

ABOUT NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR



National Institute of Technology Raipur (Formerly Government Engineering College Raipur), situated in the capital of state of Chhattisgarh, has proven to be 'avant-grade' in the field of science and technology over past six decades in this region. With sweet memory of foundation ceremony by our president Hon'ble Dr. Rajendra Prasad on 14th September 1956, the Institute started with two departments namely Metallurgical and Mining Engineering. Later the inauguration of the Institute building was done by Prime Minister Hon'ble Pt. Jawahar Lal Nehru on 14th March 1963. From 1st December 2005, the Institute has become the National Institute of Technology, an Institute of National Importance. Located centrally, with good connectivity from all parts of the state and country, NIT Raipur has all the key ingredients to promote and contribute towards the socio-economic growth of the central part of India. Of the major strengths, the one that needs mention foremost is the availability of resources in form of technically strong and qualified faculty along with state of art infrastructure in abundance. The Institute is committed to the challenging task of development of technical education by preparing seasoned graduates in highly sophisticated field of engineering and technology. The Institute is contributing to the technological, industrial and economic development of the region and the country and has been recognized for its role in engineering education, generation and dissemination of useful and relevant technologies in the service of the society.

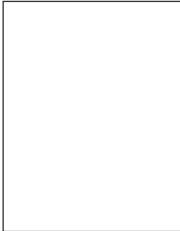
VISION

To be a leader in technical and management education in India and to establish a unique identity for the development of high quality human and knowledge resource in diverse area of technology and management.

MISSION

To re-engineer the engineering education and to mold young students into rational thinking engineers who are motivated by a passion for professional excellence driven by human values and proactively engaged in betterment of society.

Director’s Message



Post-Independence, when Government attention was directed towards giving priority to overall development of technical education, our journey began on 14th September 1956, with the first President of independent India honorable Dr. Rajendra Prasad laying the Foundation stone of the college building. Since then, in view of its great past with numerous record of excellence and several strengths, the Institute has been declared as National Institute of Technology (NIT) Raipur by Government of India on 1st Dec. 2005. NIT Raipur, an Institute of national importance, is presently offering 12 undergraduate, 10 post graduate and Ph.D. programme in all disciplines.

Mission of NIT Raipur is to mold young students into rational thinking engineers who are motivated by a passion for professional excellence driven by human values and proactively engaged in betterment of society. Based on this, we seek to contribute widely to nation through the nurturing of characters who can utilize the Institute’s extensive knowledge base to master advanced technologies and skills. The Institute is committed to the service of nation by preparing seasoned graduates in highly sophisticated field of engineering and technology. For about last six decades we have been doing it with sincerity and commitment at NIT Raipur. In doing so, one appreciates the interaction of the Industry over these years as it has always served as a valuable guidance in achieving the set targets for the Institute.

Institute-Industry Interaction is an essential prerequisite to train, develop and release the right kind of technical manpower necessary to sustain and promote industrial and economic growth. Collaborative partnerships between industry and academia create new value and contribute to the creation of a more prosperous nation. The partnership forms an important activity with the objective of developing close relations by means of interaction programs, interacting in domains of research for conducting collaborations, offering research and consultancy to the industries, jointly organizing seminars, symposiums and workshops, training of industrial personnel on-site, on-campus or both, inviting Industry experts for lectures and interactions with the students and jointly developing collaborative infrastructure gradually.

Industry is always at the core of our actions and policies and our aim is to offer the best possible service. In this respect, this brochure is enriched with the latest information and most useful material about our Institute. The Industry Institute Interaction cell for the Institute is responsible for sustaining and growing the collaboration with industry, the promotion of technology and innovation and further strengthen the linkages with the industry and research organizations. Drawing on its expertise, the Institute will dedicate its efforts to encouraging strong and durable partnerships between industry and academia.

We look forward to your continued support and guidance. Your feedback and opinion would be of considerable value to us.

Dr. A M Rawani
 Director
 National Institute of Technology Raipur.

Industry Institute Interaction Cell

The history of collaboration between the Institute and Industry has been a long and fruitful one and has taken different forms at different times. There has been a wide variety of interactions fruitfully conducted among industries and NIT Raipur that involves consultancies, testing, internships, curriculum development, study tours, trainings, joint collaborations and last but never the least, placement. However, the efforts could be mor e fruitful and yield more collaborations with the existence of an Industry-Institute Interaction Cell as this could make the collaborations more streamlined and effective. With this concept, an Interaction cell has been set up in NIT Raipur that is expected to be central to all collaborations and interactions with Industry. Under the orders of Honorable Director, an institute-wide committee has been formed to look into the matters of Industry-Institute Interaction Cell. This is supported by the constitution of departmental III cells.

The Institute is looking forward to expand its collaborations with the Industry and Research Organizations in every possible way. The Institute believes that instead of operating in separate domains, Industry and Institute must now suffice to the needs of each other. Coming together to address firstly the needs of industry in terms of consultancies, research projects, testing and certification services, skill development programme for employees and secondly the expectations of institute in terms of expert talks by practicing engineers and managers, academic tie-ups, UG and PG internships, industrial visits, incubation setups and joint collaborations in research and conducting workshops and seminars for addressing Industry related problems could establish an everlasting win-win partnerships.

OBJECTIVES OF INDUSTRY-INSTITUTE INTERACTION CELL

- To cultivate the strong links with industry.
- To explore and identify common avenues of interaction with industry.
- To synchronize the quality of education by continuous advancement of educational programmes to meet the trend of industry and produce employable “Industry-ready students.”
- To promote research suited to industry needs, consultancy and other industry -related activities and catalyze the growth of institute-industry collaboration.
- To integrate industrial training and feedback for the benefit of the students and offer facilities to practicing engineers and professionals for their continuous development.

The institutional committee for Industry-Institute Interaction constitutes of:

Institute Dr. Manoj Kumar Chopkar, Chairman Head, Department of Metallurgical Engineering, +91 8109 939981, mchopkar.met@nitrr.ac.in	Industry Mr. Daya Sharma, Special Invitee DGM, HR, NTPC Raipur +91 9425 222158, dayasharma@ntpc.co.in
Dr. Shubhankar Bhowmick, Member Asst. Professor, Department of Mechanical Engineering, +91 9575 955040, sbhowmick.mech@nitrr.ac.in	Mr. Arvind Baghel, Special Invitee Associate Vice President, JSPL, Raigarh +91 9827 477150, arvind0106bhagat@gmai.com
Dr. Narendra Londhe, Member Asst. Professor, Department of Electrical Engineering, +91 9754 943245, nlondhe.ele@nitrr.ac.in	Ms Nidhi Pandey Badmera, Special Invitee Senior Technical Executive, SEML, Raipur +91 9669 510008, nidhi.o.i@gmail.com

DEPARTMENTS, THEIR COMPETENCIES AND ACHIEVEMENTS

DEPARTMENT OF APPLIED GEOLOGY

Vision :

To promote the sustainable development and conservation of mineral and natural resources.

Mission :

To promote Human Resource Development (HRD) in achieving goals of sustainable development and conservation of mineral and natural resources.

About the Department :

Established in the year 1961, Department of Applied Geology has been successfully functioning for over six decades, preparing the post-graduates for the post of Geologist / Earth Scientists to a number of Central, State, Public and Private Organizations. The fact remains that the alumni of this Department are occupying key positions in leading organizations of the country. The Department has been successfully carrying out testing and consultancy projects for over three decades and now expects to play a major role in the development of mineral rich State of Chhattisgarh as far as Geological, Geophysical, Mining, Mineral and Natural Resource Management are concerned. The department offers Post Graduate Program, M. Tech. (Applied Geology) with Intake of 15 and Ph. D. Program in various disciplines of Geology.

Regular Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr. P. Diwan	Head, Associate Professor	Structural Geology, Economic Geology, Remote Sensing & GIS
2.	Dr. N. Vishwakarma	Assistant Professor	Mineralogy, Petrology & Geochemistry
3.	Dr. D. C. Jhariya	Assistant Professor	Hydrogeology, Environmental Geology, Remote Sensing & GIS
4.	Dr. H. Govil	Assistant Professor	Remote sensing, GIS, Mineral exploration, Engineering geology & Environmental Geology

Apart from the above, the department also occupies the services of Visiting Faculties. The Department hosts latest state of infrastructure and Lab Facilities namely: Structural Geology, Hydrogeology Lab, Geological Museum, Remote Sensing and GIS Lab.

Workshops and Training Organized :

No.	Title
1.	GIAN Sponsored course on “Advanced Hyperspectral Remote Sensing Techniques for Mineral Exploration” from 01-07-2016 to 08-07-2016 under MHRD.
2.	Short term Training Programme on “Recent Advancement in Groundwater Development and Management” from 08-08-2016 to 12-08-2016 under TEQIP -II.
3.	17 th Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “Geoweb Services and Geoportal Applications” from 28 June 2016 – 15 July 2016.
4.	18 th Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “Basics of Remote Sensing, Geographical Information System & Global Navigation Satellite System” from August 22 – November 22, 2016.
5.	20 th Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “Microwave Radar Remote Sensing and its Applications” from 10. 04.2017 to 28.04.2017.
6.	22 nd Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “UAV Remote Sensing and Its Applications” from 10. 03.07.2017 - 07.07.2017.

Sponsored Research Projects in last three years :

No.	Title	Funding Agency
1.	Identification of Potential Groundwater Artificial Recharge Zone for Rainwater Harvesting in Raipur Municipal Corporation and Naya Raipur Area, Chhattisgarh	CGCOST
2.	Identification, Mapping and Spectral Library Generation for Hydrothermally Altered, Weathered and Clay Minerals.	ISRO
3.	Utilization of Dual Frequency Polarimetric SAR Data for Scattering Based Sub-Surface Geological and Linear Feature Characterization.	ISRO
4.	Lithological/Mineralogical Mapping of Different Minerals Through Different Indices/Rationing Techniques Using Remote Sensing Data.	NIT, Raipur

Consultancy Projects in last three years :

No.	Title	Funding Agency
1.	Preparation of Drainage Pattern of Ganga River Basin	Chhattisgarh Environment Conservation Board
2.	Water Audit and Ground Water Harvesting System S.V. Airport, Raipur	AAI, Swami Vivekanand Airport, Raipur Chhattisgarh
3.	Petrographic study of Rock samples and Ores, Bailadila Iron Ore Project	JSPL
4.	Petrographic study of core samples	L & T Ltd
5.	Petrographic Study of rock samples	HIRA, Godawari Power & Ispat Ltd
6.	Polishing Test on rock samples	Junwani Khurd -Shree Granite
7.	Petrographic Study of rock samples	Mahendra Sponge & Power Ltd.
8.	Petrographic Study of rock samples	Kangaroo Minerals Ltd. Tanzania
9.	Petrographic Study of rock sample	M.K.S. Minerals & Marbles

Success Stories :

The post graduate scholars of the Department are being selected in GSI through UPSC and PSC examinations and qualifying CSIR NET exams.

Strength and Competencies :

Strength: The department has the required lab infrastructure and expert faculties in the following fields.

- Field Geology
- Petrology and Mineralogy
- Geophysical Survey for Groundwater Investigation
- Ground water Development and Management
- Application of Remote Sensing and GIS

Competencies: The department is competent in the following areas of geology for providing consultancy and testing:

- Hydrogeological Investigation
- Soil Resistivity Survey
- Comprehensive Ground Water Assessment and Management Studies
- GIS based all type of solution, GPS based survey and Remote Sensing studies
- Testing of Rocks and Minerals (Microscopic and Visual Examinations)

Contact Person for collaboration :

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DEPARTMENT OF ARCHITECTURE**Vision :**

Educating the coming generations in the art and science of making buildings, by producing architects who would be able to consciously design spaces and built forms that would not only solve the problems of built environments today but also would shape it for the future generations.

Mission :

Department of Architecture, NIT Raipur aims to excel in the field of architecture, make the students able to develop professionally. This department provides a backdrop of glorious intellectual and cultural life of the region making the Institute one of the most preferred destination for young students aspiring to emerge as successful architects. Highly qualified faculty members and best infrastructure adds value to the entire education process so that students excel in architectural offices, as free lancers or as practicing architects.

About the Department :

Incepted in the year 1984, Department of Architecture, as a part of the then Government Engineering College Raipur, was the first to impart Architectural education in Chhattisgarh Region. B.Arch. degree started with a modest student strength of 20, the intake afterwards enhanced to 40 in the year 2001. As per OBC reservation policy of GOI, the intake is increased to 62 in the year 2009.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr. A. Bandyopadhyay	Professor and Head	History of Architecture, Town Planning, Space Syntax Analysis, Architectural Conservation
2.	Prof. D. Sanyal	Associate Professor	Intelligent Super-tall Buildings, Energy Efficient Housing, Industrialized Mass Housing, Indoor Air Quality
3.	Prof. S. Sthapak	Associate Professor	Climatology, Environmental Planning, Vernacular Architecture
4.	Prof. H. Poptani	Assistant Professor	Urban Design, Sustainable Settlements, Climatology, Shell Structure, Energy Efficient Architecture, Solar Passive Architecture, Environmental Planning & Management

The department is also supported by 8 visiting faculties, 1 teaching assistant and 6 practicing Architects as part time faculties. The Department hosts latest state of infrastructure and Lab Facilities namely: Building Material Laboratory, Audio- Visual & E Lab, Air conditioning Lab etc.

