1. Prof. (Mrs.) Rekha Srivastava (HOD)
2. Prof. K. N. Rai
3. Prof. Shree Ram
4. Prof. O. P. Singh
5. Prof. Tanmoy Som
6. Prof. Lal Pratap Singh
7. Prof. Sanjay Kr. Pandey

Department of Applied Physics

1. Prof. Onkar Nath Singh (HOD)
2. Prof. B. N. Dwivedi

School of Bio-chemical Engineering

1. Prof. (Mrs.) Mira Debnath (Das) (Coordinator)
2. Prof. Subir Kundu
3. Prof. S. K. Srivastava
4. Prof. R.M. Banik

School of Bio-medical Engineering

1. Prof.(Miss) Nira Misra (Coordinator)
2. Prof. A. K. Ray
3. Prof. (Mrs.) Ranjana Patnaik

School of Material Science & Technology

1. Prof. Pralay Maiti (Coordinator)
2. Prof. Dhananjai Pandey
3. Prof. Rajiv Prakash

Technical Writing Section

1. Prof. Prasant Kumar Panda

7.1 SENATE STANDING COMMITTEE COMPOSITION IN DETAIL (29.06.2012 TO 31.03.2013 IF ANY)

Senate Library Committee (Circulated vide notification no. IIT(BHU/ACD/2012-13/490/L dated 05.01.2013):

1. The Librarian/Asstt. Librarian (as the case may be), Main Library, IIT(BHU), Varanasi
2. The Conveners from each Department/School :-

	Convener	Department/School
i.	Prof. K.K. Shukla	Computer Engineering
ii.	Dr. M.R. Majhi	Ceramic Engineering
iii.	Prof. K.K. Srivastava	Ceramic Engineering
iv.	Prof. D.N. Vishwakarma	Electrical Engineering
v.	Prof. P.K. Jain	Electrical Engineering
vi.	Prof. M. Prasad	Mechanical Engineering
vii.	Dr. Vikas Kumar	Pharmaceutics
viii.	Prof. V. Srivastava	Applied Chemistry
ix.	Dr. P.C. Pandey	Applied Physics
x.	Dr.(Mrs.) Santwana Mukhopadhyay	Applied Mathematics
xi.	Prof. (Mrs.) Mira Debnath (Das)	Bio-Chemical Engineering
xii.	Dr.(Mrs.) Chandana Rath	Materials Science & Technology
xiii.	Prof. Devendra Mohan	Civil Engineering
xiv.	Dr. Neeraj Sharma	School of Bio-Medical Engg.
xv.	Dr. K. Challopadhyay	Metallurgical Engineering
xvi.	Prof. Piyush Rai	Mining Engineering

3. **Members nominated by the Chairman, Senate :-**

(i) Prof. Devendra Kumar, Dept. of Ceramic Engg., IIT(BHU)
(ii) Prof. R.K. Mishra, Dept. of Electrical Engg., IIT(BHU)
(iii) Prof. Sandeep Kumar, Dept. of Mechanical Engg., IIT(BHU)
(iv) Shri Vikas Jindal, Dept. of Met. Engg., IIT(BHU)
(v) Ms. Nikita Singhal (10102EN043), B.Tech. Part – III, Dept. of Chemical Engg. & Technology, IIT(BHU)
(vi) Mr. Rahul Ajai Deshpandey (10106EN035), B.Tech. Part – III, Dept. of Mechanical Engg., IIT(BHU)

7.2 SENATE EXECUTIVE COMMITTEE: (Circulated vide notification no. IIT(BHU)/ACD-Senate/2012-13/392/L dated 23.11.2012)

1.	The Director, IIT(BHU)	- Chairman
2.	The Dean (Academic Affairs), IIT(BHU)	- Member
3.	The Professor Incharge (R & D), IIT(BHU)	- Member
4.	The Professor Incharge (Student Affairs & Alumni Affairs), IIT(BHU)	- Member
5.	All Heads of the Departments/Coordinators of Schools, IIT(BHU)	- Member
6.	Chairman, JEE, IIT(BHU)	- Member
7.	Prof. Incharge , Main Workshop, IIT(BHU)	- Member
8.	Incharge, UGD/IDD/IMD Part – I, IIT(BHU)	- Member

9. The Asstt. Librarian, Main Library, IIT(BHU) - By Invitation
10. The Registrar, IIT(BHU) - Member Secretary

7.3 SENATE POSTGRADUATE COMMITTEE (Circulated vide notification no. IIT(BHU)/ACD/2012-13/398/L dated 24.11.2012)

1. Prof. K.N. Rai - Chairman.
   Dept. of Applied Mathematics, IIT(BHU)

Faculty Members

2. Prof. Prashant Shukla, Dept. of Mechanical Engg., IIT(BHU)
3. Prof. R.S. Singh, Dept. of Chemical Engg., IIT(BHU)
4. Prof. R. Manna, Dept. of Metallurgical Engg., IIT(BH
5. Dr. Abha Mishra, School of Biochemical Engg., IIT(BHU)

Students

6. Ms. Amita Sahi, M.Tech. Part – I (12302EN024), Dept. of Chemical Engg., IIT(BHU)
7. Mr. Praveen Kumar Singh, M.Tech. Part – I (12306EN004), Dept. of Mechanical Engg., IIT(BHU).
8. Mr. Harish Balga, Research Scholar, Dept. of Electrical Engg., IIT(BHU)
9. Mr. Pappu Kumar, Research Scholar, School of Materials Science & Tech., IIT(BHU)

7.4 SENATE UNDERGRADUATE COMMITTEE (Circulated vide notification no. IIT (BHU) /ACD/ 2012-13/398/L dated 24.11.2012)

1. Prof. A.K. Mukherjee - Chairman.
   Dept. of Applied Chemistry, IIT(BHU)

Faculty Members

2. Prof. A. Mohan, Dept. of Applied Physics, IIT(BHU)
3. Prof. S.K. Pandey, Dept. of Applied Mathematics., IIT(BHU)
4. Prof. Y.C. Sharma, Dept. of Applied Chemistry, IIT(BHU)
5. Prof. S.K. Sharma, Dept. of Mining, IIT(BHU)

Students

6. Km. Pranjali Sharma, B.Tech. Pt. III (10107EN031), Dept. of Metallurgical Engg., IIT(BHU)
7. Mr. Diwakar Agrawal, B.Tech. Pt. III (10105EN024), Dept. of Electronics Engg., IIT(BHU)
8. Mr. Adiya Jain, B.Tech. Pt. III (10103EN016), Dept. of Civil Engg., IIT(BHU)
9. Mr. Fuhar Dixit, B.Tech. Pt. III (10101EN003), Dept. of Ceramic Engg., IIT(BHU)

7.5 SCHOLARSHIP COMMITTEE (Circulated vide notification no. IIT(BHU)/ACD/2012-13/594/L dated 14/16.02.2013)

1. The Director, IIT(BHU) - Chairman
2. The Dean (Academic Affairs), IIT(BHU) - Member

3. The Professor Incharge (R & D), IIT(BHU) - Member
4. The Professor Incharge (Student Affairs & Alumni Affairs), IIT(BHU) - Member
5. All Heads of the Departments/Coordinators of Schools, IIT(BHU) - Member
6. Chairman, JEE, IIT(BHU) - Member
7. Prof. Incharge , Main Workshop, IIT(BHU) - Member
8. Incharge, UGD/IDD/IMD Part I, IIT(BHU) - Member
9. The Asstt. Librarian, Main Library, IIT(BHU) -By Invitation
10. The Registrar, IIT(BHU) - Member Secretary

7.6 ELECTION COMMITTEE (Circulated vide notification no. IIT(BHU)/ACD/Elect. Com./2013-14/08/L dated 17.08.2013)

1. Prof. A.S.K. Sinha, Dept. of Chemical Engg. & Tech. - Chairman
2. Prof. N.K. Mukhopadhyay, Dept. of Metallurgical Engg. - Member
3. Dr. D. Giri, Dept. of Applied Physics - Member

8.0 SENATE STUDENTS' AFFAIRS COMMITTEE

(Gymkhana Committee)

1. Prof. S.K.Sharma, Department of Mechanical Engg.,IIT (BHU) - Chief Councillor, Ex-officio Prof. Incharge (Student Affairs)
2. Prof. Rajeev Prakash, School of Materials Science & Tech., IIT (BHU) - Deputy Chief Councillor
3. Prof. R Mahanty, Department of Electrical Engg., IIT (BHU) - Councillor, Science & Tech.Council
4. Prof. B.N.Rai, Dept. of Chemical Engg. & Tech., IIT (BHU) - Councillor, Cultural Council
5. Dr. R.S. Singh, Dept. of Chemical Engg. & Tech., IIT (BHU) - Councillor, Games & Sports Council
6. Dr. S.S. Mondal, Dept. of Mechanical Engg., IIT (BHU) - Councillor, Film & Media Council
7. Prof. Sandeep Kumar, Dept. of Mechanical Engg., IIT (BHU) - Treasurer, IIT (BHU) Gymkhana

9.0 OTHER INSTITUTE LEVEL COMMITTEES:

9.1 INSTITUTE ADVISORY COMMITTEE: (Circulated vide notification no. IIT(BHU)/242/L dated 10.09.2012)

1. Director, IIT (BHU) - Chairman
2. Dy. Director (as and when appointed) - Member
3. All Deans, IIT (BHU) - Member
4. All Professor Incharges, IIT (BHU) - Member
5. Registrar, IIT (BHU) - Member
6. All HoDs/Coordinators of Schools, IIT (BHU) - Member
7. Chairman, Academic Coordination Committee - Member

8.	Teacher Incharge, First Year	- Member
9.	President, IIT (BHU) Gymkhana	- Member
10.	Chairman, Library Committee (as and when elected by Senate)	- Member
11.	Chairman, Council of Wardens	- Member
12.	Senate Nominees to BoG	- Member
13.	Student Advisor	- Member
14.	Chairman, JEE	- Member
15.	Registrar	-Member & Convenor

9.2 INSTITUTE FACULTY AFFAIRS COMMITTEE: (Circulated vide notification no. IIT(BHU)/242/L dated 10.09.2012)

1.	Director, IIT (BHU)	- Chairman
2.	Dy. Director (as and when appointed)	- Member
3.	Dean, Faculty Affairs	- Member
4.	Dean, Research & Development	- Member
5.	Concerned Head of the Department	- Member

10.0 IIT (BHU) FINANCE

The Ministry of Human Resources Development has released Rs.50.00 Crores as Non Plan Grant, Rs.68.50 Crores as Plan Grant in the financial year 2012-13.