Workshops and Training Organized :

No.	Title	Coordinated by
1.	An International Workshop on "Transformable Architecture" was organized in the department under the MHRD scheme, GIAN (Global Initiative on Global Network) initiative, in September 2016.	Dr. A. Bandyopadhyay
2.	Plumbing consultant from Mumbai had given a presentation.	Deepak Dahiya
3.	ECBC Workshop (23 rd and 24 th August 2017)	Jaspreet Gandhi and Ashu Gupta
4.	Barrier Free Design- (25 th October 2017)	Ar. Kavita Murugkar
5.	'Implication of Art in Architecture'- 5-day Workshop on clay modelling (5 th to 8 th December 2017)	Dr. A. Bandyopadhyay Prof. S. Sthapak

Consultancy Projects in last three years :

No.	Title	Funding Agency
1.	Optimal use of AAI land & densification of residential area at S. V. Airport, Raipur. Architectural Drawing (With Changes in The Existing Drawing) For Introduction of	S. V. Airport, Raipur.
2.	New Roofing System with Allied Detail of The Construction of The Auditorium Building at AIIMS Raipur Including Elevation Design).	AIIMS Raipur

Success Stories :

- A number of students have made it to eminent international institutes for higher education like IITs, SPAs etc.
- Students have won the title of “MOST INNOVATIVE DESIGN” for TRANSPERENCE.
- The students have secured top positions in various trophies in Annual as well as Zonal NASA competitions. The students have been continually bringing laurels to the department by these competitions.
- Students have published their papers on Urban Design in Journals Pub.
- The faculty have also been invited in various institutes/NRDA as expert jury members and for invited lectures, key note speeches.

Strength and Competencies :

The department faculty are an assimilation of highly qualified academicians from various states of India. Students are also from various backgrounds. This adds to the cultural assimilation and therefore a strong learning and sharing process. Therefore, valuable input and output is achieved.

Contact Person for collaboration :

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DEPARTMENT OF BIOMEDICAL ENGINEERING

Vision :

To provide society with world-class competitive professional in BME by making the department the best through its faculty and graduates, which is a driving force in creating engineering knowledge and novel Biomedical Technology that improves the human condition through advancement of health care and Biomedical Sciences, among the top most (top-5) in India.

Mission :

The primary mission of the BME department is to educate students to understand the human body as an integrated system through quantitative engineering analysis and to use that understanding to design better therapeutic strategies, devices, and diagnostics. A mission of nearly equal importance is to serve society by conducting research that develops quantitative linkages across scales in the human body and uses that development to build new tools to improve human health. It also includes the following points:

- *Institute-Industries collaborative activities on real life problem-solution approach*
- *Serve our wider constituencies by offering our expertise to other health-related professionals, industries, state and local communities,*
- *Building world-class infrastructure for cutting edge technology research in healthcare science & technology,*
- *Collaborative research with pioneers of BME societies across the globe.*
- *Build some specialized Centre of Excellence (CoE) for conducting research on future healthcare sciences and technologies*

About the Department :

Biomedical Engineering (BME) Department started at 2003 and presently has intake of 62 students. Department plans the visit of students to healthcare incubation centres such as HTIC, IITM and T-Hub, Hyderabad to expose them towards the booming healthcare start-up culture in India.

Faculty Details :

No.	Name	Specialization/Area of Interest
1.	Dr. B. K. Singh	Instrumentation, Biomedical Signal Processing, Medical Imaging, Information Retrieval, Soft- computing, Pattern recognition.
2.	Mrs. N. S. Nirala	Diagnostic and Therapeutic Equipment, Signal and Systems, Biomedical Instrumentation
3.	Dr. A. Bit	Numerical and Experimental Biomechanics, CFD Application in Biomedical Engineering, Cognitive Neuroscience, Space Neuroscience, Tissue Engineering, Bio-microfluidics, Point-of-care device designing
4.	Dr. R. Periyasamy	Biomedical instrumentation, Biomechanics of Foot, Gait analysis, Non-invasive Diagnostic device, Diabetic Foot problem, Bio signal (EMG, PPG) Analysis, Computational analysis
5.	Dr. S. Gupta	Medical Imaging, Inverse Problems, Optical Tomography (DOT/PAT/U MOT), Monte Carlo Methods, Stochastic Filtering, Machine Learning, Artificial Intelligence

In addition to the above, the department also has 4 visiting faculties. The department has well equipped laboratories in the specialized areas. The laboratories are well equipped with all modern equipment to cater the need of UG students as well as research work namely EEG, EMG, ECG, PPG, EGG, Ophthalmoscope. Department is equipped with state-of-the-art equipment for industrial R&D and consultancy. Institute has functional ethical committee (IEC) for R&D works. The other departmental facilities that could be used for collaboration are 16 Channel Bio-signal Data Acquisition System, Neurological and Cognitive Testing Facilities, PCB Designing and Manufacturing Station, Foot Plantar Pressure Measurement System, 3D Printing Facility, Medical Signal and Image Analysis, Micro-Viscometer, Auto Semi Biochemistry Analyzer, Innovative Spiral Desiccation Facility, Innovative Micro-channel Manufacturing Facility and Hemo-compatibility Testing Facility for Implant Manufacturer.

Workshops and Training Organized :

No.	Title
1.	One-week self-sponsored STTP on Data Science and Research Publication, 15 th - 19 th Dec 2017.
2.	One-week self-sponsored STTP on Enhancing Employability Skills: Connecting Campus to Corporate.
3.	One-week self-sponsored STTP on Campus to Corporate.
4.	Three days STTP on Linear & Non-Linear signal processing and its application on Biomedical signals, under TEQIP-II.
5.	Three days National Workshop on Recent Advances in Biomedical Signal Processing: Application to rehabilitation and therapeutic solution (BSP: RTS 16), under TEQIP II.
6.	One-week International workshop on Thermo-Fluid Science for Bio-engineering & Energy Applications, under GIAN.
7.	Webinar on Shining Light on Human Health: Label-free Molecular Imaging by Prof. Rishikesh Pandey, University of Connecticut, under National Knowledge Network (NKN).
8.	Two days National Workshop on Statistical Data Analysis in Healthcare, under TEQIP II.
9.	One-day Industry Institute Interaction Expert lecture series, 25 th Mar under TEQIP-II.
10.	Three-day National workshop on Recent Trend in the field of Bio-mechanics: application to device development and Surgical Issues, under TEQIP-II and CGCOST.
11.	Three-day STTP on Materialize Mimics, 18 th under TEQIP-II.
12.	One-week Industry Institute Interaction Expert lecture series, 20 th -24 th Nov under TEQIP-II.
13.	One-week STTP on Recent Research Methodologies and Instrumentation techniques on chemical and biomedical engineering (RRMITCBE - 14), 15 th -19 th Dec under CEC NIT Raipur.
14.	One-week STTP on MATLAB Programming and Engineering Applications (MPEA-2013).

Research Projects in Last Three Years :

No.	Title	Funding Agency	Investigators
1.	Computer Added Analysis and Interpretation of Mammographic Image for early diagnosis of Breast cancer in Chhattisgarh	CGCOST	B. K. Singh
2.	Differential multispectral imaging system to detect foot sole risk areas in diabetic patients	DST - SERB ECR	R. Periyasamy
3.	Three-dimensional Monte-Carlo Simulations for Photoacoustic Tomography using Graphics Processing Units	DST - SERB ECR	S. Gupta
4.	On-chip development of three-dimensional clinical graded tissue graft for the treatment of diseased esophageal segment with integration of vascularisation, and enhanced neurogenesis	DST - SERB ECR	A. Bit
5.	Development of a non-invasive optical instrument based on skin reflectance technique for monitoring jaundice in neonates	DST/BDTD/EAG	R Periyasamy
6.	Computer aided technique for diseases diagnosis: A non invaisve approach of disease detection using IRIS image	CGCOST	B. K. Singh
7.	Development of Bioreactor for tissue engineering of decellularized scaffold of oesophagus of non-human primates	Russian Science Foundation	A. Bit
8.	Fabrication of hemo-filtration system using novel ceramic membrane to develop a portable artificial kidney	DST - SERB ECR	R. Periyasamy

Success Stories :

- Established an academic research collaboration with Pt. JNM Medical College, Raipur for research/ academic collaboration.
- Two students of fourth semester (Anish Sharma, and Abhishek Soni) won “Best Research Poster Award” at Instrumentation and Signal Processing Winter School 2015 organized by IIT Kharagpur.
- Established an academic research collaboration with AIIMS Raipur for research/ academic cooperation.
- Students from the department (Anish Sharma, Subham Maru, and Abhishek Soni) won prestigious awards at International Conference - InnoHEALTH 2016, New Delhi.
- Many meritorious students have excelled very well in getting opportunities to do internship in India as well as abroad in prestigious universities and companies like University of Nebraska Lincoln, USA (Khorana

Award), Georgetown University, Washington DC, USA (Khorana Award) , AIIMS Delhi, AIIMS Raipur, Indian Academy of Sciences, IIT Delhi, IIT BHU, IIT Hyderabad, IIT Madras, IIT Guwahati, IIT Kharagpur, IIT Kanpur etc.

Strength and Competencies :

The department is open to the following area of collaboration with industry such as Implant material fabrication and biological testing of the material, Cryogenic treatment of implant materials, Point-of care diagnostic chip designing, FEA and CFD modelling and analysis of different customized implants/ domains: mining/ structural/ aerospace, (Heart Rate Variability) HRV analysis for different conditions, Muscle fatigue analysis using EMG signal, Lung sound signal analysis for respiratory disease, Multispectral imaging device designing to detect risk in the lower extremities, Postural analysis using EMG to find the effect of Yoga posture, Peripheral arterial disease detection using PPG signal, Diabetic foot ulcer detection system design, Brain network / connectivity analysis using EEG signal, Fibre optic based device designing for Bilirubin level detection, Diagnostic device development for hypertension, Medical image analysis through state-of-the-art machine learning algorithms, Technical lectures by faculty on their expertise.

Contact Person for collaboration :

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DEPARTMENT OF BIOTECHNOLOGY ENGINEERING

Vision :

Our vision is to promote, support and facilitate the development of Biotechnology. Department of Biotechnology will train and prepare students to become competent Biotechnologists who will be able to apply principles of engineering and life sciences to solve a wide array of problems in a global society and in order to do so will develop new cost effective alternative technologies.

Mission :

To be a sound center for education and research in field of Biotechnology in India. To provide adequate and scientific education in Biotechnology to the under graduate students and prepare them for innovative, creative, and successful careers in a global society. We aim towards emphasizing on interdisciplinary research merging science and technology and to shape biotechnological developments under an ethical vision. We catalyze the formation of and participate in biotechnology based education programs campus-wide and with industries in order to address important national and global needs, and work in the direction of technology transfer and their commercialization. We want to excel in all aspects of academic activity and produce a high-quality technology based engineers and entrepreneur for the society.

About the Department :

Department of Biotechnology at NIT, Raipur was established in 2003 with the mission of defining and establishing a new discipline fusing life science with engineering. Since 2003 Department is running UG program with an intake of 60. In 2010 the PhD program was introduced in the Department. The goal of this discipline is to advance fundamental understanding of how biological systems operate and to develop effective biology-based technologies for applications across a wide spectrum of societal needs through research and education.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr L. S.B. Upadhayay	Assistant Professor and Head	Bio-nanotechnology, Bio-sensor development and biofuels
2.	Dr P. Gupta	Assistant Professor	Bio-energy and Biopolymer for biomaterial applications
3.	Dr A. Kumar	Assistant Professor	Drug development
4.	Dr S. Eswari	Assistant Professor	Modelling, Optimization & Control of Biochemical process
5.	Dr D. Vasanth	Assistant Professor	Bio process Engineering, Environmental Biotechnology,
6.	Dr A. Seenivasan	Assistant Professor	Biochemical Engineering, Applied Mycology, and Metabolic foot-printing

The Department hosts latest state of infrastructure and lab facilities namely: ELISA, PCR, UTM etc.

Workshops and Training Organized :

No.	Title
1.	One Week Short Term Training Program on “Bioprocess Development, Reactor Design and Analysis , 9-13 January 2017, TEQIP-II Sponsored.
2.	One-week STC with hands on haring programme on an In- silico drug Design and Discovery, form 4-8 April 2016, Self-sponsored.
3.	Bio entrepreneurship: From Ideas to services 14- 18 July 2014, TEQIP-II Sponsored.

Sponsored Research Projects in last three years :

No.	Title	Sponsoring Agency
1.	Mathematical and kinetic modeling f experimental microbial fuel cell)	DST-SERB
2.	Computer aided drug design of Peptide based drugs: lipopeptides.	CCOST
3.	<i>In vitro</i> screening of Chhattisgarh based herbs for countering diarrhea with special emphasis on cholera. (CCOST)	CCOST
4.	Fabrication of hemo-filtration system using novel ceramic membrane to develop a portable artificial kidney. (DST-SERB)	DST-SERB
5.	Vibratory Shear Enhanced Filtration Process for Separation of Nanoparticles Synthesized by Microorganism using Nanofiltration Flat Membranes. (DST-SERB)	DST-SERB
6.	Synthesis of Nano-Coated Ceramic Composite Membrane for Separation of Green Chemicals from Technical Lignin. (DST-SERB)	DST-SERB
7.	Design of single chambered microbial electrolytic cell for hydrogen production from leafy Biomass by electrohydrogenesis.	Ministry of new and renewable energy)

Success Stories :

The students of the department have succeeded in achieving admissions to higher studies in premier institutes like IISc Bangalore, IIT Guwahati, University of Wisconsin-Madison, USA, Rutgers University, University of Cambridge, IIT BHU, NIT Trichy and ICT Mumbai. Students have also secured placement with reputed companies like Cognizant Technologies, Mu-Sigma Business Solution, Capgemini Pvt. Ltd. And Infosys. In addition to this, Dr Nishant Verma (Degree awarded) received Kothari and N-PDF SERB Post Doc fellowship and is currently pursuing PDF at IIT Kanpur and Dr Piyush Parkhey (Degree awarded) received N-PDF SERB Post Doc fellowship and is currently pursuing PDF at IICT Hyderabad.

Strength and Competencies :

- Design of small portable device for medical application.
- Biological treatment of industrial solid and effluent.
- Drug design and development
- Production of microbial metabolites of industrial importance.
- Process intensification, analytical method development and quality control
- Development of Industrially important enzymes (thermo-tolerant)
- Development of membrane filter for blood purification
- Bioprocess development and optimization

Contact Person for collaboration :

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DEPARTMENT OF CHEMICAL ENGINEERING

Vision :

The Department aims for global recognition in teaching, research and community services and raising the standard of Chemical Engineering education in the latest art of the technology, constantly improving the quality and skills at undergraduate and post graduate levels, emphasizing on novel research and development that leads to a socioeconomically feasible technology.

Mission :

To impart the quality education in the field of Chemical Engineering to produce professionally competent engineers for the benefit of the society at large.

About the Department:

The Chemical Engineering department was established in the year 1962 under the aegis of Government College of Engineering and Technology, Raipur (now NIT, Raipur). The first post-graduate degree with specialization in Chemical Process Design was started in the year 1996. This course was accredited by NBA in 2016 for 5 years. The PG course was redesigned and renamed in the year 2017 as M. Tech. Chemical Engineering. The department has organized international conferences, short-term courses and expert lecture from industries and academia.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr.(Mrs.) A. B. Soni	Professor	Semi fluidization
2.	Dr. P. K. Chaudhari	Associate Professor	Process Design, Reaction Engineering, Waste Water Treatment
3.	Dr. B. Mazumdar	Associate Professor	Waste Water Treatment, Bioprocess Engineering, Environmental Biotechnology
4.	Mr. V. K. Singh	Assistant Professor	Solvent Extraction, Pyrolysis, Environmental Pollution
5.	Dr. A. K. Poonia	Associate Professor	Heat Transfer, Petroleum Refining
6.	Dr. A. Keshav	Assistant Professor	Membranes, Reactive Separation, CFD, Food Science
7.	Dr. D.P. Singh	Assistant Professor	Reactive extraction, Renewable energy, Pyrolysis
8.	Dr. P. Ghosh	Assistant Professor	Advanced Oxidation Processes (AOPs) for removal of persistent organic pollutants, Industrial Waste Water Treatment Methods
9.	Dr. J. Anandkumar	Assistant Professor	Advance Separation Process (Adsorption, Membrane & Biological) and Nanocomposites
10.	Dr. R. Manivannan	Assistant Professor	Microelectronic Fabrication (CMP), Nanotechnology, Electrochemistry
11.	Dr (Mrs.) S. N. Victoria	Assistant Professor	Electrochemistry, Solar Cell Material, Nanotechnology
12.	Dr. C. Thakur	Assistant Professor	Environmental Engineering, Industrial Pollution Abatement, Adsorption

Along with the above, the department has three visiting faculties. The Department hosts latest state of infrastructure and lab facilities namely: Inorganic Process Laboratory, Fuel Technology Laboratory, Heat Transfer Operation Laboratory Atomic Absorption Spectrophotometer, Gas Chromatography, Refracto-meter etc.

Workshops and Trainings Organized :

No.	Name of the event	Sponsoring Agency
1.	STTP on "Chemical Process Modeling & Simulation (CPMS-14)"	Self-financed
2.	STTP on "Simulation of Flow Processes using Computational Fluid Dynamics"	TEQIP-II
3.	Workshop on "Renewable Energy & Environment (REE-14)"	TEQIP-II
4.	Short term training program on "Recent Research Methodologies and Instrumentation Techniques on Chemical and Bio-Medical Engineering"	Self-financed
5.	International conference on "Advances in Chemical Engineering"	ONGC
6.	Short term training program on "Waste treatment and Cleaner technology"	Institute funded

Sponsored Research Projects in last three years :

No.	Title of the Project	Funding agency	PI/Co-PI
1.	Slurry formulation for ruthenium chemical mechanical planarization	DST/SERB	Dr. R. Manivannan
2.	Electrochemical Deposition of CZTS for solar cell application	DST/SERI	Dr. S. Noyel Victoria
3.	Shelf life of spices	CGCOST	Dr. B. Mazumdar
4.	Organic acids from sugarcane industry's byproduct	CGCOST	Dr. D. P. Singh Dr. A. Keshav
5.	Removal of dye and reduction of COD from dye bearing effluent	CGCOST	Dr. J. Anandkumar Dr. P.K. Chaudhari
6.	Interactive mechanism of green corrosion inhibitor and mild steel in alkaline medium containing chloride ion	CGCOST	Dr. R. Manivanan
7.	One step CZTS nano ink synthesis by sonochemical route for bifacial solar cell application	DST/SERB	Dr. (Mrs.) A. B. Soni
8.	Practically-Viable heterogeneous Fenton catalyst and reuse of same catalyst in synthetic or industrial wastewater treatment	SERB	Dr. S. Noyel Victoria
9.	Combined novel biophysical treatment for heterogeneous wastewater pollutants	SERB	Dr. P. Ghosh
10.	Synthesis of nano coated ceramic composite membrane for separation of green chemicals from technical lignin	SERB	Dr. J. Anandkumar Dr. D. Vasanth
11.	Effect of additives on germanium chemical mechanical planarization slurries	IEI	Dr. R.Manivannan
12.	Scientific studies on impact of idols on water quality	CGCOST	Dr. P. K. Chaudhari
13.	Monitoring of fluoride in underground water of Baster district of Chhattisgarh and its removal	CGCOST	Dr G. Bhatt Dr. P. K. Chaudhari
14.	Treatment of sugar industry wastewater and water management in sugar industry	DST/SERB	Dr. P. K. Chaudhari

Success Stories :

- Department has completed the projects worth Rs. 1.03 crore and Rs. 1.67 crore worth projects are ongoing.
- Alumni have settled in reputed industries and institutes.

Strength and Competencies :

Good Research Environment with Advanced Analytical Tools and sufficient fund availability for research, Testing facility, Expert Lecture from industry/Academic institutes, Industrial Training / Internship

Contact Person for collaboration :

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DEPARTMENT OF CHEMISTRY**Vision :**

The vision of the Department of Chemistry is to provide a platform of nationally and internationally recognized model of education to the students, so that they can compete in and contribute to the ever-changing, technology-centered world of the 21st century. It is committed by Department of Chemistry to achieve this vision by providing a course of study for undergraduate and postgraduate students in chemistry which includes curriculum, scholarship and service/engagement opportunities that are high-quality, innovative and intellectually challenging and employ state-of-the-art technologies.

Mission :

The mission of the Department of Chemistry, National Institute of Technology, Raipur, is to nurture the undergraduate and postgraduate students by providing them quality education in terms of classroom teaching, experimental laboratories training and research. The courses are designed in such a way that student will be able to utilize their applied chemistry knowledge to develop innovative environment benign technology for the welfare of society and nation.

About the Department :

Department of Chemistry came in existence since 1956. The department provides an outstanding research environment and offers academic program leading to the award of Ph.D. degree. Apart from this, Department is taking care of all B.Tech. branches and training them in basic fundamentals of Applied Chemistry, Environment & Ecology, Physical & Organic Chemistry and Geochemistry. Department of Chemistry, welcome all the participants to this conference.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Prof. (Mrs.) F. Khan	Professor	Organic Chemistry / Analytical Chemistry, Nuclear Chemistry, Environmental Chemistry, Nanotechnology & Luminescence/ Drug designing & DNA binding
2.	Dr. S. P. Mahapatra	HOD and Assistant professor	Synthesis and Characterization of Polymer Nano composite, Environmental Chemistry
3.	Dr. (Mrs.) K. Tapadia	Assistant professor	Inorganic Chemistry / Environmental Nano science
4.	Dr.(Mrs.) T. Maharana	Assistant professor	Inorganic Chemistry /Catalysis, Polymer Synthesis
5.	Dr. S. Penta	Assistant professor	Synthetic organic Chemistry/ Hetero cyclic Chemistry, Newer Methodologies, Drug design of pharmaceutical importance
6.	Dr. K. A. Siddiqui	Assistant professor	Crystal Engineering and Hydrogen Bonding Interaction studies in metal-complexes and their bio-medical applications; Coordination Polymers and Metal-Organic Framework

In addition to the above, the department has 5 visiting faculties also. The department has state of art lab facilities to support academic and research requirements. Some major equipment available with the department are fluorescence spectrophotometer, FT-IR Spectrophotometer, UV Visible spectrophotometer, LCR Meter (For testing Dielectric, Conductivity and Impedance analysis) and LED Flouri-meter.

Workshops and Trainings Organized :

No.	Title
1.	One week STTP on 'Technical launching on Environmental Issues', 26 th June 2013.
2.	One week STTP on 'Recent trends in heterocyclic compounds and material science', 26 th May 2014.
3.	One week STTP on 'Nano-materials: Characterizations and applications', 1 st December 2014.
4.	One week STTP on 'Advances in chemical analyses', 6 th July.
5.	One week STTP on 'Recent Trends in Material Science and Nano-Technology', 3 rd October.
6.	National Conference on 'Recent Advances in Chemical Analysis', 14 th December 2017 under GIAN.

Sponsored Research Projects in last three years :

No.	Title	Funding Agency
1.	Spatial distribution of uranium and associated water quality parameter in ground water/drinking water of five district (Bilaspur, Korba, Koriya, Mungeli & Surajpur)	BRNS, Govt. of India
2.	Spatial distribution of uranium and associated water quality parameter in ground water/drinking water of five district(Narayanpur, Kondagaon, Bijapur, Dantawada, Bastar, Sukma),	BRNS, Govt. of India
3.	Synthesis and Characterizations of [O-,N,N,O] Based Bulky Schiff Base Metal Complexes and Their Catalytic Activity Towards Cyclic Carbonate Formation by Fixation of CO ₂	DST, Govt. of India
4.	Synthesis and Characterizations of Polymer Supported Based Bulky Schiff Base Metal Complexes and Their Catalytic Activity	DST, Govt. of India
5.	Analytical studies of fluoride concentration and its removal from ground water of Bastar region India	WSSO, PHED, Govt. of India
6.	Design and synthesis of novel potent heterocyclic compounds and their biological evaluation	CGCOST
7.	Crystal Engineering and Supra-molecular Synthon Approach for the Assembly of Hydrogen Bonded Metal Complexes	DST, Govt. of India

Consultancy Projects in last three years :

In Process (About to start)

Success Stories :

- Ph.D degree awarded : 23
- Ph.D Ongoing :27
- International Publications: More than 100
- National Publications: More than 50
- Sponsored Research Projects: 8

Strength and Competencies :

- Providing teaching to all branches of Engineering and Technology.
- Providing good research environment with high quality research facility.

Contact person for collaboration :

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DEPARTMENT OF CIVIL ENGINEERING

Vision :

To be the foundation for creativity and innovation in Civil Engineering.

Mission :

To provide state-of-art education, research and consultancy in Civil Engineering for sustainable development and benefit of the society.