Non Plan

The total receipt under Non Plan during the F.Y. 2012-13 from Ministry of Human Resource Development, Government of India is Rs. 50.00 Crores. The Internal Receipt of Institute is Rs.80.00 Lacs.

The total Non Plan expenditure during the F.Y. 2012-13 comes out to Rs.32.00 crores.

Plan

A total receipt under Plan during the F.Y. 2012-13 is of Rs. 68.50 Crores which was released by the MHRD, Government of India.

The total expenditure under Plan is Rs.2.69 Crores. The expenditure includes Rs.2.63 Crores on Academic Expenses and Rs.0.06 Crore on Administrative & General Expenses.

Income & Expenditure for the F.Y. 2012-13 under Major heads are given below.

SL. No.	Particulars	Income (Rs. in Crore)	Expenditure (Rs. in Crore)
1.	Non Plan	50.80	32.00
2.	Plan	68 .50	2.69
3.	JEE	5.18	5.02
4.	Special Fund	4.95	Nil
5.	Dress Materials	0.24	0.34
6.	Sponsored Project fund	0.19	Nil

11.0 FACULTY DETAILS (TEACHING, ACADEMIC STAFF & OFFICERS, LBRARIAN, IIT MAIN WORKSHOP) WITH DEIAILS LIKE-SANCTIONED & EXISTING STRENGTH AND POSTIONS THEIR PAY BAND ETC.

Total Faculty members – 238

Sl.No.	Teaching Staff	Total Sanctioned Post	Existing	Pay Band
1	Professor	94	31	37400-67000 (PB-4)
2	Associate Professor	178	89	37400-67000 (PB-4)
3	Assistant Professor	285	118	15000-39100 (PB-2)
	Total	**557**	**238**	

Sl. No.	Posts	Total Sanctioned Post	Existing	Pay Band
1	Deputy Registrar (Working as Registrar (Offtg.)	1	1	37400-67000 (PB-4)
2	Assistant Registrar	2	2	15600-39100 (PB-3)
3	Assistant Librarian	1	1	15600-39100 (PB-3)
4	Workshop Superintendent	1	1	15600-39100 (PB-3)
5	Other Research Associate	8	8	15600-39100 (PB-4)

Non-faculty members :

Ministerial & Secretarial Staff	-	127
Technical Staff	-	320
Library Sector	-	16
Cafeteria	-	13
Hostels	-	71
Total		**547**

11.1 THE FACULTY

There are ten Engineering departments, three Science departments and three interdisciplinary schools offering degrees at various levels in the Institute.

The faculty strength of the Institute as on March 31, 2012 was 237. There were also 15 Research Engineers/Scientific Officers/Design Engineers and Library staff on March 31, 2012. The Institute also had a number of Visiting Faculty members. There are several Visiting/Distinguished/ Adjunct Faculty members to contribute significantly and they also get an opportunity to know the Institute.

Ceramics Engineering

Professor AGP-10000-PB-4(37400-67000)

1.	13690	DEVENDRA KUMAR
2.	13695	OM PRAKASH
3.	13694	RAMPYARE
4.	13689	SARJOO PRASAD SINGH

Associate Professor AGP 9000-PB-4(37400-67000)

1.	13693	AMAR NATH
2.	16730	ANIL KUMAR
3.	18361	KALYANI MOHANTA
4.	17365	VINAY KUMAR SINGH

Assistant Professor AGP 6000-PB-3(15600-39100)

1.	18295	MANAS RANJAN MAJHI

Chemical Engineering

Professor AGP-10000-PB-4(37400-67000)

1.	13744	A.K.VERMA
2.	13741	AKHOURY SUDHIR KUMAR SINHA
3.	13746	B.N.RAI
4.	13736	K.K SRIVASTAVA
5.	13748	PRADEEP AHUJA
6.	13747	PRADEEP KUMAR MISHRA
7.	13737	RAMPRASAD
8.	13732	SURENDRA KUMAR

Associate Professor AGP 9000- PB-4(37400-67000)

1.	13749	MANOJ KUMAR MONDAL
2.	16729	RAM SARAN SINGH
3.	18210	SATYAVIR SINGH
4.	13743	VIJAY LAXMI YADAV

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	13742	ANAND CHANDRA MOHAN
2.	17500	HIRALAL PARMANIK
3.	18479	PRADEEP KUMAR

Assistant Professor AGP 6000- PB-3(15600-39100)

1.	18152	BHAWANA VERMA
2.	18151	DURGA PRASAD A.

Applied Chemistry

Professor AGP-10000 PB-4(37400-67000)

1.	13669	A.K.MUKHERJEE
2.	13734	M.M.SINGH
3.	17360	MUMTAZ AHMAD QURAISHI
4.	12106	PREM CHANDRA PANDEY

5.	13675	RANJANA GHOSE
6.	13738	RASHMI BALA RASTOGI
7.	13674	SYED H.HASAN
8.	17040	VANDANA SRIVASTAVA
9.	17326	YOGESH CHANDRA SHARMA

Associate Professor AGP 9000- PB-4(37400-67000)

1.	17328	DHANESH TIWARY
2.	17327	KAMDEO MANDAL
3.	18364	SUNDARAM SINGH

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	17329	INDRAJIT SINHA

Assistant Professor AGP 6000- PB-3(15600-39100)

1.	18408	ABHILASHA DURGBANSHI
2.	18365	MANISHA MALVIYA

Civil Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	13766	DEVENDRA MOHAN
2.	17178	GAUTAM BANERJEE
3.	17063	PRABHAT KUMAR SINGH
4.	18398	PRABHAT KUMAR SINGH DIKSHIT
5.	13760	PRAMOD KUMAR SINGH
6.	13759	VEERENDRA KUMAR

Associate Professor AGP 9000-PB-4(37400-67000)

1.		ANHAY NATH SINHA
2.	17053	ARUN PRASAD
3.	18383	KAMLESH KUMAR PANDEY
4.	17051	RAJESH KUMAR
5.	16811	SASANKA SHEKHAR MANDAL
6.	18387	SHYAM BIHARI DWIVEDI

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	16816	BRIND KUMAR
2.	16727	KESHEO PRASAD
3.	17185	MEDHA JHA
4.	17052	PABITRA RANJAN MAITI
5.	18329	S.K. GUPTA

Assistant Professor AGP 6000- PB-3(15600-39100)

1.	17065	ANURAG OHRI
2.	18571	P. BALA RAMUDU
3.	18477	SURESH KUMAR

Computer Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	13771	A.K. AGRAWAL
2.	13770	A.K.TRIPATHI

3.	13772	K.K. SHUKLA
4.	13769	RAVIBHUSHAN MISHRA

Associate Professor AGP 9000- PB-4(37400-67000)

1.	18363	RAJEEV SRIVASTAVA
2.	18362	SANJAY KUMAR SINGH

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	16832	BHASKAR BISWAS
2.	17184	RAVISHANKAR SINGH

Electrical Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	16750	A.K. KAPOOR
2.	17094	DEVENDRA SINGH
3.	13789	DEVENDRA NATH VISHWAKARMA
4.	13788	R.K. SRIVASTAVA
5.	13782	R.S. GORAYAN
6.	16623	RAJENDRA KUMAR PANDEY
7.	13791	RAKESH KUMAR MISHRA
8.	13792	RANJIT MAHANTY
9.	13787	S.C. GUPTA
10.	13776	S.N. MAHENDRA
11.	13783	SHIV PUJAN SINGH
12.	13780	SHAYAM KRISHNA NAGAR

Associate Professor AGP 9000-PB-4(37400-67000)

1.	13779	GOPAL SHARMA
2.	17590	MITRESH KUMAR VERMA
3.	17548	RAM KHELAWAN SAKET

Assistant Professor AGP 7000-PB-3(15600-39100)

1.	16629	KALPANA CHAUDHARY

Assistant Professor AGP 6000-PB-3(15600-39100)

1.	17538	JEEWAN CHANDRA PANDEY
2.	17101	MANISH KUMAR
3.	17464	RAJEEV KUMAR SINGH
4.	17446	SANTOSH KUMAR SINGH
5.	17589	SOBHITA MEHER
6.	17549	VIVEK NANDAN LAL

Electronics Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	13802	P.K. JAIN
2.	13801	R.R. DAS
3.	16563	S.K. BALASUBRAMANIAM
4.	13804	SATYABRATA JIT
5.	16809	SURYA PAL SINGH
6.	10389	VISHWAMBHAR NATH MISHRA

Associate Professor AGP 9000- PB-4(37400-67000)