About the Department :

The Department of Civil Engineering is producing high quality technical manpower since 1958. The Department offers B. Tech. degree in Civil Engineering and M. Tech. degree in Civil Engineering with specializations in Water Resources Development and Irrigation Engineering and Structural Engineering. The Department has also been offering Ph.D. program in various specializations.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr. U. K. Dewangan	Professor and Head	Structural Engineering
2.	Dr. M.K.Verma	Professor(On Lien) Vice-Chancellor at CSVTU	Water Resources Engineering
3.	Dr. R. K. Tripathi	Professor	Structural Engineering
4.	Dr. S. Bajpai	Professor	Environmental Engineering
5.	Dr. G. Ramtekkar	Professor	Structural Engineering
6.	Prof. A. V. Ahirwar	Assistant Professor	Environmental Engineering
7.	Dr. L. Yadu	Assistant Professor (on Lien) Associate Prof. at GCE Raipur	Geotechnical Engineering
8.	Dr. S. V Deo	Assistant Professor	Concrete Technology
9.	Dr. I. Ahmad	Assistant Professor	Water Resources Engineering
10.	Prof. M. Kant Verma	Assistant Professor	Water Resources Engineering
11.	Prof. M. Jaiswal	Assistant Professor	Structural Engineering
12.	Dr. M. Murmu	Assistant Professor	Structural Engineering
13.	Dr. G. Bhatt	Assistant Professor	Earthquake Engineering
14.	Prof. S. Deol G.	Assistant Professor	Transportation Engineering
15.	Prof. A. Thomas	Assistant Professor	Geotechnical Engineering
16.	Dr. S. K. Chouksey	Assistant Professor	Geotechnical Engineering
17.	Dr. A. D. Prasad	Assistant Professor	Geomatics
18.	Dr. A. Bano	Assistant Professor	Structural Engineering

The Department hosts latest state of infrastructure and Lab Facilities namely: Advanced Concrete Laboratory, Advance Geotechnical and Environmental Eng. Laboratory, Transportation Engineering Laboratory etc.,

Workshops and Training Organized :

No.	Title
1.	One-week STTP on "Testing methods in Civil Engineering Construction", 16 th – 20 th November 2015
2.	Two day "National Workshop on Water Resources in Developing Countries: Planning and Management", 27-28 August, 2015
3.	One-day Workshop on "Research Schemes in DST & Recent Advances in Civil & Transportation Engineering" , 1 st August 2015
4.	One-week National Workshop on "Visual MODFLOW", 18-22 November, 2013
5.	One-day workshop on "Digital Cartographic Techniques for Map Updation & Digital Image Fusion for large Scale Mapping & Entropy for Accuracy Assessment", 31 st October, 2013

Sponsored Research Projects in last three years :

No.	Title	Funding Agency
1.	Construction of Low Volume Roads on Soft Subgrade Soil Improved by Locally Available Marginal Materials.	HUDCO, New Delhi,
2.	Design and Validation of existing bike based patient carrier transport system for remote areas of Chhattisgarh and proposing design of bike-trailer assembly	UNICEF
3.	Performance evaluation of some selected PMGSY roads in the state of Chhattisgarh	NRRDA, New Delhi, MORD, GOI.
4.	Parametric Study of Eco-friendly Concrete/Composite by Partial Replacement of Sand and Cement with Locally Available Industrial By-products.	CGCOST
5.	Monitoring of Floride in Underground Water of Jagdalpur Distrct of Chhattisgarh and its removal.	CGCOST
6.	Study of the Pollutants Released During Open Burning of Municipal Solid Waste	CGCOST

Consultancy Projects in last three years :

No.	Title of Project	Funding Agency
1.	Checking of Structural Stability of Power Plant Structures of 1200 MW Thermal Power Plant of Bharat Aluminium Company Korba.	Balco Aluminum Company Ltd Korba.
2.	Vetting of Design Calculations of High Rise Structures.	J K Lakshmi Cement Ltd, Ahiwara, Durg.
3.	Design for The Construction of Tikrapara-Sejbahar-Cement Concrete Road (4 lane cement concrte crust for mdr in km 2/2 to 3/3 from Santosi Nagar chowk to Boria Khurd.	The Executive Engineer, P.W.D. Division No-2 Raipur.
4.	Structural Design of Cement Concrete Road (Pali to Dipika).	The Executive Engineer, P.W.D. Division-Korba.
5.	Design Verification and Proof Checking of ACC LTD's Packing Plant Main Building height 32.0 mts.	A. C. C Ltd, Jamul Integrated Projects, Jamul Cement Works, Durg.
6.	Proof Checking of Design and Drawing of Auditorium Building at Pt J N N Memorial Medical College at Raipur.	The Executive Engineer, P.W.D. Division No 2 Raipur.
7.	Structural Design of various Buildings for Tribal Welfare Department. (100 and 250 Seater Boys/Girls Hostel).	The Executive Engineer, P.W.D. Division Durg.
8.	Vetting of Structural Drawing for Bank's Project i.e. "Construction of Residential Building/s in sector-26 at Naya Raipur (C.G).	AGM, Bank of Baroda, Regional Office Raipur.
9.	Comparative study of total pollution load generated from coal based and Coal & Dolochar based power Plants.	CECB, Raipur.
10.	Crust thickness design of rigid pavement for heavy industrial area Hathkhoj, Bhilai (From Tandula Canal to Umda Chowk) Chainage: Km 0+000 to Km 3+500.	Executive Engineer, Division-04, CSIDCL, Raipur.

Success Stories :

No.	Title
1.	Structural design by Dr. G.D. Ramtekkar of 82m high monument building 'Jait Khamb'. As one of the tallest monument in India, constructed at Girodpuri Dham, 130 km from Raipur
2.	Dr. Sandeep K Chouksey, Nominated as Young Geotechnical engineer 2017, by Indian Geotechnical Society, India.
3.	Students of Civil Engineering secured 2 nd , 10 th & 77 th rank in the IES (Indian Engineering services) Exam 2016

Strength and Competencies :

Govt. of India has recognized Civil Engineering Department as State Technical Agency for implementation of its ambitious projects of:

- Pradhan Mantri Gram Sadak Yojana (PMGSY)
- National Rural Drinking Water Program (NRDWP).

Regular Consultancy and Testing services are provided to the followings :

- State Government Departments: Public Works Department, Water Resources and Irrigation Engineering Department, Public Health Engineering Department, Chhattisgarh Housing Board, Chhattisgarh State Industrial Development Corporation (CSIDC), CSPDCL, CSEB, Municipal Corporations, CGCOST and other state Governments undertakings.
- Central Governments Departments; CPWD, Central Railways, NRRDA and other Central Governments Undertakings.
- Industries: SAIL, RVNL, BSNL, NMDC, SECL NTPC, NPGC, MCML, ACC, JP, JKLAXMI, BALCO, PGCIL, etc.

Contact Person for collaboration :

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DEPARTMENT OF COMPUTER APPLICATIONS

Vision :

- To provide best possible education that would help in developing students with the strong technical backgrounds needed to achieve excellence in the field of computer applications so that they can build successful and sustainable career and serve the nation.
- Also to prepare professionals who provide leadership and exemplary educational and technical services to improve the lives of individuals in a global and changing society.

Mission :

- The Department of Computer Applications at National Institute of Technology Raipur imparts quality education through the best possible post-graduate and doctoral educational programs in the field of computer applications in order to meet the needs of professional societies, the community, and the nation; providing a conducive environment for research.

About the Department :

Department of Computer Applications (MCA) was established in the year 1988 in the erstwhile Government Engineering College Raipur with an intake of 30 students. Later on in the year 2000 after the formation of state of Chhattisgarh the intake is increased to 60. Later on in the year 2008 the intake has been further increased to 92. Since 2011, the Department has started Ph.D. program in the field of Computer. The Department is rich in terms of faculty, laboratory/classroom facility and campus placement.

Faculty Details :

S. No.	Faculty Name	Designation	Area of specialization
1	Prof. H. Bikrol	Associate Professor & HOD	Computer Networks, Software Engineering, Operating Systems
2	Dr. M. Atulkar	Associate Professor	Artificial Intelligence, Soft Computing
3	Dr. (Mrs.) K. Verma	Assistant Professor	Data Mining
4	Dr. M. Pandey	Assistant Professor	Decision Support System, Software Engineering, Internet of Things
5	Dr. M. Dasgupta	Assistant Professor	Computer Networks
6	Dr. S. Sundar	Assistant Professor	Heuristic and meta-heuristic techniques for combinatorial optimization problems
7	Dr. T. K. Das	Assistant Professor	Information Security, Multimedia Forensics
8.	Dr. M. K. Ahirwal	Assistant Professor	Soft computing

The department is having good lab facilities in terms of programming languages as per the curriculum and also have strong faculty background in terms of publications and project related to computing and software development.

Workshops and Training Organized :

No.	Title
1.	One week STTP on Medical Signal and Image Processing, 22nd Aug. 2016
2.	One week STTP on Bio Sensors and Signal Processing, 22nd Dec. 2016
3.	One week STTP on Medical Signal and Image Processing-II, 22nd May 2017
4.	One week STTP on Multimedia Security, Crypto-currency and Forensics, 30th Oct. 2017
5.	One week STTP on Soft Computing and Data Mining, 20th June 2016
6.	One week STTP on Advanced Computational Techniques in the field of Mining Engineering, 13th Nov. 2017

Sponsored Research Projects in last three years :

No.	Title	Funding agency	PI/Co-PI
1.	Analyzing the effect of meditation with and without music on autonomous nervous system	SERB	Dr. M. Atulkar
2.	Computer Aided technique for disease diagnosis: A non-invasive approach for disease detection using Iris images	CGCOST	Dr. K. Verma
3.	Meta=heuristic techniques for NP-hard spanning tree problems	SERB	Dr. S. Sundar
4.	Design of JPEG Anti-Forensics Scheme (s) for Evaluation of Existing JPEG Forensic Schemes"	MEITY	Dr. T. K. Das
5.	Evaluation of existing digital forensics schemes from security and robustness perspective	NITRR	Dr. T. K. Das
6.	Devnagri Script P300 Speller Based on EEG Signals	DST	Dr. M. K. Ahirwal
7.	Emotion recognition & Decision making system based on EEG Signal	SERB	Dr. M. K. Ahirwal

Consultancy Projects in last three years :

NIL

Success Stories :

Dr. Mitul Kumar Ahirwal received SERB - DST Young Scientist Award in April 2017.

Strength and Competencies :

The department sufficient technical strength through the expertise and experience of its faculty members in different areas of computer applications and research. It is competitive enough to solve the various industrial problems and can provide consultancy and solutions.

Contact Person for collaboration :

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Vision :

- To promote Research and Development in the frontier areas of Computer Science & Engineering.
- To generate Competent Professionals to become part of the industry and Research Organizations at the National and International levels.
- To provide necessary strengths to enable the students to Innovate and to become Entrepreneurs.

Mission :

- To impart effective education at undergraduate levels in the field of Computer Science and Engineering.
- To conduct Research and Development and offer consultancy services.
- To improve continuously the quality of teaching-learning process.
- To strive steadily for the overall growth and development of intellect and personality of the students who, as professionals, would be confident to face the challenges of the world of work.
- To empower the faculty and staff for overall development of students.

About the Department :

The Department of Computer Science and Engineering at the National Institute of Technology Raipur was formed in the year 2000 and provides an outstanding research environment complemented by excellence in teaching. The Department offers B. Tech. and Ph.D. degrees. The Department has a comprehensive curriculum on topics related to all aspects of Computer Hardware and Software with an emphasis on practical learning. The Department has undertaken many research projects funded by government agencies.

Faculty Details :

No.	Faculty Name	Designation	Area of Specialization
1.	Dr. D. S. Sisodia	Asst. Professor and Head	Applications of Soft computing techniques, Web mining, Theory of Computation
2.	Dr. N. K. Nagwani	Asst. Professor	Data Mining, Text Mining, Software Engineering
3.	Dr. P. Singh	Asst. Professor	Machine Learning, Software Engineering, DBMS
4.	Dr. (Mrs) A. Sharaff	Asst. Professor	Data Mining, Text Mining, Software Engineering
5.	Dr. M. Vardhan	Asst. Professor	Distributed System
6.	Dr. S. Tripathi	Asst. Professor	Real Time Distributed System, Computer Networks
7.	Ms. V. Anand	Asst. Professor	Mobile Ad-hoc Network

In addition to the above, the department also has 8 visiting faculties. The Department has state-of-the-art infrastructure and computing equipment supported by high speed Ethernet and wireless networks. Department has various well-equipped computer laboratories with 100+ computers and 9 workstations to cater the needs of CS &E students. Three class rooms equipped with projectors.

Workshops and Training Organized :

No.	Topic
1.	STTP on Big Data Processing using Hadoop: Implementation, Usage and Applications (BDPH-2017)
2.	National Conference: Recent Advancement in Computing, Communication and Bioinformatics) under TEQIP-III
3.	National Conference: Soft Computing and Intelligent Techniques in Science and Engineering under TEQIP-III
4.	STTP on Machine Learning Tools and Techniques (MLTT-2017)
5.	Workshop: A foundation program on Data Science using Statistical, 2017
6.	STTP on "Deep Learning Techniques and its Applications" under TEQIP-III, 2017
7.	Intel Nervana A.I. Academy Workshop on Machine Learning and Deep Learning Fundamentals, 2017
8.	Soft Computing and Intelligent Techniques in Science and Engineering (SCITSE-2017) under TEQIP-II

Sponsored Research Projects in last three years :

No.	Title of the Project	Funding Agency	Co-ordinators
1.	Predictive and Visual Analysis of the Price Distribution Information of Rice and Wheat across India	CGCOST	Dr. N. Nagwani Dr. S. Verma Dr. K. Verma
2.	Development of a Comprehensive Model for Software Fault Prediction	CGCOST	Dr. P. Singh Dr. S. Verma
3.	Modeling of autonomous software agent's behavior to defend HTTP request attacks.	CGCOST	Dr. D. S. Sisodia
4.	Security Issues and Challenges in internet of things (IOT): A Comprehensive Study and Analysis Focusing Solution Framework with Application Perspective.	Seed Grant Research Project	Dr. S. Tripathi

Success Stories :

Session	Highest package (in LPA)	Average package (in LPA)	Percentage of placement	Top Recruiters
2016-17	20.3	7.22	93.75%	Adobe, Samsung R&D, CA Technologies, Oracle, Mu-sigma, MAQ Software, Capgemini, Drishti Soft Pvt Ltd, Coal India Ltd, United Health Group, Yodlee Infotech, Barclays, Info edge, Power2 SME, Hewlett Packard India, Analytics Quotient, Reliance Jio, etc.
2015-16	16.8	6.68	92.40%	
2014-15	7.06	4.92	89.74%	

Higher Studies/ Student Achievements:

- 11 students of the department cleared GATE 2017, 10 students of the department cleared GATE 2016, 9 students of the department cleared GATE 2015, 18 students cleared GATE 2014.
- 11 students of the department cleared CAT 2016, 12 students of the department cleared CAT 2014.
- Around 10+ Students have been selected to pursue higher studies abroad in past 3 years
- Currently there are 14+ scholars pursuing doctoral degree in various domains of computer science. The following candidates have completed their Ph.D. from the department.

No.	NAME
1.	Dr. N. K. Nagwani
2.	Dr. P. Singh
3.	Dr. D. S. Sisodia
4.	Dr.(Mrs.) A. Shraff

Strength and Competencies :

The department is having young and energetic faculty having moderate expertise and experience in various fields of computer science. The faculties have presented their research work in various international conferences in India and abroad. Presently, the faculties have contributed 100+ publications in reputed journals and conferences, majority of which are indexed in SCI/Web of Science/Scopus etc.

Contact Person for collaboration :

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DEPARTMENT OF ELECTRICAL ENGINEERING

Vision :

Electrical Engineering department aims at imparting the state of the art knowledge and skills to the students. Thus, developing them into the excellent Electrical Engineers, Entrepreneurs, Scientists, and Academicians.

Mission :

- To provide students with a supportive environment that facilitates learning the advances in Electrical Engineering.
- To impart the state-of-the-art knowledge in the relevant field of Electrical Engineering.
- To provide excellence in learning through dedicated teaching, innovation and industrial projects.
- To imbibe self-learning attitude and professional ethics.
- To prepare students to face the challenges in the area of Electrical Engineering.

About the Department :

Established in year 1958-59 in GEC, Raipur, Department of Electrical Engineering presently offers undergraduate program (B. Tech.) in with an intake of 92 students and Postgraduate programs; (M. Tech.) in in Power System and Control with an intake of 25 scholars. Department also offers Ph.D. program in all relevant disciplines and is committed towards imparting the state of the art knowledge and skills to the students and developing them into the excellent Electrical Engineers, Entrepreneurs, Scientists, and Academicians.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr. S. Ghosh	Assistant Professor (H.O.D)	Control System & Signal Processing/ Control System, Soft Computing, Biomedical Engg. Pattern Recognition
2.	Dr. A. S. Thoke	Visiting Faculty	Power System/Artificial Intelligence Techniques to Power System
3.	Dr. (Mrs.) S. Gupta	Professor	Power System & Power Quality/ Power Quality, Power Electronics & Electrical Machines
4.	Mr. P. D. Dewangan	Associate Professor	Integrated Power System/Power System
5.	Dr. N. D. Londhe	Assistant Professor	Measurement & Instrumentation/Signal & Image Processing, Medical Instrumentation, Speech Signal Processing, Machine Learning
6.	Dr. (Mrs.) A. Yadav	Assistant Professor	Power System Protection/Artificial Intelligence, Power System Protection & Soft Computing Techniques
7.	Dr. S. Patnaik	Assistant Professor	Power Electronics
8.	Mrs. E. Koley	Assistant Professor	Power System Protection, Soft Computing Techniques, Electrical Machine & Drives
9.	Dr. B. Shaw	Assistant Professor	Power System/Artificial Intelligence Techniques to Power System
10.	Mrs. V. Singh	Assistant Professor	Computer Technology/Soft Computing and Advanced Computer Network
11.	Dr. M. Biswal	Assistant Professor	Power System Protection/ Power System Protection, Smart Grid Protection, Protection Issues with FACTS devices, Adaptive Relaying, Signal Processing Application to Power System Relaying
12.	Dr. L. Kumar	Assistant Professor	Power Electronics & Drives/Vehicular Electrification, Power Electronics Converters, Multilevel Inverters
13.	Dr. K Chandrasekaran	Assistant Professor	High Voltage Engineering (Lightning), Lightning, LEMF, Coupling Computation, Application of GA in High Voltage

In addition to the above the department has 9 visiting faculties also. The Department hosts latest state of infrastructure and lab facilities in electrical drives, high voltage engineering and power electronics

Workshops and Trainings Organized :

No.	Title
1.	Workshop on “PSIM & CYME Platform for Power Electronics and Power System” on March 06-10, 2017.
2.	Workshop on “Optimization techniques and their implementation using MATLAB” on Nov 11-15, 2016.
3.	STTP on “Recent trend in power system and renewable energy” from September 21-25, 2016.
4.	STTP on “Recent Trends in Modelling and Simulation in Electrical Engineering” from Sept. 12-18, 2016.
5.	Workshop on "Power Electronics for Green Energy" on 18th and 19th Mar 2016.
6.	STTP on “STTP on Logic Building Using C and MATLAB” from 26 Feb- 1 Mar, 2016.
7.	Workshop on "Power system analysis and Protection using MiPower" from 12th and 13th Feb 2016.
8.	STTP on “Logic Building Using C and MATLAB” from Jan 13 - 17, 2016.
9.	Training program conducted in Electric Loco Shed, Bhilai on “Advance Power Electronics and Electric Drives in AC Locomotives and LHB Coaches” in Feb, 2015 and June, 2015.
10.	STTP on “Recent Trends in Power Electronics Converters and Real Time Control” from December 14-18, 2015.
11.	STTP on “Soft Computing Techniques and its Applications” from June 22 - 26, 2015.
12.	TEQIP sponsored STTP on “Advanced Optimization And Application” from August 3-7, 2015.
13.	IEEE Student Branch NIT Raipur certified training on "Basic Programmable Logic Circuits (PLC)" of SIEMENS on 15th and 26th Dec 2014.
14.	IEEE Student Branch NIT Raipur workshop on "National Ethical Hacking" on Oct 7-8, 2014.
15.	IEEE Student Branch NIT Raipur workshop on "LabVIEW and MATLAB" from March 28-30, 2014.

Sponsored Research Projects in last three years :

No.	Title of projects	Funding Agency	PI/Co-PI
1.	Development of single phase fault tolerant topology of multilevel inverter with reduced number of components count for photovoltaic applications.	SERB, DST	Dr. S. Gupta, Dr. L. Kumar
2.	Design and Development of Low Cost Single-Phase Fault Tolerant Multilevel Inverter Topology	SERB, DST	Dr. S. Gupta, Dr. L. Kumar
3.	Development of an efficient Devanagiri script based P300 speller system for brain-computer interface.	DST	Dr. N.D. Londhe
4.	Advanced protection to prevent zone-3 mal-operation during stress system condition.	SERB, DST	Dr. M. Biswal
5.	Design of Microbial Electrolytic Cell for economic and energy efficient bio hydrogen production from leafy biomass by electrohydrogenesis.	Ministry of New and Renewable Energy	Dr. S. Gupta
6.	Hybrid optimization based fractional order fuel cell modeling and online parameter estimation with design of adaptive controller for integrated power converters.	DRDO	Dr. S. Ghosh
7.	Studies to improve the performance of fault location algorithm for multi-location shunt faults in transmission line “A Case Study of Chhattisgarh State”	CPRI	Dr. A. Yadav
8.	Hybrid Artificial Neural Network and Fuzzy Logic Approach with wavelet Transform Based Multi-resolution Analysis for Fault Detection, Classification and Location in Six Phase Transmission Line	CGCOST	Dr. E. Koley
9.	Microcontroller based implementation of mathematical model of insulin section for automated glucose regulation	CGCOST	Dr. S. Ghosh
10.	A single ended directional relaying algorithm based on ANN for fault classification and zone identification of double in-feed transmission line	CGCOST	Dr. (Ms) A. Yadav

Consultancy Projects in last three years :

No.	Consultancy Activity	Firm
1.	Energy Efficient Lighting System	CREDA
2.	Testing of Enhanced Generation Capacity	Real Ispat and Power Ltd, Raipur
3.	Testing of Enhanced Generation Capacity	Crest Steel power Pvt. Ltd.
4.	Testing of Enhanced Generation Capacity	Shivalay Ispat and Power Ltd, Raipur

Success Stories :

Dr. (Ms.) A. Yadav received The Glory of India Award 2017. She received IEI Young Engineers Award in Electrical Division for 2015-16. She received Chhattisgarh Young Engineers Award in youth conclave “Yuva Sankalp” Dec 2016 by chief Minister of CG. She received Young Faculty Award by Venus International Foundation Faculty Awards (VIFFA) 2015.

Dr. (Ms.) M. Biswal received Young Scientist award, 15th Chhattisgarh young scientist congress 2017 organized by CGCOST & CSVTU BHILAI. She received POSOCO Power System Award for Ph.D. Thesis in the field of “Advanced Protection for Series Compensated Line” in February 2014.

Dr. A.S. Thoke received Best Paper Award of IETE for the paper titled “Objective and optical evaluation of DE speckle filters in breast ultra sound images” 2015

Dr. B. Shaw received POSOCO Power System Award for Ph.D. Thesis in the field of “Study of economic Load dispatch, optimal power flow and their related topics along with FACTS devices using evolutionary optimization techniques” 2015.

Dr. (Ms.) S. Gupta received Outstanding Teacher Award by Institute of Engineers in September 2014. She received Best Paper Award for paper titled “Quality Assessment of power system using Artificial Neural networks”, by Transstellar Journal Publications in July 2014.

Dr. N. D. Londhe received Award of recognition 2012 Visiting Scholarship Prize by Taiwan Society of Ultrasound in Medicine, 30th Annual Convention of TSUM held on October 18-19, 2014 in Taipei, Taiwan. He received Dr. T K Saxena Memorial Award of Ultrasonic Society of India for best Ph.D Thesis in the field of Ultrasonic and applied research on 30th Oct. 2012 in XIX National Symposia of Ultrasonic 2012 (XIX NSU-2012) organized at National Physical Laboratory, New Delhi.

Mr. Shivam Singh secured AIR 1 in GATE 2017.

Mr. Jyoti Ranjan Nayak was awarded the Best Paper award in international conference on artificial intelligence and evolutionary computations in engineering systems (ICAIECES-2017) & Power, Circuit and Information Technologies (ICPCIT-2017), Madanapalle Institute of Technology & Science.

Ms. Aleena Swetapadma Ph.D. student 2016 batch has received the POSOCO Power System Award (PPSA-2017) for her Doctoral research work entitled “Data Mining, artificial intelligence techniques and finite state automata application in performance enhancement of transmission line protection schemes”

Mr. Rohit Agarwal secured AIR 9 in GATE 2016.

Ms. Kamlesh Bhoorani secured AIR 94 in GATE 2015. She also received prestigious OPJEMS Scholarship in 2014 aimed at promoting academic and leadership excellence and are awarded to meritorious students who emulate the vision and values of Shri O. P. Jindal and have the potential to become leaders in entrepreneurial excellence and innovation.

Ms. Aleena Swetapadma M.Tech. Student 2013 batch has received the POSOCO Power System Award (PPSA - 2014) for her Master's research work entitled "Combined Wavelet and ANN Based Directional Relaying for Double Circuit Transmission Line".

Mr. Shivam Prakash Gautam, M.Tech. Student 2013 batch has received the POSOCO Power System Award (PPSA-2014) for his Master's research work entitled Topology of both symmetrical and asymmetrical Cascaded Multilevel inverter with reduced number of switches.

Mr. Lekhraj Sinha secured 19th All India Rank in UPSC 2013 and got selected in Indian Railways.

Strength and Competencies :

- Qualified faculty with industry exposure
- Research projects (excess of one crore)
- Publication in high impact journals
- Experience in testing and consultancy activities
- State of the art facility in electrical drives, high voltage engineering and power electronics
- Continuing education program for Industry
- Hardware based projects at UG, PG and Doctoral level.
- Trained manpower on Industrial Automation and Control

Contact Person for collaboration :

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DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Vision :

To be a national leader in imparting quality education, carrying out research and technology development in the field of Electronics and Telecommunication Engineering.

Mission :

- To mold young students into rational thinking engineers.
- Transforming young students into engineers who are motivated by a passion for professional excellence.
- To produce engineers who are driven by human values and proactively engaged in betterment of society.