1.	14161	PRADEEP KUMAR MUKHERJEE
2.	13799	RAHAMAT ULLAH KHAN
3.	13796	RAMASHRAY DWIVEDI

Associate Professor AGP 8000- PB-4(37400-67000)

1.	16800	NAVIN SINGH RAJPUT

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	18360	AMRITANSHU PANDEY
2.	16628	MANOJ KUMAR MESHRAM
3.	13806	MANOJ KUMAR SINGH

Assistant Professor AGP 6000- PB-3(15600-39100)

1.	18299	AMIT KUMAR SINGH
2.	18358	M. THOTTAPPAN

Applied Mathematics

Professor AGP-10000 PB-4(37400-67000)

1.	13660	K.N.RAI
2.	17162	LAL PRATAP SINGH
3.	13670	OMPRAKASH SINGH
4.	16728	PRASHANT KUMAR PANDA
5.	13662	REKHA SRIVASTAVA
6.	17315	SANJAY KUMAR PANDEY
7.		SHRIRAM
8.	18386	TANMOY SOM

Associate Professor AGP 9000-PB-4(37400-67000)

1.	18409	SANTOSH KUMAR UPADHYAY
2.	17180	SANTWANA MUKHOPADHYAY
3.	18373	SUBIR DAS

Assistant Professor AGP 7000-PB-3(15600-39100)

1.	17179	ASHOKJI GUPTA
2.	17745	RAJEEV

Mechanical Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	16722	A.P. HARSHA
2.	17339	AMITAVA BHATTACHARYA
3.	13819	ANIL KUMAR AGRAWAL
4.	13829	ARUN KANTI JHA
5.	13815	JAI PRAKASH DWIVEDI
6.	13821	K.S. TRIPATHI
7.	17361	MITHILESHWAR PRASAD

8.	13814	OM PRAKASH
9.	14343	SANDEEP KUMAR
10.	14364	SANJAY KUMAR SINHA
11.	13831	SANTOSH KUMAR
12.	13817	SATYA PRAKASH TIWARI
13.	13826	SUSHIL KUMAR SHARMA
14.	13811	VIJAY KUMAR SRIVASTAVA
15.	13818	VIRENDRA PRATAP SINGH

Associate Professor AGP 9000- PB-4(37400-67000)

1.	16720	PRABHAS BHARDWAJ
2.	16801	PRADYUMNA GHOSH
3.	16723	PRASHANT SHUKLA
4.	17318	RAJESH KUMAR
5.	17341	RAJNESH TYAGI
6.	17390	SAROJA KANTA PANDA
7.	18130	SHAILENDRA KUMAR SHUKLA
8.	13822	SHARDENDU KUMAR SHAH

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	16657	MOHD. ZAHEER KHAN YUSUFZAI
2.	16798	CHARAIAN SAMUEL
3.	17388	JAHAR SARKAR
4.	16724	JEEWAN VACHAN TIRKEY
5.	16721	MEGHANSHU VASHISTA
6.	17253	NILANJAN MALIK
7.	17339	SWASTI SUNDAR MONDAL

Assistant Professor AGP 6000- PB-3(15600-39100)

1.	17268	AMIT TYAGI
2.	17252	ARNAB SARKAR
3.	18139	DEBASHISH KHAN
4.	18214	PRAKASH CHANDRA MANI
5.	18239	RAKESH KUMAR GAUTAM
6.	17335	RASHMI REKHA SAHOO
7.	17269	UPPU SRINIVAS RAO

Metallurgical Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	13855	VAKIL SINGH
2.	13841	A.K.GHOSH
3.	13848	S.N.OJHA
4.	13847	G.V.S SHASTRY
5.	13842	T.R. MANKHAND
6.	13849	R.K. MANDAL

7.	13853	N.K.MUKHOPADHYAY
8.	13857	SUNIL MOHAN
9.	13851	(SMT) N.C.S SRINIVAS
10.	13852	B.N.SHARMA

Associate Professor AGP 9000- PB-4(37400-67000)

11.	18188	K.K.SINGH
12.	18218	O.P.SINHA
13.	18242	I. CHAKRABORTY

Assistant Professor AGP 7000- PB-3(15600-39100)

14.	16732	C.K.BEHERA
15.	16805	R. MANNA

Assistant Professor AGP 6000- PB-3(15600-39100)

16.	18194	J.K.SINGH
17.	18221	N.K.PRASAD
18.	18229	VIKAS JINDAL
19.	18241	K.CHATTOPADHYAY
20.	18287	G.S.MAHOBIA

Mining Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	13869	AARIF JAMAL
2.	13862	BAL KRISHNA SRIVASTAVA
3.	17282	NETAI CHANDRA KARMAKAR
4.		PIYUSH RAI
5.	13871	SANJAY KUMAR SHARMA

Associate Professor AGP 9000- PB-4(37400-67000)

1.	13867	RAMPRATAP SINGH
2.	13872	SUPRAKASH GUPTA

Assistant Professor AGP 6000- PB-3(15600-39100)

1.	18148	AMRENDRA KUMAR
2.	18149	ASHOK JAISWAL
3.	18197	GAURI SANKAR PRASAD SINGH
4.	18150	RAJESH RAI
5.	18237	SANJAY KUMAR PALBI
6.	18230	SURESH KUMAR SHARMA
7.	18147	TARUN VERMA

Pharmacy

Professor AGP-10000 PB-4(37400-67000)

1.	13882	B. MISHRA
2.	13876	RADHEY SHAYAM SRIVASTAVA
3.	16840	SANJAY SINGH

4.	16826	SUSHANT KUMAR SRIVASTAVA
5.	13880	SUSHIL KUMAR SINGH

Associate Professor AGP 9000- PB-4(37400-67000)

1.	13879	ANAND KUMAR SRIVASTAVA
2.	16827	S. HEMALATHA
3.	17684	SAIRAM KRISHNAMURTHY
4.	?	VIKAS KUMAR

Assistant Professor AGP 6000 - PB-3(15600-39100)

1.	18548	RUCHI CHAWLA
2.	18367	SUNIL KUMAR MISHRA
3.	17514	ALAKH NIRANJAN SAHU
4.	16828	SENTHIL RAJA A.

Applied Physics

Professor AGP-10000 PB-4(37400-67000)

1.	13672	B.N.DWIVEDI
2.	13665	O.N. SINGH

Associate Professor AGP 9000- PB-4(37400-67000)

1.	17048	DEBA PRASAD GIRI
2.	18366	PRABHAKAR SINGH
3.	17276	RAJENDRA PRASAD
4.	18478	SANDEEP CHATTERJE

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	17041	ANITA MOHAN
2.	18359	PRAVEEN CHANDRA PANDEY
3.	18536	SAHIL UPADHYAY

School of Bio-Chemical Engineering

Professor AGP-10000 PB-4(37400-67000)

1.	13889	MIRA DEBNATH
2.	13890	S.K. SRIVASTAVA
3.	13888	SUBIR KUNDU
4.	13887	RATHINDRA MOHAN BANIK

Associate Professor AGP 9000- PB-4(37400-67000)

1.	16831	PRADEEP SRIVASTAVA

Assistant Professor AGP 7000- PB-3(15600-39100)

1.	16830	ABHA MISHRA

School of Bio-Medical Engineering

Professor AGP-10000 PB-4(37400-67000)

1. 13884 AMIT KUMAR RAY
2. 13886 NIRA MISHRA
3. 13885 RANJANA PATNAIK

Associate Professor AGP 9000- PB-4(37400-67000)

1. 16812 NEERAJ SHARMA

Assistant Professor AGP 7000- PB-3(15600-39100)

1. 18117 SANJAY KUMAR RAI
2. 16829 SHIRU SHARMA

School of Material Science

Professor AGP-10000 PB-4(37400-67000)

1. 13891 DHANANJAI PANDEY
2. 17337 PRALAY MATTI
3. 17100 RAJIV PRAKASH

Assistant Professor AGP- 6000 PB-3(15600-39100)

1. 18438 CHANDAN UPADHYAY
2. 17387 AKHILESH KUMAR SINGH
3. 17280 CHANDANA RATH

12.0 ACADEMIC PROGRAMMES

12.1 EDUCATIONAL GOALS

Education in the Engineering stream should produce trained maintaining and advancing technological growth. The scope education should evolve based on the evaluation of technological usefulness and relevance to the prosperity of the country. The education in this context should help to develop a knowledge industry and the systems involved in this endeavour should strive for furtherance of knowledge.

The academic goals of the Indian Institute of Technology (BHU)Varanasi from the viewpoint of its teaching programme are as the following:

To prepare the students for the highest level of excellence in science and Technology and to produce competent, creative and imaginative scientists and engineers.

To promote a spirit of free and objective inquiry in different fields amongst the students and to motivate them for higher studies and research.

To foster inter disciplinary approach. To promote the concept of virtual research departments by bringing together faculty and students into activities of mutual interest.

12.2 TEACHING PROGRAMMES

The Institute offers instruction in various disciplines of science and engineering, both at the undergraduate (UG) and the postgraduate (PG) levels. These programmes are planned and implemented by the Academic Senate of the institute. Micro-management and these programmes are carried out by the Senate Undergraduate Committee (SUGC) and the Senate Post-graduate (SPGC)respectively.

Undergraduate Programme

The four-year undergraduate programme consists of two parts having four semesters each. The first part is the Core programme common to all students, and is carefully planned to give the students a strong base of basic Mathematics/ Physics, Chemistry, Engineering Sciences, Technical Arts, Humanities and Social Sciences. The second part of the undergraduate programme consists of the Professional courses and a project in the chosen branch of specialization. At the Bachelor's level, the Institute offers four years B.Tech./B.Pharma programs in Ceramics, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Electronics Engineering, Mechanical Engineering, Metallurgical Engineering, Mining Engineering and Pharmaceutical Engineering.