About :

The Department was established in the year 1985. Department offers B. Tech. of Electronics and Telecommunication with annual intake of 92 students. A post graduate course in VLSI and Embedded Systems is offered with annual intake of 20 students. The department offers Doctoral program in various sub field of Electronics & Communication Engineering depending upon the faculty Specialization.

Faculty Details :

No.	Name	Designation	Area of Interest
1.	Dr. S. Verma	Professor and Dean Academics	Digital system design, image processing, computer & communication networks, distributed processing
2.	Dr. A. S. Raghuvanshi	Assistant Professor	Digital Communication, Wireless Sensor Network, Artificial Intelligence
3.	Dr. B. Acharya	Assistant Professor	Cryptography & Network Security, Signal Processing, Mobile Communication, Soft Computing
4.	Dr. A. Singh	Assistant Professor (on lien)	Wireless communications
5.	Dr. S. Majumder	Assistant Professor	Distributed source/channel coding, Error correction codes, Digital system design
6.	S. Chakraborty	Assistant Professor	Microwave and antennas
7.	Dr. T. Meenpal	Assistant Professor	Multimedia Security/Forensics, Computer Vision, Image/Video Processing.
8.	Dr. R. K. Chaurasiya	Assistant Professor	Pattern Recognition, Optimization, Signal Processing
9.	Dr. S. Kumar Saha	Assistant Professor	DSP filter design, Soft computing.
10.	A. Gupta	Assistant Professor	Microwave and antennas
11.	Dr. A. Naugarhiya	Assistant Professor	Superjunction power devices, High k power devices, SiC power devices, strain effect on power devices

The department also has 7 visiting faculties. The Department hosts latest state of infrastructure and lab facilities namely: SMDP VLSI, Microwave and Antenna Laboratory, Embedded System Lab etc.

Workshop and Training Organized :

No.	Title
1.	STTP on Advanced Optimization and Applications From 03/08/2015 to 07/08/2015
2.	STTP on Machine Learning 28/08/017 to 01/09/2017
3.	STTP on Digital Image Processing, Pattern Recognition and Applications 07-03-2016 to 11-03-2016
4.	STTP on Multimedia Security, Cryptocurrency and Forensics. 30 October to 03 November 2017
5.	STTP on Digital Image Processing, Pattern Recognition and Applications. 07/03/2016 to 11/03/2016

Sponsored Research Projects in last three years :

No.	Title of the Project	Funding Agency	Investigators
1.	Detection of QRS Complex of ECG Signal using Optimally Designed Preprocessor and its Online Monitoring	DST-SERB	Dr. R. K. Chaurasiya
2.	SMDP C2SD, Project	DeitY, Govt. of India	Dr. S. Verma and Dr. B. Acharya
3.	ISEA Phase-II Project	DEiTY, Govt. of India	Dr. B. Acharya and Dr. A. S. Raghuvanshi
4.	Design and development of an Automatic Kinship Verification system for Indian faces with possible integration of AADHAR Database	SERB, DST, GoI	Dr T. Meenpal
5.	Design of JPEG Anti-Forensics Scheme(s) for evaluation of existing JPEG forensic schemes	Ministry of Electronics and Information Technology, India	Dr T. Meenpal
6.	Development of an efficient Devanagari Script Input Based P300 Speller system for Brain-Computer Interface.	Dept. of Science and Tech (DST), Govt. of India	Dr. R. K. Chaurasiya

Success Stories :

- The Department has produced the toppers of GATE examination twice in its glorious journey and many of our students have been successful in being within top ten scores; Jaya Jha (GATE Topper AIR-I, 2015), Nidhi Agrawal (GATE AIR-2,2009) and Rajesh Lakhani (GATE Topper - 1990), etc.
- Aditya Om, Student of 7th semester, received 3rd place in “The Jury Popular choice award”, in 2014. His project named as “Gabby Tree” is an innovative idea which when attached around a tree, enables the tree to tweet on social network. He has been selected for the prestigious "MIT Innovation and Entrepreneurship Bootcamp 2018" to be organized in Brisbane, Australia in Feb, 2018.
- Miss Ayushi Banerjee, B. Tech. Final year student of Electronics and Telecommunication Branch , under the supervision of Dr. B. Acharya, Assistant Professor of Electronics and Telecommunication branch has participated in the conference “3rd International Conference on Next Generation Computing Technologies (NGCT-2017)” organized by UPES, Dehradun, India. The research paper presented in the conference has been awarded as the Best paper in the track “Smart and Innovative Trends in Security and Privacy” and she rewarded a prize money of 250 Euro by Springer.

Strength and Competencies :

- Department has highly qualified and motivated faculty members with Ph.D. degrees.
- MoU signed with ACS technologies Hyderabad for joint undergraduate project.
- Well established labs with latest equipment.
- State of art VLSI & Embedded system founded by MietY, Govt. of India.
- Department has established security lab under ISEA project of MietY, Govt. of India.

Contact Person for collaboration :

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DEPARTMENT OF INFORMATION TECHNOLOGY**Vision :**

To become one of the leading departments of the institute and a distinguished centre of excellence in the region. The Bachelor of Technology in Information Technology program is designed to provide its graduates a solid educational foundation on which they can build successful and sustainable career in Information Technology or a related field.

Mission :

The mission of the Department is to serve the society by preparing undergraduate students for professional practice as successful engineers, by providing continuing education opportunities and by making original contributions to the art of engineering. The objective of our mission includes:

- *To establish a healthy environment for industry-academy interaction for improving industrial productivity and research activity.*
- *To prepare skilled manpower in the field of information technology for next generation.*
- *To serve the society with the help of information technology.*

About the Department :

Established in the year 2000, Information Technology Department is the study, research and work place of 300 people from 28 states across India. About 15 faculties in this department teach mainly in areas like Information Science & Technology, Computer Science & engineering, system -oriented sciences, and mathematics, etc., carry out research in their respective fields.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr. S. Pandey	Assistant Professor	Computer Organization, Computer Networks, Cellular and Mobile computing
2.	Mr. S. P. Sahu	Assistant Professor	Artificial Intelligence & Expert System, Neural Network & Fuzzy logic, Object Oriented Programming, Distributed System and Soft Computing.
3.	Mr. R. Tripathi	Assistant Professor	Mobile-Adhoc Networks, Sensor Networks
4.	Dr. S. Kumar	Assistant Professor	Mobile Computing, Genetic Algorithm, Computer Architecture
5.	Mr. T. P. Sahu	Assistant Professor	Machine Learning, Data Mining and Analysis, Digital Image Processing, Object Oriented Concepts, Database Systems
6.	M. Sahu	Assistant Professor	Data Mining, Machine Learning, Design of Algorithms.
7.	Dr. P. K. Mishra	Assistant Professor	5G Communication, Device to Device communication, Machine Learning, Computer Network, Digital Image Processing
8.	Dr. R. Doriya	Assistant Professor	Distributed & Cloud Computing, Robotics & Artificial Intelligence
9.	Dr. R. R. Janghel	Assistant Professor	Soft Computing, Machine Learning, Artificial Intelligence, Image Processing,
10.	Dr. G. P. Gupta	Assistant Professor	Networking, Wireless Sensor Network, Parallel & Distributed Computing, Algorithms, Big Data Processing

The Department hosts latest state of infrastructure and lab facilities namely: Artificial Intelligence & Expert system, object oriented Software Engineering, etc. The laboratories of the department are well equipped with the high-end computers and 100 Mbps internet speed.

Workshops and Trainings Organized :

No.	STTP/Workshop Topic
1.	Big Data Processing and Cloud Computing (26-08-2016 to 30-08-2016)
2.	Logic Building Using C and MATLAB (30-09-2016 to 04-10-2016)
3.	Logic Building Using C and MATLAB (31-07-2017 to 04-08-2017)
4.	Machine Learning (28-08-2017 to 01-09-2017)
5.	Soft Computing Techniques & Robotics (04-09-2017 to 08-09-2017)
6.	Logic Building using C and MATLAB (12-09-2017 to 16-09-2017)
7.	Deep Learning Techniques and Its applications (28-09-2017 to 02-10-2017)
8.	Computational Intelligence in Engineering Applications (03-10-2017 to 07-10-2017)
9.	Logic Building using C and MATLAB (30-10-2017 to 03-11-2017)
10.	Web Designing and Hosting (10-10-2017 to 14-10-2017)

Sponsored Research Projects in last three years :

No.	Title	Sponsoring Agency	Investigator
1.	Development of Framework for web Based Intelligent Dictionary for Learning Chhattisgarhi Language	CGCOST	Dr. Sudhakar Pandey, Dr. N. K. Nagwani, Mr. Pavan K. Mishra

Success Stories :

The Department has consistently maintained an exemplary academic record in the institute. It has state-of-the-art infrastructure, laboratory facilities. It is rich with motivated and learned faculty, equally motivated and skilled staff to impart quality education. We shape the students to work in global multicultural environment. The highlights of the department in current academic session are as follows:

- 8 short term training programmes has been organized in various areas of information technology.
- 1 national conference in Emerging Trends in Information Technology and Management has been organized.
- The first batch of M. Tech. in Information Technology has been awarded.
- 10 faculties and 01 research scholars have visited abroad for presenting their research work.
- 05 UG students got opportunity to do MS abroad.
- More than 80% of UG students got placed in reputed organizations in which one student secured the highest CTC of sum of amount INR 27 Lacs (the highest ever in NIT Raipur).

Strength and Competencies :

With the strong support of dynamic faculty, hardworking staff and ambitious students, the Department developed an environment that fosters collaboration, a culture of accomplishment and strong support of ethnic and intellectual diversity. The following are the strengths of the department,

- The faculties of the departments are experts in various fields such as ad-hoc networks, sensor networks, mobile communication, distributed systems, cloud computing, robotics, machine learning, data mining and analysis, medical image processing etc.
- The department is having the dedicated benchmark for realizing the networks.

Contact Person for collaboration :

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DEPARTMENT OF MECHANICAL ENGINEERING**Vision :**

To produce innovative, entrepreneurial and successful engineers and technologists of high caliber for the nation, to serve as a valuable resource for industry and society.

Mission :

To provide the students and the faculty with opportunities to create, interpret, and apply the knowledge in the field of Mechanical Engineering and

Provide technological service to local, national, and international communities.

About the Department :

Established in year 1958-59 in the erstwhile GEC, Raipur, Department of Mechanical Engineering presently offers undergraduate program (B. Tech.) in Mechanical Engineering (intake: 90) and three Postgraduate programs; (M. Tech.) in Thermal Engineering (intake: 17), Machine Design (intake: 13) and Industrial Engineering and Management (intake: 13). Department also offers Ph.D. program in all relevant discipline of Mechanical Engineering including Design, Production, Thermal and Industrial Management.

Faculty Details:

No.	Faculty Name	Designation	Area of specialization
1.	Dr. A. M. Rawani	Professor and Director	Strategic Management
2.	Dr. S. Sanyal	Professor and Dean (R&C)	Mechanisms and Machine Design, Robotics
3.	Dr. S. L. Sinha	Professor	CFD, Environmental Engineering., Alternative Fuels
4.	Dr. R. Salhotra	Professor	Heat Transfer
5.	Dr. S. P. S. Matharu	Professor	Tribology and Machine Design
6.	Dr. A. K. Tiwari	Professor and Head	Solar Energy, Refrigeration and Air Conditioning
7.	Dr. S. D. Patle	Professor	Thermal Engineering, Turbo machinery
8.	Dr. R. K. Yadav	Associate Professor	I C Engines, Alternative Fuels
9.	Prof. G. K. Sahu	Associate Professor	Production Engineering
10.	Dr. S. K. Dewangan	Assistant Professor	Computational Fluid Dynamics
11.	Dr. N. K. Jain	Assistant Professor	Composite materials, Finite Element Method
12.	Mr. S. Vaidya	AWS	Production Engineering
13.	Dr. S. K. Mukti	Assistant Professor	Industrial Engineering and Management
14.	Dr. V. K. Gaba	Assistant Professor	Heat Transfer, Refrigeration-Air Conditioning, FGM
15.	Dr. S. Bhowmick	Assistant Professor	Finite Element Method, CAD, Machine Design, FGM
16.	Dr. A. R. Singh	Assistant Professor	Industrial Engineering, SCM and Optimization
17.	Dr. S. Bhattacharya	Assistant Professor	Fracture Mechanics, Finite Element Method
18.	Dr. G. Srinivasu	Assistant Professor	Composite Materials, Tribology
19.	Mrs. N. Netam	Assistant Professor	Thermal Engineering, Thermal Comfort
20.	Dr. H. K. Narang	Assistant Professor	Industrial Engineering and Management
21.	Dr. R. K. Sahu	Assistant Professor	Fatigue, Material Characterization
22.	Dr. R. S. Kumar	Assistant Professor	Finite Element Method, Smart structures
23.	Dr. M. S. Rajput	Assistant Professor	Industrial Engineering and Management

In addition to the above, the department has 7 visiting faculties. The Department hosts latest state of infrastructure and lab facilities namely: Four Ball Tester, Pin-on disk apparatus, Stress freezing oven, Rheology Lab. The department hosts state of art workshop with advanced welding facilities, CNC machines and is well supported by latest software for Computer Aided Design and Simulation such as, CATIA, SOLIDWORKS, DEFORM 3D and ANSYS.