Postgraduate Programme

The postgraduate programme is intended to prepare students to prepare students to enter their professions with a perspective and breadth of knowledge related to the principal divisions of their respective fields of specialization through courses and specialized research experience. A postgraduate student is typically three or four courses each semester until the student advances to a point where the principal requirements of the programme left to be fulfilled are research and thesis.

M. Tech. Programme

The Institute offers M. Tech. Programmes in all the Engineering Branches, as mentioned above. In addition, there are M. Tech. Programmes in the interdisciplinary areas, such as, Industrial Engineering and management, Bio-Chemical, Bio-Medical engineering, Materail science.The M. Tech. students are chosen through an all-India examination known as GATE.

The Institute offers 4-Year B.Tech./B.Pharm., 2-Year M.Tech./M.Pharm., 5-Year B.Tech. & M.Tech./B.Pharm. &M.Pharm. Dual Degree and 5-Year Integrated M.Tech. Degree programmes in different disciplines. Institute also offers research programmes in all sixteen disciplines.

12.3 UNDERGRADUATE AND IDD / IMD PROGRAMMES

Four-Year B. Tech. Programmes

B.Tech. (Ceramic Engineering)

B.Tech. (Chemical Engineering)

B.Tech. (Civil Engineering)
B.Tech. (Computer Engineering)
B.Tech. (Electrical Engineering)
B.Tech. (Electronics Engineering)
B.Tech. (Mechanical Engineering)
B.Tech. (Metallurgical Engineering)
B.Tech. (Mining Engineering)

Four-Year B.Pharm. Programme

B. Pharm.

Five-Year Dual Degree (B. Tech. & M. Tech.) Programmes in Engineering

B.Tech. & M.Tech. (Ceramic Engineering)
B.Tech. & M.Tech. (Computer Science & Engineering)
B.Tech. (Civil Engg.) & M.Tech. (Structural Engineering)
B.Tech. (Electrical Engg.) & M.Tech. (Power Electronics)
B.Tech. & M.Tech. (Mechanical Engineering)
B.Tech. & M.Tech. (Metallurgical Engineering)
B.Tech. (Mining Engineering)
B.Tech. & M.Tech. (Biochemical Engineering & Biotechnology)
B.Tech. (Bioengineering) & M.Tech. (Biomedical Technology)
B.Tech. & M.Tech. (Materials Science & Technology)

Five-Year Dual Degree (B.Pharm and M.Pharm.) Programme in Pharmaceutics

B.Pharm and M.Pharm.

Five-Year Integrated Programmes in Applied Sciences

M.Tech. in Industrial Chemistry
M.Tech. in Mathematics and Computing
M.Tech. in Engineering Physics

12.4 POST GRADUATE PROGRAMMES

The Institute offers following 2-Year programmes leading to the degree of M.Tech./ M.Pharm. with or without specialization.

Programme	Specialization
M.Tech. Ceramic Engineering	
M.Tech. Chemical Engineering	
M.Tech. Civil Engineering	Hydraulics and Water Resources Engg.
	Geotechnical Engineering
	Structural Engineering
	Environmental Engineering
	Transportation Engineering

M.Tech. Electrical Engineering	Power Systems
	Electrical Machines and Drives
	Control Systems
	Power Electronics
M.Tech. Electronics Engineering	Microwave Engg.
	Digital Techniques and Instrumentation
	Microelectronics
	Communication System Engg.
M.Tech. Mechanical Engineering	Machine Design
	Heat Power Engineering
	Production Engineering
M.Tech. Metallurgical Engineering	Extractive Metallurgy
	Metals and Materials Processing
	Alloy Technology
M.Tech. Mining Engineering	Mine Environment
	Rock Mechanics Mine Planning
M.Tech. Systems Engineering	
M.Tech. Biochemical Engineering	
M.Tech. Industrial Management	
M.Tech. Biomedical Engineering	
M.Tech. Materials Sci. & Tech.	
M.Pharm.	Pharmaceutics
	Pharmaceutical Chemistry
	Pharmacology Pharmacognosy

12.5 Ph.D. PROGRAMMES

2- Year and/3-Year Ph.D. programme is offered by all academic departments and schools of the Institute. All Ph.D. programmes are with course work of specified credits.

"Knowledge is knowing facts; wisdom is knowing what to do with the facts you know."

Admission

Admission to Four-Year B.Tech./B.Pharm. programmes, Five-Year Dual Degree programmes and Five-Year Integrated Masters Degree progammes for Indian and Foreign Nationals are made through the Joint Entrance Examination (JEE) conducted jointly by the seven IITs, Institute of Technology, Banaras Hindu University and the Indian School of Mines University, Dhanbad. For admission to 4-Year B.Pharm. programme 50% seats are filled through JEE and 50% through PMT I PAT conducted by the University.

Admission to Two-Year M.Tech./M.Pharm. programmes is made on the basis of GATE score. In addition, there is provision for admitting sponsored candidates from academic institutions, industries and R & D organizations.

Admission to Ph.D programmes is made on the basis of GATE/NET scores & through sponsorship by the employer.

Admission of Foreign Nationals

Foreign nationals residing in India or abroad are admitted to the post graduate and Ph.D. programmes under (a) self-financing scheme, and (b) cultural exchange fellowship programme. Under the self-financing scheme, some seats are filled by direct admission of eligible qualified foreign nationals, under cultural exchange fellowship programmes of Govt. of India and sponsored candidates from their home countries.

Scholarships/financial Assistance

The Institute offers Merit-cum-Means scholarships to 25% undergraduate students. Besides, there are several endowment scholarships offered by the Institute. Some other facilities are also provided to the undergraduate students in the form of Institute free studentship, scholarship, re-imbursement of mess charges and pocket allowances to the students belonging to the Scheduled Castes and Scheduled Tribes.

All the students (non-sponsored) admitted to M.Tech./M.Pharm. programmes are provided financial assistance equivalent to the Junior Research Fellowship.

The Institute offers a large number of Junior/Senior Research Fellowship to students admitted to Ph.D. programmes. Efforts are being made to offer scholarships to all eligible candidates admitted to Ph.D. programmes.

13.0 DEPARTMENT WISE MAJOR AREAS OF RESEARCH

Ceramic Engineering: White Wares, Oxide Refractory, Glass, Electrical and Electronic Ceramics, Glass Ceramics.

Chemical Engineering & Technology: Transport Phenomena, Catalysis and Reaction Engineering, Environmental Engineering, Biochemical Engineering, Process Control, Corrosion, Process Development, Materials Technology, Polymer Technology, Energy Engineering.

Civil Engineering: Environmental Engineering, Soil Engineering, Structural Engineering, Water and Wasterwater Management, Corrosion of Concrete, Reinforced Concrete, Low Cost Housing.

Computer Science & Engineering: Artificial Intelligence, Visual Computing, Parallel and Distributed Systems, Software Engineering.

Electrical Engineering: Control Systems, Electrical Machines and Drives, Power Systems, Power Electronics & Its Application, Electrical Energy, Management & Simulation, Microprocessor and Microcomputer Engineering, Systems Engineering.

Electronics Engineering: Microelectronics, Microwave Engineering, Microprocessor Applications, Communication Systems.

Mechanical Engineering: Heat and Mass Transfer, IC Engines, Tribology, Vibrations and Noise; Mechanisms, TQM and Training Programme. Bulk Metal forming & Processing (Sintering and Forging, Composites, Extrusion etc), Manufacturing Automation & Robotics, Welding and joining technology, Unconventional and modern machining technology, Casting & allied processes, CAD/CAM/CIM and Mechatronics, Rapid prototyping, reverse engineering & concurrent engineering, Micro/nano and miniature manufacturing, Manufacturing simulation and product design development, Industrial Metrology (including micro-nano metrology) & CMM, Virtual Manufacturing & production planning, Hydraulics & pneumatics

Metallurgical Engineering: Deformation and Fracture, Rapid Solidification, Phase Stability and Phase Transformations, Process Metallurgy, Kinetics of Heterogeneous Reactions, Thermodynamics of Materials, Development of Materials, Tribology, Corrosion and Its Inhibition.

Mining Engineering: Rock Mechanics and Ground Control, Mineral Beneficiation and Coal Preparation, Mine Planning and Designing, Exploration, Mine Machinery, Mine Environment Engg.

Pharmaceutics: Pharmaceutical Chemistry, Pharmacology, Pharmacognosy, Pharmaceutics, Pharmaceutical Analysis.

Applied Chemistry: Water Pollution and Hydro-metallurgy, Coordination Chemistry, Coordination Polymers, Bio-inorganic Chemistry, Corrosion and Its Inhibition, Biologically Active Heterocyclic Compounds, Synthesis of Anti-AIDS Compounds, Tribology and Lubricant Additive Development, Superoxide Chemistry, Electro-organic Synthesis, Computational Chemistry.

Applied Mathematics: Optimization, Operations Research, General Relativity and Cosmology, Combinatorial Analysis, Probability and Statistics, Pseudo-differential Operators, Control Theory, Modern Algebra, Fuzzy Topology, Automate and Discrete Mathematics.

Applied Physics: Fibre Optics, Opto-electronics, Integrated Optics, Photonics and Smart Materials, Space Physics and Plasma Physics, Solid State Physics, Non-Conventional Energy Studies, Microwave Remote Sensing.