Workshops and Training organized :

No.	Title	Coordinated by
1.	One-week self-financed short-term training program on ‘Multi criterion Decision Modeling’, 2015	Dr. A. M. Rawani, Dr. R. Salhotra, Dr. V. K. Gaba, Dr. A. R. Singh
2.	Organized training programme on "Energy conservation building code (ECBC) of 2017" in collaboration with CREDA.	Dr. A.K. Tiwari
3.	Advanced Techniques in Multiscale Materials Modelling -(ATMMM-2017)	Dr. S. Bhattacharya
4.	One-week self-financed short-term training program on “CNC programming and practices, 2017	Dr. H.K. Narang, Dr. M.S. Rajput
5.	One Week STTP on NMOTM, Numerical methods and optimization techniques in MATLAB, 2017	Dr. V. K. Gaba, Dr. A R Singh, Dr. S. Bhowmick
6.	One Week Short Term Course on ‘Modelling using Computational Fluid Dynamics and MATLAB (MCFDM), 2016	Dr. S.K. Dewangan
7.	Experimental and Computational Fluid Mechanics for Engineering and Basic Sciences (ECFMEBS), 2016	Dr. S.L. Sinha, Dr. S.K. Dewangan, Dr. A. Choudhary
8.	Applications of Research Methodology, Tools and Techniques (ARMTT-2016)	Dr. S.L. Sinha & Dr. S.K. Dewangan

Sponsored Research Project in Last Three Years :

No.	Title	Sponsoring Agency	Faculties Involved
1.	Strategies for effective environmental management in thermal power plants in Chhattisgarh	CGCOST	Dr. A. M. Rawani and Dr. J. Tiwari
2	Determination of operating conditions for hydro-transport of mineral slurry based on wall shear stress and head loss measurement for mineral industries of Chhattisgarh State.	CGCOST	Dr. S. L. Sinha
3.	Development characterization of Functionally Graded Material with Self-Lubrication Property for Cutting Tool Applications.	CGCOST	Dr. G. Srinivasu Dr. R.K. Sahu
4.	Characterization of Strain Induced Behaviors of Electro-active Polymers for Sensor and Actuator Applications.	DST-SERB New Delhi	Dr. Raj Kumar Sahu
5.	Design and validation of bike-based patient carrier transport system for remote areas of Chhattisgarh.	UNICEF	Dr. S. Bhowmick Dr. G. Bhat
6.	Experimental investigation and modelling of ultrasonic jet electrode position and machining for micro part fabrication.	DST	Dr. H.K. Narang Dr. M.S. Rajput
7.	Design of a slag removal mechanism from the furnaces	Real Ispat and Power Limited	Dr. S. Bhowmick Dr. V.K. Gaba
8.	Experimental Investigation and Modeling of Micro Milling Assisted Ultrasonic Jet Electrodepositing (Mauje) For Micro Part Fabrication	NITRR Seed Grant	Dr. M.S. Rajput

Consultancy projects in Last Three Years :

No.	Title of Project	Funding Agency	PI and Co-PI
1.	Empanelled consultant in the panel of State Horticulture Mission Chhattisgarh, for extending consultancy for cold storages of state.	State Horticulture Mission Chhattisgarh	Dr. A.K. Tiwari
2.	Cooling Load Calculation of Indoor Stadium of Raipur Cooing Load	Voltas Pvt. Ltd.	Dr. V.K. Gaba
3.	Calculation of a Cold Storage for National Horticulture Board (2017).	National Horticulture Board	Dr. V.K. Gaba
4.	Testing and certification services	Nearby Industries	Department

Success Stories:

Department of Mechanical Engineering has been awarded Three year and Two year NBA accreditation for the B. Tech. and M. Tech. (Thermal Engineering) courses in the year 2016 and 2017 respectively.

Dr. A M Rawani was awarded 'International Corporate Leadership Award' in the field of Education' in 2015 at Bangkok. In 2014, the Economic Growth Society of India conferred the 'Pride of Asia International Award' on him. He is also a recipient of 'Rashtriya Gaurav Award' in 2010. He was honored by The Institution of Engineers (India) Chhattisgarh State Centre in 2009 for his valuable contribution in the field of Technical Education.

Dr. Shubhashis Sanyal received Outstanding Engineering Teacher Award by the Institution of Engineers (India), Chhattisgarh State Centre in 2014. He is a Certified Applied DACUM Facilitator and Applied Strategic Planning Trainer by CIILP.

Dr. Shobha Lata Sinha received “Shiksha Rattan Puraskar” by India International Friendship Society in 2010. She has been honored on Teacher's day for excellent services by Institution of Engineers (I), State Centre, Raipur, CG and has been a Jury member of Selection Committee of 8th National F L Smidth Awards for Cement Industries on Jan21, 2006.

Dr. A.K. Tiwari was recipient of Best paper presentation award in the 3rd International Conference on Renewable Energy and Development (ICRED 2017) 25th to 29th September 2017, at Berlin, Germany on the topic “Techno – economic analysis of ventilation driven through solar metallic wall for a hostel building of National Institute of Technology Raipur India”.

Dr. S.K. Mukti was recipient of Mahatma Jyotiba Phule Fellowship Award and Shikshak Ratna Samman, 2010.

Dr. V K Gaba was awarded Best paper presentation award in 4th International Conference on Power and Energy Systems Engineering, CPESE 2017, 25-29 September 2017, Berlin, Germany.

Dr. S Bhowmick along with Lakshman Sondhi and Prakash Chandra Sahu has applied for a patent on ‘Concordant system and apparatus for securing submersible pumps’, Patent Application no.: 201721035676 (TEMP/E-1/36395/2017-MUM).

Dr. R.K. Sahu along with C. Mahender, D. Siddhartha, K. Patra, S. Bhaumik, A. K. Pandey and D. K. Setua has applied for a patent on 'A biaxial stretching device for simultaneously stretching of an elastomer sample', Patent application no. 985/KOL/2013 dated 26.08.2013.

Students of Mechanical Engineering participated in National Level ‘QUAD-TORC’ meet and secured 3rd and 2nd position in successive years 2016 and 2017 respectively.

Students Salini Makireddy and Gagandeep Singh Khanuja won first prize in the student section of GETS-2016 organized by NTPC-NETRA on project of Recovery of moisture from flue gas as well as from cooling towers vapours.

Till date, Department has produced 13 PhD Scholars in Mechanical Engineering related Specialization.

Strengths :

- Strong faculty bench with good academic and research experience and publications.
- State of art machines in Workshop, Tribology Lab.
- Expertise in CAD, CFD and CAE solutions in terms of research and consultancy.
- Expertise in Skill development programs. Already conducted CE Cell Courses in CAD and CAE.
- HVAC and Refrigeration related consultancies.
- Good expertise in Industrial and Project management related solutions.
- Project management and Managerial trainings.
- Industry specific software and trained manpower.
- Collaborations with leading research organizations (BARC, NML, CSIR, TATA Steel) and institutes (IITs and NITs).

Contact Person for collaboration :

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DEPARTMENT OF METALLURGICAL ENGINEERING

Vision :

To provide world class Metallurgical and Materials Engineering education from bachelor to doctoral research level, supporting national research laboratories to augment their materials research need and cater the research and consultancy needs of local industries, with international presence in Materials Research.

Mission :

The department will be a nationally acclaimed leader in fostering students at the undergraduate and graduate levels in the field of metallurgical materials engineering. The graduates of the department will accomplish distinction in industry, government service, research and academia. The faculties will be acknowledged for scholarship in the national and international level in both teaching and discovery.

About the Department :

The Department of Metallurgical Engineering, NIT Raipur (erstwhile GEC, Raipur), started its journey in the year 1956. The department presently offers undergraduate program (B. Tech.) (Intake: 90) and PhD program. The Department maintain academic and research collaborations with other academic institutes (IIT Kharagpur, IIT Kanpur, IIT Madras, NML Jamshedpur, NIT Nagpur, IIST (Shibpur) and NIFFT (Ranchi)), various other CSIR Laboratories, SAIL and other steel plants in India. The department also has research collaborations with selected foreign universities (Brunel University, Warwick University etc.). At present, seven highly qualified and dedicated faculty members are serving this Department.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Prof. A. Rajimwale	Associate Professor	Physical Metallurgy, Material Science, Industrial Metallurgy
2.	Dr. M. K. Chopkar	Assistant Professor	Synthesis and characterization of Nanomaterial and Nanofluid,Heat Transfers in Nanofluid, Nanostructured Steel.
3.	Dr. M. K. Tripathi	Assistant Professor	Nanostructured and Amorphous materials for structural application, Phase Transformation (solid state), High Strain rate deformation.
4.	Dr. M. K. Manoj	Assistant Professor	Compositional Design of Bulk Metallic Glasses, Welding Technology, Materials Characterization, Corrosion Engineering
5.	Dr. S. Ganguly	Assistant Professor	Thermodynamics, Heat-treatment, Welding, Tribology, Structure-property co-relation
6.	Dr. S. K. Sinha	Assistant Professor	Physical Metallurgy/Computational Materials science/Alloy design, High strength steel soft computing, Computational optimization and Genetic algorithm.
7.	Dr. S. Das	Assistant Professor	Thin Films, wide band gap semiconductors, light metals and alloys, structural and Bio-ceramics, structure-property correlations in advanced engineering materials.
			Material Processing, Advanced Solidification Technology, Foundry, Physical Metallurgy, Material Characterization, Mechanical Testing of Materials, Tribology, Metal Matrix Composites, Aluminium and Magnesium alloys.

The department has excellent infrastructure in the form of state of art Lab equipment such as XRD, SEM, Instron and Metallography Lab.

Workshops and Trainings Organized :

No.	Title
1.	Workshop on Academic Ethics and IPR held on April 04-05, 2014 at National Institute of Technology Raipur.
2.	Workshop on X-Ray Diffraction and Its Application in Materials Engineering, Organized by Department of Metallurgical Engineering during August 01-03, 2014 at National Institute of Technology Raipur.
3.	Organized (as principal coordinator) TEQIP-II workshop cum Training Programme on “ <i>Advanced techniques in materials characterization</i> ”, 22 nd – 23 rd , January 2016 at Department of Metallurgical engineering, NIT Raipur.
4.	Organized (as principal coordinator) TEQIP-II workshop cum Training Programme on “ <i>Emerging Trends in Materials Research-a National perspective</i> ”, 23 rd – 24 th , September 2016 in association with METSO, Department of Metallurgical engineering, NIT Raipur.
5.	Organized “ <i>UTKARSHAN-2017</i> ” an Annual Technical Fest organized by the Department of Metallurgical Engineering in association with Metallurgical Society (METSO) on 31 st March, 2017 funded by TEQIP-II.
6.	Organized (Co-ordinator) TEQIP-III sponsored 5-days STTP on “ <i>Advanced Techniques on Multiscale Materials Modeling</i> ” from 09 th – 13 th , November, 2017.

Research Projects in Last Three Years :

No.	Title	Funding Agency
1.	Study of high rate torsional behavior of Aluminum Zinc alloy (Al 7075)	DST - SERB
2.	Improving the strength of aluminum 6082 (t6) alloy by suitable Age-hardening treatment	Cold-Forge, Haryana

Success Stories :

- Research collaboration with Warwick University, United Kingdom.
- Industrial Research collaboration with Cold Forge India. This collaboration resulted in a Projected Funding, which has been successfully completed.
- Industrial Research collaboration with Advance Metal Casting (AMC), United Kingdom. AMC has agreed to fund a research project.

Contact Person for collaboration :

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DEPARTMENT OF MINING ENGINEERING

Vision :

- To produce Mining Engineers of high calibre, fully equipped with state-of-the-art Technology, to cope with the challenges of Sustainable Development in Mining and Mineral Industry
- To be recognized nationally and internationally as one of the leading institutes in research and providers of quality engineers in field of Mining Engineering.

Mission :

- To be recognized as a premier Mining Engineering Education Centre by all stakeholders in the Mining and Mineral Industry.
- To impart Quality Education for meeting the needs of Mining Engineering Profession & Society, and achieve excellence through creative Teaching- Learning and Research
- To inculcate the spirit of Sustainable Development and Conservation of natural resources through the advancement of technology in exploration and production of minerals with due regard to Health, Safety and Environment.
- To impart quality education and training to undergraduate students in Mining Engineering so as to prepare them for the Mining & other allied industries and higher studies

About the Department :

The Department of Mining Engineering was established in the Year 1956 with intake capacity of only 15 students. Due to increasing demand of mining engineers from coal and mineral industry, the intake capacity has now been increased to 77. At present, there are 288 undergraduate students in various semesters and 16 PhD scholars registered in the Department.