Biochemical Engineering: Transfer Processes in Microbial Systems, Bio-conversion, Bioinformatics, Genomics, Enzyme Technology, Food Engineering, Solid State Fermentation, Biological Waste Water Treatment, Drug Delivery Techniques.

Bio-Medical Engineering: Artificial Neural Network, Electrophysiological Signal Processing, Polymeric Materials, Composites, Bio-effects of Microwaves.

Materials Science & Technology: PZT and other Smart Ceramics, Electronic Ceramics, Relaxor Ferroelectrics, Phase Transformations, Computer Simulation, Self Assembly, Biomaterials, Radiation Effect on Materials, Biosensors, Smart Gels, Nanocomposites, Conducting Polymers, Nanomagnetics, Dilute Magnetic Semiconductor.

14.0 ACADEMIC INTERACTION WITH INDUSTRY / R & D ORGANISATIONS

The institute always maintains and strives for close interaction with industry and R&D organizations. In order to ensure that the teaching programmes and the curricula meet the changing needs of the industry, senior professionals from industry are invited as expert members of the Board of Studies and other academic bodies which vet changes in curricula as well as new academic programmes. It also interacts with industry to provide real-life exposure of the industrial world to its students through educational tour and vocational training programmes.

The experts from Industry and R & D organizations are also frequently invited to deliver extension lectures and interact with faculty and students. In addition, departments and centres of the institute regularly organize seminars, conferences and workshops for such interactions.

The departments/schools also have a programme for industrial exposure of the faculty. The institute is attempting to broaden the scope of the existing procedure by having built-in provisions of incentives as well as appointment of adjunct faculty from the industry.

The Institute is also making efforts to strengthen the scheme of having Honorary Visiting Professors/Faculty, both from Industry and R&D organizations as a regular feature.

In order to foster greater and stronger bonds with the industry and R&D organizations, the running of tailor-made M. Tech programmes suiting the specific needs of a particular sector of industry/R&D organization are also under consideration.

14.1 INSTITUTE CENTRAL FACILITY

The IIT (BHU) has taken a new initiave in the year to start a new central facility for all the faculy members and students of the Institute. In this year following instruments are being planned to be procurred. The process of procurement is still in process.

1. 500 MHz NMR Spectrometer
2. Analytical Transmission Electron Microscope
3. Bench top Powder X-Ray Diffractometer
4. CNC Simulator & Machine (Production)
5. CNC Simulator & Machine (Trainer)
6. Integrated High Resolution Field Emission Scanning Electron Microscope With EDS and EBSD
7. High Resolution Rotating Anode X-Ray Diffractometer
8. Ultra High Resolution Liquid Chromatograph – Mass Spectrometer - Time of Flight System (LC MS/MS)
9. SQUID Magnetometer (Magnetic Property Measurement System; MPMS)

10. Friction and Wear Testing Machine (Multi Function Tribometer)
11. Physical Properties Measurement System (PPMS)
12. Scanning Electron Microscope With EDS
13. Scanning Probe Microscope

15.0 INDUSTRIAL CONSULTANCY AND TESTING CENTRE

All the major Departments/Schools of the Institute provide industrial consultancy and testing services to a large number of small and medium industries of the region and a few large industries. Major beneficiaries include several small industries of Varanasi and Mirzapur districts as well as Obra Thermal Power Plant, NTPC, Diesel Locomotive Works, DMRL, Renusagar Power Company, Singrauli Coal Fields, HINDALCO Industries Ltd., RDSO, Lucknow, Steel Authority of India Ltd., UP State Electricity Board, State PWDs, Fertilizer Companies, Coal India, Power Grid Corporation Ltd., NEERI, etc,. The funds generated through testing and consultancy services in 2012-13 has been about 2.0 Crore. The Institute provides administrative support to the faculty for testing and consultancy services through a full fledged Industrial Consultancy Cell.

16.0 ALUMNI CELL ACTIVITIES

The Institute lays great emphasis on interaction between the alumni and their alma mater and supports the activities of the IIT (BHU) Alumni Association through its Alumni Cell. It maintains an excellent interaction with its alumni who are spread throughout the world. The parent IIT (BHU) Alumni Association is based at Varanasi and it has branches in Delhi, Mumbai, Bangalore and Pune. In addition there are overseas branches in USA and UK. The Institute is proud of its alumni and their achievements. The Institute has a separate website (www.itbhuglobal.org) created with the help of its alumni.

The alumni with active participation of the faculty organize several meetings and discussions on topical issues for enhancing the interactions of IIT(BHU) with other organizations. The alumni assist the Institute by direct personal contribution or through interaction with their parent organizations. There are two chairs sponsored by the alumni. The alumni have also sponsored a hostel exclusively for IT-Girls and Gandhi Technology Alumni Centre (GTAC) exclusively for the Institute. The alumni have also sponsored computerization of IT Main Library and networking of rooms in the hostels. They are also going to help in several other projects.

The Institute confers the "Distinguished Alumnus Award" to recognize the outstanding contributions made by the alumni in their respective professional career. Besides this some of the departments e.g. Chemical Engineering and Technology and Metallurgical Engineering also have the long tradition of honoring their alumni with the conferment of the Distinguished Alumnus Award. These are considered equivalent to the Institute level awards.

s well as new academic programmes. It also interacts with industry to provide real-

life exposure of the industrial world to its students through educational tour and vocational training programmes.

The experts from Industry and R & D organizations are also frequently invited to deliver extension lectures and interact with faculty and students. In addition, departments and centres of the institute regularly organize seminars, conferences and workshops for such interactions.

The departments/schools also have a programme for industrial exposure of the faculty. The institute is attempting to broaden the scope of the existing procedure by having built-in provisions of incentives as well as appointment of adjunct faculty from the industry.

The Institute is also making efforts to strengthen the scheme of having Honorary Visiting Professors/Faculty, both from Industry and R&D organizations as a regular feature. In order to foster greater and stronger bonds with the industry and R&D organizations, the running of tailor-made M. Tech programmes suiting the specific needs of a particular sector of industry/R&D organization are also under consideration.

17.0 INDUSTRY-INSTITUTE PARTNERSHIP CELL (IIPC) & TECHNOLOGY BUSINESS INCUBATOR (TBI)

The Institute takes keen interest in entrepreneurship development programmes. Many short term courses are being organized regularly and infrastructural facilities are provided by the institute for this purpose. Such activities are managed by IIPC and TBI.

Technology Business Incubator (TBI) has been functional under NSTEDB of DST, for incubation of technologies and start-up in the fields of ICT, biotechnology, food and agriculture.

Both, IIPC & TBI have taken lot of initiatives towards working in tandem with the requirements of industry and the society in general and have initiated various entrepreneurship development programmes for the students and faculty. Various initiatives taken till date include Open Learning Programme in Entrepreneurship (OLPE) under affiliation with Entrepreneurship Development Institute, Ahmedabad. Few other programmes, which are operational include E-Cell, Techno Entrepreneurship Promotional Programme (TePP) of Department of Science and Technology and Entrepreneurship Development Cell (IEDC) of AICTE. The activities of the cell also include 'PRAGYAN' lecture series, creation of Forum for Public Knowledge and Malaviya Centre for Incubation and Entrepreneurship (MCIE).

The IIPC also liaisons between the institute and industry for taking up collaborative work in the areas of mutual interest. In recent years, the Institute has signed memoranda of cooperation with the Gas Authority of India Limited, New Delhi, Alchem Industries, Mumbai, Moser-Baer, Noida, C-DAC Pune, DST, etc.

The IIPC has planned to initiate various visionary collaborative programmes which

are being planned with various utilities/industries in a manner that all departments and schools are involved in a way to provide linkage of HR and Training professionals in a bidirectional mode.

18.0 TRAINING AND PLACEMENT CELL

The Institute has a full fledged training and placement cell. It arranges industrial training of the students as a part of their curriculum. The cell also provides placement opportunities to students through campus recruitment.

Every year about 75-80 reputed industries and blue chip companies visit the campus for the recruitment of students. Some of the companies which visited last year include, Microsoft, Yahoo, Google, Shell, Schlumberger TCS, Trilogy, Infosys, De Shaw, IBM, Mentor Graphics, Wipro, Cognizant Technologies, Kanbay, nVidia, Iflex, Globallogic, HCl, Bharat Forge, Hughes, Patni Computers, Samsung, Sapient, Tata Elxsi, HP Global, Tata Steel, Tata Motors, ABB, l & T, ST Microelectronics, Motorola, Reliance Communications, Reliance Industries, Reliance Energy, Amsoft, ANZ Bank etc. and also many public sector companies like SAil, IOCl, BHEl, GAil, Maruti, DRDO, BEL, NTPC etc. During the past 4 years number of firm offers has exceeded the number of B.Tech./B.Pharm. students eligible for placement. Number of offers to M.Tech./ M.Pharm. Degree holders is also steadily increasing.

19.0 LIBRARY

The IT Main Library has a collection of 1, 27,969 (books + bound volumes of periodicals) volumes covering all disciplines of applied sciences, engineering, technology, etc. Besides this several other departments (Ceramic, Chemical, Electronics and Metallurgical Engineering, etc.) also have their own specialized departmental libraries.

Main Library, IT BHU is providing access to more than 8000 online Journals, Bibliographic databases and standards through UGC-Infonet and AICTE-INDEST Consortia. Some of important online resources are:

Science Direct, Web of Science, IEE/IEEE, ASCE, ASME, ACM Digital Library, Springer Linck, DEL, ASTM Standards etc. Besides this, library is also subscribing those print journals which are not available online.

The library has two general servers, one NAS Server, 74 PCs and other accessories adequate to cater to the needs of users. 58 pcs are meant for user's to access OPAC, data bases, e-books, e-journals and other e-resouces. All the sections of the library are connected with computer network. Reading and reference sections have been wi-fi enabled to provide wireless access to the internet.

The Central Library of the University, and other libraries are also accessible to the faculty, staff and students of the Institute, Membership of the library is open to all students, faculty members, administrative and supporting staff members and to alumni and others who specifically apply to this effect.

20.0 HOSTELS

It is compulsory for all the students to reside in the hostels. The institute has 12 boys hostel (2000 rooms) and two girls hostel (120 rooms). The hostels provide all the facilities, viz. internet, mess, common room, indoor games etc. for comfortable stay of the students and appropriate environment for their academic excellence and personality development.

21.0 GYMKHANA/STUDENT ACTIVITIES

The IIT (BHU) Gymkhana organizes and provides infrastructural facilities for a large number of activities through its cultural, sports & games and co-curriculas activities wings. The Gymkhana also has a well equipped fitness centre. The artistic and creative talents of students are encouraged through various competitions like dramatics, debates, music, visual arts etc. and clubs like Radio, Audio, Photography, Automobile, Aero-Modelling, Cine and Computer Club.

Besides the Institute's Gymkhana, the Banaras Hindu University Sports Board also provides excellent opportunities and facilities for all games and sports. Special mention may be made of the Indoor Squash Courts, Swimming Pool, Flying Club, Mountaineering and Boating facilities, Hobby Centre etc. which are open to the entire University community.

About 5000 students use this central facility of the IIT (BHU) Gymkhana. It conducts around 18 games and holds several Inter-Hostel, Inter-year, IIT-Open competitions every year besides holding 'SPARDHA', the All India Sports Festival. It also provides basic facilities for Indian and Western music, Theatre activities, Model making and Exhibition, Aero-modeling.

The Gymkhana sends its teams of all the four councils for external participation in Games and Sports Activities, technical Activities and Cultural Activities.

IIT (BHU) Gymkhana has its vision like:

"To provide world class facilities for games and sports, co-curricular and extracurricular activities that helps in all round personality development of students of the Indian Institute of Technology at large".

The vision is planned to be realized by following missions stated below.

- Establishment of world class infrastructure for games and sports, co-curricular and extracurricular activities.
- Organization of Inter IIT/National/International competitive events.
- Rural outreach programme as a part of extracurricular activities for the awakening of the mass related to health, education, sanitation, etc.

IIT (BHU) team (2012-13) consist of:

Prof. S. K. Sharma Chief Counselor
Prof. Rajiv Prakash Deputy Chief Counselor
Prof. R. Mahanty Counselors, Science and Technology Council

Prof B. N. Rai Counsellor, Cultural Council
Dr. R. S. Singh, Sports Council
Prof. S. S. Mondal, Film and Media Council
Prof. Sandeep Kumar, Treasurer

After the conversion of erstwhile IT BHU into IIT, Gymkhana has constituted four council namely Science and Technology Council, Cultural Council, Sports Council and Film and Media Council.

21.1 SCIENCE AND TECHNOLGY COUNCIL

For the first time the institute has sent a contingent to IIT Bombay Techfest where our team secured many positions and brought various prizes in robotics competitions. Technex, annual Techno- mangement festival of IIT (BHU) hosted 1100 participants from all over the nation.

Other Significant Achievements for the year 2012-13 are:

1. Won First Position in GE Edison Challenge in 2010 and 2012 and 2013.
2. Won Second Positions in Google Marketing events.
3. Won Second Position in EXLPAN IIT CASE STUDY COMPETITION.
4. Represented IIT (BHU) in 16th Readers and writers conclave organized by Swedish Consulting Society.

Technex annual Techno-Management festival of IIT BHU which witnessed more than thousand participants from all over the country and across discipline.

21.2 CULTURAL COUNCIL

Cultural Council also went to IIT Delhi where they won All India Dance, Dramatics and Literary Competition. Cultural wing brought laurels in dramatics, dance and literary competition in various institutions. Quiz Team were winners at Regional Round Patna of Simply Finance Quiz by Tata Mutual Funds. They also won in TATA CRUCIBLES for year 2012. KASHI YATRA the cultural extravaganza of IIT (BHU) hosted various cultural events and professional performances.

21.3 SPORTS AND GAMES COUNCIL

Our institute sports and athletics team went to Udghosh, Annual sports festival of IIT, Kanpur in 2013 where we won 4 medals in Tak-wan-doo. Team also won medals in cricket and was runner up in Basketball as well as in runner up in Cricket.

Significant Achievements

1. Won Gold in cricket in IIT, Delhi in 2012
   Sports and Games Council organized SPARDHA for year 2012 which hosted around 1200 participants from various engineering institution.

21.4 FILM AND MEDIA COUNCIL

Film and Media Council was started for the first time to promote animation and film activities.

Film and Media Council has collaborated with Banaras Film Society for

organization of Banaras Film Festival. They also organized many events on photography and video animation.

21.5 TEDXIIT (BHU)

Institute also organized first TEDx event which hosted many prominent personalities like Mr. S. P. Shukla, Mr. Arun Anant etc.

This year following fellowships from outside Agencies have been received.

1. ICDS fellowship to Mr. Saurabh Shah by Government of Bihar.
2. Ms. Swapanika Nag went to Youth Delegation selected to meet Chinese Premier by MHRD, Government of India.
3. Mr. Fuhar Dixit was honored by Mahindra Medal for outstanding contribution in leadership activities.
4. Ms. Pakhi Mahwar, Mr. Karan Bajaj, Mr. Nishnat Gupta got full sponsorship for attending Jagrati Yatra.
5. Mr. Vibhor Jajoo full fellowship for attending conference in USA by DST.
6. Mr. Vivek Munemanik went to Japan for Tae-kwon-do to represented India.

21.6 OTHER SUPPORT SERVICES

The Institute, being a constituent unit of the Banaras Hindu University, avails all the support services of the University. Some of them are medical services, university works department, horticulture department, electric and water supply, sanitary services, residential accommodation of staff and faculty, guest houses, auditorium, sports, games & cultural activity facilities, computer centre, library, internet etc.

22.0 QIP/CEP/EFIP

Quality Improvement Programme (QIP) is one of the effective programmes for upgrading the qualifications and training of teachers from other engineering colleges. Under this programme they can be sponsored for master and doctoral level degrees. At present only two departments of the Institute, Department of Metallurgical Engineering and Department of Mining Engineering are recognized as the QIP centres. Efforts are being made to get other departments also recognized for this purpose.

Under Continuing Education Programme (CEP) the departments/ schools of the Institute organize short term courses for the benefit of teachers of degree level engineering colleges and technical personnel of R&D and Industrial Organizations.

The Institute has also been identified as one of the host institutions for training teachers of engineering colleges under the Early Faculty Induction Programme (EFIP) of the All India Council for Technical Education, New Delhi.

23.0 IT MAIN WORKSHOP

Functioning of Main-Workshop started in 1919. It has a strong vision to act as a resource base for technical knowledge and training engineers to attain excellence in technology and to develop world-class incubation center for design, planning and realizing

the innovative ideas generated by young engineering students. The main objective of the workshop is to develop a modern workshop for the training of students/technical staff of university and regional level and to strengthen its facilities to meet the challenges of future research and consultancy. It is run by a chairman and workshop superintendent and 136 sanctioned staff. The main activities of the workshop involve academics (training of UG and PG students and staff and Job work), consultancy, R & D, Gymkhana – co-curricular activities and organizing Seminars & Conferences of national importance.

24.0 PUBLICATIONS AND OUTREACH ACTIVITIES

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2. B.R. Vishvakarma, R. U. Khan, and M. K. Meshram, Introduction to Microwave Measurements, AXIOE Books, India, Aug 2012. ISBN: 978-93-81124-44-4.
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10. D.Mohan, "National seminar on plains of the river Ganga: Problems and Prospects", Department of Geography, Faculty of Science, Banaras Hindu University, Varanasi, Jan. 28-30, 2013.
11. D. Mohan, "International BHU alumni meet & seminar on Mahamana's vision of nation building", Banaras Hindu University, Varanasi, 23-24 Dec. 2012.
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190. Pallab Bhattacharya, Anand Kr. Pandey, Sudip Paul, Ranjana Patnaik, "Cyclooxygenase-2 as a biomarker in cerebral ischemia: A possible neuroprotective role of Piroxicam", National conference on Biomarkers for disease-Prospects and challenges, JNIAS Hydrabad, 24-25 Feb 2012.
191. Anand Kr. Pandey, Pallab Bhattacharya, Sudip Paul, Ranjana Patnaik, "Attenuation of oxidative stress and matrix metalloproteinase in ischemic stroke by rhamnetin: the evaluation of biomarker for antioxidant therapy in stroke", National conference on Biomarkers for disease-Prospects and challenges, JNIAS Hydrabad, 24-25 Feb 2012.

School of Material Science and Technology

192. Jyoti Sharma, Rishikesh Pandey, and Akhilesh Kumar Singh, "Synthesis and structural characterization of highly tetragonal (1-x) $Bi(Zn_{1/2}Ti_{1/2})O_{3-x}PbTiO_3$ piezoceramics", AIP Conf. Proc. **1512**, pp. 92-93, 2013.
193. V.P. Singh, R.K. Singh, D. Das, and Chandana Rath, "Detection of Defects in ZnO Nanoparticles by Spectroscopic Measurements", AIP conference Proceeding, **1461**, p. 205, 2012.p

24.4 INVITED TALKS/ LECTURES DELIVERED

Ceramic Engineering

1. Saumen Mandal, "Inkjet Printed Flexible Electronics afiliation of Materials Science and Engineering", Indian Institute of Technology Kanpur, November 10, 2012.
2. Ajoy Kumar Saha, "Quantum Dots for Fluorescent and Magnetic Bimodal Imaging afiliation of Materials Science and Engineering", University of Florida, USA, September 20, 2012.

Applied Chemistry

1. I.Sinha, Session Chair for session on "Polymer Nanocomposites", at Third International Multicomponent Polymer Conference, Kottayam, Kerala, India, 23-25 March 2012.
2. I.Sinha, Invited Lecture on "Synthesis and characterization of silver nanoparticle sols in presence of different polymeric stabilizers" at Third International Multicomponent Polymer Conference, Kottayam, Kerala, India, 23-25 March 2012.
3. M. A. Quraishi, National Corrosion conference lecture, Kolkata, 16th, Aug 2012.

Computer Engineering

1. K.K.Shukla, Invited Lecture "Creative Teaching using Internet", Refresher course for In service teachers on Computer use in higher education, KVP, Varanasi, 27 Jan 2012.
2. K.K.Shukla, Invited Lecture" Information Security – Need for practical formalism" National Conference on Mathematical Modeling and Computer Simulation (MMCS – 2012), BHU, March 23-25, 2012.
3. K.K.Shukla, Invited Lecture "Creative Teaching using Internet", Refresher course for In service teachers on Computer use in higher education", KVP, Varanasi, 27 Jan 2012.
4. K.K.Shukla, Invited Lecture" Information Security – Need for practical formalism" National Conf. on Mathematical Modeling and Computer Simulation (MMCS – 2012), BHU, March 23-25, 2012.
5. R.B.Mishra, "Data Mining methods for EEG/EMG based diseases", National Seminar on Data Mining in Health Care, June 1-2, 2013.
6. R.B.Mishra. "AI methods in Database Systems" , National Conference on Recent Advances Database Systems & Applications (NCRADSA-2013), sponsored by TEQIP, May 04-05, 2013.
7. R.B.Mishra, "Exert Systems & AI" Govt. Engg. College Ghasidas Central University, 2012.
8. R.B.Mishra, "AI & Applications" Lovely Profeessional University, Phagwara, 2012.
9. A.K.Agrawal, Two keynote addresses at National Conference are at Jaipur, other at Bhopal.

Electrical Engineering

1. R.K.Pandey, Invited as Member of Indian Delegation by Ministry of Science and

Technology to deliberate on "Smart Energy Grids and Energy Storage Research Challenges" in RCUK-DST Interaction Meeting, Bath, UK, June 2012.

2. S. P. Singh and Prof. R. Mahanty, Congestion Management under Deregulation, National Conference on "Recent Trends in Energy Systems (NCRTES-2013)" Department of Electrical Engineering, KNIT, Sultanpur, April 05-06, 2013.
3. R.K.Pandey, Invited IEEE Lecture on "Power System Operation Improvements using HVDC and FACTS", IEEE PES/IAS Chapter, NIT Allahabad, Feb 17, 2012.
4. R.K.Pandey, Invited Talk on, "System Operation: Complexities and Challenges", SIET, Allahabad, March 18, 2012.
5. R.K.Pandey, Key Note Speaker on "Power System Operational Challenges in Open Access Regime", National Conference on Emerging Vistas of Technology in 21st Century, Gujarat Technological University, Ahmedabad, April 14-15, 2012.
6. R.K.Pandey, Interaction Meeting on "Power Oscillations Damping" at Western Regional Load Despatch Centre (WRLDC), Mumbai, Aug. 21, 2012.
7. R.K. Pandey, Invited Talk on "Grid Security-An Overview", Central Board of Irrigation & Power (CBIP), New Delhi, Jan. 30, 2013.
8. R.K. Pandey, Invited as Expert Member by British High Commission to deliberate on "Smart Power Solutions" at Taj Hotel, New Delhi, Jan. 2013.
9. R.K.Pandey, Professional Recognition as Member India Smart Grid Forum (an initiative of Ministry of Power, GoI): (1) Working Group 1- Advanced Transmission (2) Working Group 6- Policy and Regulations (including tariffs, finance etc).
10. R.K.Pandey, Interaction Meeting on "Tuning of TCSC and HVDC Performance Evaluation" at Western Regional Load Despatch Centre (WRLDC), Mumbai, Feb. 14, 2013.
11. R.K. Pandey, Invited Expert Member at Maharashtra Smart Grid Coordination Meeting at Maharashtra Electricity Regulatory Commission (MERC), Feb 15, 2013.
12. R.K. Pandey, Special Invitee and Invited Expert Talk on " Operational Constraints of Large Interconnected Grid-Security with HVDC and FACTS", Workshop on Grid Disturbance including Protection and Control Measures, Central Board of Irrigation and Power, New Delhi, Feb 19-20, 2013.
13. R.K. Pandey, Guest of Honour and Invited Expert Talk on "Smart Grid, Smart Power Generation and Grid Interface-Advance Power Technology", Workshop on Smart Power Generation and Renewable Energy Systems (SPGRES-2013), AUCE, Andhra University, March 22-23, 2013.
14. R.K. Pandey, Invited Expert Talk on "Smart Grid", Central Board of Irrigation & Power (CBIP), New Delhi, May 7, 2013.
15. R.K. Pandey, Invited Expert for Workshop on Course Curriculum Development, MNNIT Allahabad, May 17, 2013.

Electronics Engineering

1. "Non-Classical CMOS Technology: An Overview" delivered at the "Student's Conference on Engineering and Systems (SCES 2013)", MNNIT, Allahabad, April 12-14, 2013.
2. "A Journey from BJT to Multi-Gate CMOS Technology", Dept. of Electronics & Communication Engineering, NIT Agartala, Tripura, January 11, 2013.
3. "Advances in MOSFET Technology: An Overview", Student's Conference on Engineering and Systems (SCES 2012), MNNIT, Allahabad, March 16-18, 2012.
4. "Modeling and Simulation of Some Advanced Non-Classical CMOS Devices", nanoMASTD-12, Institute of Radio Physics & Electronics, Kolkata, July 07, 2012.

Applied Mathematics

1. K.N.Rai, Invited talk on "Mathematical Modeling", DST-CIMS BHU, Varanasi, March 2013.
2. K.N.Rai, Invited talk on "Mathematical Modeling", Chitrakoot U.P., Dec. 2012.
3. K.N.Rai, Invited talk on "Wavelet and its Application", DST-CIMS BHU, Varanasi, Jan. 2013.
4. T Som, Invited talk on "Fixed point results for semi compatible mappings under t-weak reciprocal continuity" at "The International Conference on the Theory, Methods and Applications of Nonlinear Equations" held at the Department of Mathematics, Texas A & M University, Kingsville (USA) during Dec 17-21, 2012.
5. T. Som, Invited talk on "Data clustering: An overview from soft computing perspective" at the National Conference on Fuzzy Soft Computing Mathematical Analysis-2012 held at Department of Mathematics, Pondicherry University, Pondicherry, during Oct 4-5, 2012.
6. T. Som, Invited talk on "Fixed points for r-weakly commuting maps and weakly compatible maps on metric spaces" at the National Conference on "Advances in Mathematical Sciences" at Department of Mathematics, MNNIT, Allahabad during October 05-07, 2012.
7. Shri Ram delivered three invited talks.
8. L.P. Singh, Invited talk in 28th Annual Conference of Mathematical Society BHU at BIT Patna Dec. 03-04, 2012.
9. Santwana Mukhopadhyay, Invited talk on "Dual phase-lag heat conduction and thermoelasticity with dual phase-lags" on 78th Annual Conference of the Indian Mathematical Society, January 22-25, 2013.
10. S.K. Upadhyay, Invited talk in UGC sponsored National Seminar of Teaching in Applications in other subject, R.P.S, College, BRA Bihar University, Muzaffarpur, April 14-15, 2012.
11. S.K. Upadhyay, Invited talk on "Properties of Watson Wavelet Transform in the international conference of Special function and Their Applications", SVNIT

(Surat), India, June27-29, 2012.

12. S.K. Upadhyay, Invited talk on "Introduction to Pseudo- differential operator s in the Training program of Integral Transform, Wavelets and Distribution Theory", DST (CIMS), July 12-21, 2012.
13. S.K. Upadhyay, Invited talk on "Watson Wavelet Transform in the Symposia of Wavelets and their Applications", 78th Annual Conference of Indian Mathematical Society, January 22-25, 2013.
14. S. Das, Invited Talk in conference on Mathematical Modelling and Computer simulation MMCS-2012 held in the Department of Applied Mathematics, IT, BHU, Varanasi, March 23-25, 2012.
15. S. Das, Delivered two lectures in the areas of Fractional Calculus and Fracture Mechanics in University of Malaya, Malaysia, June 15- July 14, 2012.
16. S. Das, Delivered two lectures in Tokyo University of Science, Japan, June 8 - 17, 2013.

Mechanical Engineering

1. R. Tyagi, "Materials Tribology: History, Advancements and Future Issues" in International Conference on Advancements and Futuristic Issues in Mechanical and Materials engineering held at Punjab Tec. University (PTU) Jullundhar, 5-7 Oct, 2012.
2. R. Tyagi, "Wear of Dual Phase Steels and Aluminum based composites" in a Short Term Course on "Recent Development in Mechanical Engineering held at Dept. of Mechanical Engineering, PEC University of Technology, Chandigarh, 11-22 June, 2012.
3. R. Tyagi, Invited talk on "Fracture mechanisms in Dual Phase Steels" as an expert member from Indian Side at INDO-UK Seminar held International Centre, Panjim, Goa, India, Feb 20-22, 2013.
4. R. Tyagi, Delivered expert lectures on "Friction and Wear of Materials and Composites" in Short term Course entitled "Recent Advances in Tribology and Materials for Tribological Applications" held at NERIST, Nirjuli, Itanagar (AP) India, 10th – 14th April, 2013.
5. S.K. Shukla, Invited Speaker and Conference Chair on topic "Green Packaging" at First Indo- US International Conference on Polymers for Packaging Applications (ICPPA 2012). M.G.University, Kottayam, Kerala, India, 31st March – 2nd April 2012.
6. S.K. Shukla, Invited Speaker on "Water Distillation Using Solar Energy System Using Lauric Acid as Storage Medium" at International Conference on Re-Newable Energy. Eternal University, Baru Sahib, Himachal Pradesh, India, 5th – 6th May 2012.
7. S.K. Shukla, Invited Speaker in International Conference on Aerospace, Automotive and Mechanical Engineering (IAAME-2012), held at Pattaya , Thailand, pp. 80-92, December 8-9, 2012.
8. S.P. Tewari, Selection of Best Welding Techniques, weldability of Ferrous and Nonferrous Metals, Diesel Locomotive Works , Varanasi, 2012.

9. S.P. Tewari, Latest Welding and Cutting Techniques used in Indian Railways and Other industries, Diesel Locomotive Works , Varanasi, 2012.
10. S. Kumar, Micro-Nano Technology in Service of Rural India, Department of Mechanical Engineering, Walchand College of Engineering, Sangli, Jan. 5, 2013.
11. S. Kumar, Workshop on Advances in Energy Engineering & Technology, at Department of Mechanical Engineering IIT (BHU) Varanasi. June 28-30, 2013.
12. S.Kumar, IE (I) Local Centre, Varanasi and IIFT, Bhadohi, 'Various Aspects of Solar Energy Utilization Including Recent Applications' (2012).
13. V.K. Srivastava, Presented invited talk, Institute of Polymer and Composites, TUHH, Harburg-Hamburg, Germany, 7th June, 2012.
14. V.K. Srivastava, Invited talk, MPA, University of Stuttgart, Stuttgart, Germany, 11th June, 2012.
15. V.K. Srivastava, Visited and discussed research for future, Institute of Ceramic Engineering, University of Bayreuth, Bayreuth, Germany, 12th June, 2012.
16. V.K. Srivastava, Visiting Professor, under DFG-INSA scheme, Institute Mechanics, Otto-von-Guericke University, Magdeburg, Germany, 14th May to 14th June 2012.
17. V.K. Srivastava, Visiting Professor, Department of Polymers & Composites Technology and Mechanical Engineering, Ecole Des Mines De Douai, Douai, France, 14th June to 13th July 2012.
18. V.K. Srivastava, Presented invited talk and visited Frontier Materials Research Institute, Deakin University, Geelong, Melbourne, Australia, 20-6th May, 2013.
19. V.K. Srivastava, Visited Faculty of Engineering and Industrial Sciences, Swinburne University of Technology, Hawthorn, Victoria, Australia, 26th May to 15th June 2013.
20. V.K. Srivastava, Presented invited talk, Department of Mechanical and Aerospace Engineering, Monash University, Layton, Australia, 12th June 2013.
21. R.K. Gautam, National Workshop on "Recent Advances in Materials Science" (NWRAMS-13), Department of Physics, University of Lucknow, Lucknow-226007 (India), March 15-16, 2013.
22. R.K. Gautam, Indo – UK Scientific Seminar on "Damage and Fracture in Advanced Composite", International Centre, Goa, February, 20-22, 2013.
23. R.K. Gautam, National seminar on 'Recent Trends in Nanotechnology and Materials Characterization "RTNMC-2012', Prasad Institute of Management and Technology "PIMT", Kanpur Road, Banthara, Lucknow-227101, January 12-13, 2012.
24. R. Kumar, Invited talks on the topic "An Overview of DoE" in College of Engineering Science & Technology, Mohanlal Ganj, Lucknow, 12th March 2013.
25. R. Kumar, Invited talks on the topic "Lubricated Wear Measurement" in College of Engineering Science & Technology, Mohanlal Ganj, Lucknow, 12th March 2013.

Metallurgical Engineering

1. V. Singh, Delivered keynote lecture on Fatigue resistance of structural alloys, in 3rd International conference on Thermo Mechanical Simulation and Processing of Steel, Organized by RDCIS, SAIL Ranchi, Dec 12-14, 2012.
2. V. Singh, Delivered a talk on Enhancement of fatigue resistance of structural steel, in Summer school on development & characterization of advanced materials (under UGC Networking Programme), Department of Physics, Banaras Hindu University, Feb 22 - March 14 2013.
3. S.N. Ojha, Delivered an invited lecture and Chaired a technical session in the International Conference on Solidification Science and Processing, (ICSSP-12) Bhubaneswar, Nov. 19-22, 2012.
4. S.N. Ojha, Delivered Invited Lecture and chaired a technical session in 3rd International conference on "Simulation of thermo-mechanical processing (Simpro-12), Ranchi, Dec 12-14, 2012.
5. G. V. S. Sastry, "Preparation of Ayurvedic Bhasmas: The Metallurgical Aspects", Invited talk at National Symposium on "Ayurvedic Rasayana and Nanomedicine", molecular Biology Unit, Inst. Of Medical Sciences, BHU, Feb. 7, 2013.
6. G. V. S. Sastry, "Electron Microscopy In Materials Characterisation- New Developments", Inaugural Address at Summer School on 'Development and Characterisation of Advanced Materials (SSDCAM-2013)', UGC Networking Programme, Dept. of Physics, BHU, Feb. 22, 2013.
7. R. Manna, Bulk ultra high strength metals by severe plastic deformation, DMRL Hyderabad 26th Dec, 2012.
8. R. Manna, Bulk nanostructured superbainite for armour application, DMRL Hyderabad 27th Dec, 2012.
9. R. Manna, Mitigation of residual stress in submarine hulls, DMRL Hyderabad, 27th Dec, 2012.
10. R. Manna, Martensitic Transformation, JNTU, Hyderabad, Dec, 2012.
11. R. Manna, Bainitic Transformation, JNTU, Hyderabad, Dec, 2012.
12. R. Manna, Microstructural Development by Equal Channel Angular Pressing of aluminum, aluminum alloys and steels, National Seminar on Microstructure and Difraction, 2013, IIT-Bobay, Mumbai, 19-20th April, 2013.

Pharmaceutics

1. Sanjay Singh, delivered an invited talk on On "Nanotechnology: A solution for bioavailability problems" in AICTE sponsored QIP at BIT, Mesra, Ranchi.

Applied Physics

1. B. N. Dwivedi, Invited Lecture on "That Physics Laboratory in the Sky" under the Department of Science and Technology, Govt. of India, innovative scheme called INSPIRE, IIT, Delhi, May 21, 2012.

2. B. N. Dwivedi, Guest Lecture on "How does the Sun shine" at the Central University of Mizoram, Aizawl, June 4, 2012.
3. B. N. Dwivedi, Invited Lectures on (i) "Physics of the Sunshine"; (ii) "Electromagnetic Waves"; (iii) "The Physics Laboratory in the Sky" under the Department of Science and Technology, Govt. of India, innovative scheme called INSPIRE, Central University of Mizoram, Aizawl, November 6-10, 2012.
4. B. N. Dwivedi, Invited Lecture on "Solar Plasma Line Diagnostics and Coronal Seismology" in the Indo-UK Seminar, Indian Institute of Astrophysics, Bangalore, January 21-23, 2013.
5. B. N. Dwivedi, "Aditya Science Meeting", IIA, Bangalore, 19-20 May 2013.
6. B. N. Dwivedi, Invitation by European Space Agency to attend the IAU Symposium 300 on "Nature of Prominences and their Role in Space Weather", Paris and present a paper on "Estimation of Plasma Properties and Magnetic Field in a Prominence-like Structure as Observed by AIA/ SDO", 10-14 June 2013.
7. Prabhakar Singh, Invited talk entitled "How to learn Ion Dynamics from Scaling Behaviour of amorphous and Crystalline Materials" in conference on advances in laser and spectroscopy, ISM, Dhanbad, November 1-3, 2012.
8. Prabhakar Singh, Participated and delivered an Invited talk entitled "Dynamics of ions in fragile glass melts probed by conductivity spectroscopy" at National Workshop on Recent Advances in Materials Science (NWRAMS)', Lucknow University, 15-16 March 2013.
9. Prabhakar Singh, Delivered a lecture in Summer School on development and Characterization of Advanced Materials at Department of Physics, BHU, Varanasi, March 5, 2013.
10. S. Chatterjee, Delivered lecture on "One-dimensional Heisenberg spin ½-chain system", Workshop on Advanced Functional Materials, Dept. of Physics, BHU, Varanasi, 19-24 March, 2012.
11. S. Chatterjee, Invited talk on "The Variation of Magnetic Behavior with Dimension of Spin-systems", UGC-Academic Staff College, BHU, Feb. 2012.
12. S.K. Singh, Invited lecture delivered in the international workshop "Indo-US Workshop on Spectroscopy: Application to National Security" organised by Dept. of Physics, BHU, Jan 18-20, 2013.

School of Bio-Medical Engineering

1. Nira Misra "Modification of PVC", Department of Chemistry, Mahila Maha Vidhyalay, Banaras Hindu University, Nov 2012.p