Faculty Details :

No.	Faculty Name	Designation	Area of specialization
1.	Dr. P. Dewangan	Associate Professor and Head	Rock Mechanics, Surface Mining, Ground Vibration Monitoring, Slope Stability
2.	Dr. M. Pradhan	Professor	Blasting Engineering, Rock Excavation, Environment, Slope Stability
3.	Dr. P. Y. Dhekne	Associate Professor	Rock Mechanics, Strata Control, Blasting Engineering, Metal Mining
4.	Prof. B. R. Parate	Associate Professor	Mine Surveying, Mineral Engineering, Mine Environment
5.	Prof. M. D. Patel	Associate Professor	Mine Environment, U/g Metal Mining
6.	Dr. R. K. Jade	Assistant Professor	Ventilation, Environment, Geo-statistics, Computer Applications, Geomatics, Economic Analysis, Slope Stability

The department also has 5 visiting faculties. The Department is equipped with state of the art modern instruments and equipment for conducting various laboratories and research work, namely: Rock Mechanics Lab, Mineral Processing Labs etc.,

Workshops and Training Organized :

No.	Title
1.	A two days training program on Procedure for Appraisal of minor mineral mining projects for grant of Environmental Clearance” for the members of DEIAA & DEAC of Chhattisgarh state on 21-22 June 2016.
2.	One-day National Seminar on Recent Trends in Mining Technology and Geosciences, August 5, 2017
3.	STTP on Advanced Computational Techniques in The Field of Mining Engineering, November 13 to 17, 2017
4.	National Seminar on Advances in Mine Environment, Geo-technique & Ground Control, December 2, 2017
5.	STTP on Technical Writing in Science Framework to Empower Quality Research, December 5 to 9, 2017

Sponsored Research Projects in last three years :

No.	Title	Sponsoring Agency
1.	Nanomaterial Filters for Removal of Heavy Metals from Surface and Ground Water of Bailadila Iron Ore Mine Project	National Mineral Development Corporation, Bachel, C.G.

Consultancy Projects in last three years :

No.	Title of project	Funding Agency	PI and Co-PI
1	Preparation of Drainage pattern of industries link to Ganga river basin & reporting the status of pollution from the industries	Environmental Conservation Board, Raipur	Dr.M.Pradhan, Dr. R. Jade. Dr. S. Bajpayee (Civil Eng.), Dr. D.C. Jharia (App. Geology)
2.	Study on control blasting to control fly rock and ground vibration	Ultratech Cement, Hirni	Dr. PY Dhekne, Dr. M. Pradhan, Dr. R. K. Jade
3.	Ground Vibration monitoring at bodai daldali bauxite mine, Kawardha	BALCO, Korba	Dr. P.Y. Dhekne, Dr. Pankaj Dewangan
4.	Ground Vibration study at ACC Cement Jamul limestone mine	ACC Cements, Jamul	Dr. P.Y. Dhekne, Dr. P. K. Dewangan, Dr. R. K. Jade, Dr. N. Kishore Dr. P.Y. Dhekne, Dr. R.K. Jade
5.	Optimization of blast design parameters and ground vibration monitoring	Kirari limestone mine, Lafarge India	
6.	Geotechnical Investigations and validation of SOP for backfilling near waterlogged area	ACC Cements, Jamul	Dr. P. K. Dewangan Dr. L.K. Yadu (Civil Engg.)
7.	Determination of Physico mechanical properties of rock samples of various mines of SECL	South Eastern Coalfields Limited, Bilaspur	Dr. P.K. Dewangan, Dr. R. D. Lokhande, Prof. M.D. Patel, Nitish Naman
8.	Ground vibration and slope stability study at Mainpat and Bodai Daldali bauxite mine, BALCO Korba	BALCO, Korba	Dr. M. Pradhan, Dr. P. K. Dewangan
9.	Determination of Physico mechanical properties of rock samples of various mines of SECL	South Eastern Coalfields Limited, Bilaspur	Dr. P.K. Dewangan, Dr. R. D. Lokhande, Prof. M.D. Patel, Prof. B.R. Parate, Dr. P.Y. Dhekne, Nitish Naman
10.	Determination of Physico mechanical properties of rock samples	Technoblast mining corporation, Raigarh	Dr. P. K. Dewangan, Dr. M. Pradhan, Prof. M.D. Patel, Prof. B.R. Parate, Dr. P.Y. Dhekne, R. K. Jade, Nitish Naman
11.	Determination of Physico mechanical properties of rock samples of various mines of SECL	South Eastern Coalfields Limited, Bilaspur	Dr. P. K. Dewangan, Prof. M.D. Patel, Prof. B.R. Parate, Dr. P.Y. Dhekne, Nitish Naman
12.	Determination of Physico mechanical properties of rock samples of various mines of SECL	South Eastern Coalfields Limited, Bilaspur	Dr. P. K. Dewangan, Dr. R. D. Lokhande, Dr. P.Y. Dhekne, Prof. M.D. Patel, Prof. B.R. Parate, Dr. R. K. Jade, Nitish Naman
13.	Ground vibration and slope stability study at Mainpat and Borai Daldali bauxite mine, BALCO Korba	Emami Cement Limestone Mine, Korba	Dr. M. Pradhan, Dr. P. K. Dewangan, Valmikee Sahu
14.	Scientific study to assess suitability of bulk emulsion explosives	Emami Cement Limestone Mine, Baloda Bazaar	Dr. M. Pradhan, Dr. P.Y. Dhekne, Romil Mishra
15.	Inspection of Sand Mines to verify the compliance status of Environmental Clearance	SEAIACC Chhattisgarh	Dr. M. Pradhan, Valmikee Sahu
16.	Geotechnical Rock Testing	SMS Infrastructure	Dr. P. K. Dewangan, Nitish Naman
17.	Induction training programme for the Members of DEIAA & DEAC of Chhattisgarh	CECB, CG	Dr. M. Pradhan Dr. P.Y. Dhekne
18.	Estimation of water requirement for Iron ore mine	Jaiswal Nico, Raipur	Dr. M. Pradhan
19.	Ground vibration and slope stability study at Ambuja Cement, Rawan	Ambuja Cement, Rawan	Dr. P.Y. Dhekne

20.	Preparation of separate report for Blasting & Slope Stability study of Risda Kukurdih Limestone mine as per the term and condition stipulated in EC	Emami Cement Limestone Mine, Baloda Bazaar	Dr. P. K. Dewangan Dr. M. Pradhan
21.	UCM & Coring and sample preparation charges	South Eastern Coalfields Limited, Hasdeo Area	Dr. P. K. Dewangan
22.	Study of ground vibration for optimum charge per delay	South Eastern Coalfields Limited, Hasdeo Area	Dr. M. Pradhan, Dr. P. Dewangan, Mr. Valmikee Sahu
23.	Independent lab testing of samples of rock obtained from sub soil exploration of pier 2 of Hasdev river bridge.	M/s Ramky Infrastructure Ltd.	Dr. P Y Dhekne
24.	Rock testing of samples	M/s Rajdeep Construction	Dr. P. Dewangan
25.	Stability analysis of back filling of mine void with fly ash in Chotia I opencast coal mine	M/s Balco	Dr. M. Pradhan, Dr. P. Dewangan
26.	Study of Blasting and ground vibration	M/s Century Cement	Dr. P. Y. Dhekne

Success Stories :

Mr. Himanshu Wadhwani was awarded with the Gold Medal for Overall Institute topper, 2015-2016.

Poonam Sahu, PhD Research Scholar, was awarded with the Young Scientist Award at 15th Chhattisgarh Young Scientist Congress held on 28 Feb -01 March 2017

Dr. M. Pradhan, Nominated Member of Expert Committee by Hon. High Court, Bilaspur, in the matter of M/s Sarguja Rail Corridor. The report was highly appreciated by the Hon'ble Court. He was also nominated as one of Expert member of SEAC, Bhopal, Madhya Pradesh by MoEF & CC.

Prof. P. Y. Dhekne and Prof. Pankaj Dewangan were conferred with the PhD Degree in 2016 and 2017 respectively.

Strength and Competencies :**BROAD FACULTY EXPERTISE IN RELEVANT AREAS:**

- Rock Mechanics and Rock Excavation
- Surface Mining
- Blasting Engineering
- Environment
- Strata Control
- Surveying & Geomatics
- Ventilation Engineering
- Slope Design

MODERN FACILITIES IN LABORATORY

- All kinds of Rock Testing for Coal and Rock Samples
- Ground Vibration Seismographs, VOD Mate
- Modern Surveying Instruments (DGPS, Theodolite, Auto Levels, etc.)
- Mine Planning & Design Software (Underground and Surface)
- Slope Design Software

Contact Person for collaboration :

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DEPARTMENT OF PHYSICS

Vision :

- *To contribute to society and the country through excellence in Scientific & Technical education and research.*
- *To serve as a mainstay in supporting research and projects of the country. To collaborate with other Institutions and National Laboratories to enhance the teaching and research activities.*

Mission :

- *To provide quality Scientific & Technical education, Innovation and creativity in the areas of Pure and Applied Sciences.*
- *To research, through theoretical and experimental methods to provide new materials.*
- *To teach and learn physics in a collaborative way to provide skills to students.*

About the Department :

The Department existed since the inception of Govt. Eng. College (presently known as NIT Raipur) in 1963. The department caters to undergraduate students and offers PhD programme in all frontier areas of Physics including optical and magnetic properties of materials, luminescence studies and polymer nanocomposites (total scholars registered-18). All faculty members are having projects in different disciplines of theoretical and experimental condensed matter physics. The department also plans to start PG programme soon.

Faculty Details :

No.	Name of Faculty	Designation	Area of Research
1.	Dr. S. Agrawal	Professor	Material Science, Charge Storage and transport in Polymer thermos-electrets, Nanocomposites
2.	Dr. A. K. Shrivastav	Professor and Head	Luminescence, Photonics
3.	Dr. A. Khare	Assistant Professor	Experimental Condensed Matter Physics [Electro-optical Studies of Chemically Deposited Films, Luminescent Polymer Materials, Nanotechnology], Solar Cell.
4.	Dr. B. K. Sahoo	Assistant Professor	Condensed Matter Physics(Theory), Opto-electronics, Spintronics
5.	Dr. S. M. Saini	Assistant Professor	Condensed matter Physics, optical and magneto-optical properties, Rare earth compounds, multiferroic materials
6.	Dr. S. Nag	Assistant Professor	Experimental Nuclear Physics, Theoretical model calculations in nuclear structure

In addition, the department also has 5 visiting faculty members from varying specializations of Physics. The Department hosts latest state of infrastructure and lab facilities namely: Research Optoelectronic Lab, Research Characterization Lab, Applied Physics Lab etc.

Workshop and Training organized

No.	Title	Coordinator (s)
1.	Recent Trends in Material Science, 2008	Dr. S. Agrawal Dr. A. Khare
2.	Recent Trends in Material Science II (RTMS-2013)	Dr. A. Khare
3.	Advanced Materials Physics (AMP-2014)	Dr. B.K. Sahoo, Dr. S.M. Saini
4.	Synthesis and Applications of Advanced Materials (SAAM - 2016)	Dr. S. Agrawal Dr. S. Nag
5.	Medical and Industrial Applications of Radiation Dosimetry and Advances in Dust and Noise Control, 2016	Dr. S. Agrawal Dr. S. Nag

Sponsored Research Projects in last three years :

No.	TITLE OF THE PROJECT	FUNDING AGENCY	PI and Co-PI
1.	Preparation and characterization of microcellular Nano composites for packaging and semiconducting application	CGCOST	Dr. (Mrs.) S. Agrawal
2.	An Investigation on the optical and structural characterization of some ferro electric materials	CGCOST	Dr. A. Khare
3.	Role of spontaneous and Piezoelectric polarization on thermal properties of Wurtzite Nitrides	CGCOST	Dr. B. K. Sahoo
4.	Electronic optical and magneto-optical properties of rare earth compounds	CGCOST	Dr. S. M. Sainee
5.	Development of Highly Efficient CdTe/CdS Tandem Multijunction Photovoltaic System Through Optimization of Various Components	SERB, DST Govt. of India New Delhi under Extra Mural Research (EMR) scheme (2017-2020)	Dr. A. Khare
6.	Effect of interface, strain and phonon confinement on thermal conductivity and Thermoelectric efficiency of GaN/InGaN/GaNSuperlattices	SERB, DST Govt. of India New Delhi under Extra Mural Research (EMR) scheme (2017-2020)	Dr. B. K. Sahoo

Strength and Competencies :

The department has strong collaboration with premier institutes like ISM Dhanbaad, IIT Kanpur, NIT Durgapur, BIT Meshra, CEERI Pilani, IIT Roorkee, DTU Delhi, Pt. R.S. University Raipur, Pt. J. N. M. Medical College and Hospital, IIT Kharagpur, BARC Mumbai and Saha Institute of Nuclear Physics Kolkata.

Contact Person for collaboration :

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A large group of students, mostly men, are posed around a custom-built robot car. They are all wearing blue t-shirts with a small logo on the left chest. The robot car is a three-wheeled vehicle with a red and black frame, large treaded tires, and a complex mechanical assembly on top. The students are arranged in several rows, with some standing behind the car and others crouching or sitting in front of it. The background shows a building with orange and yellow walls and a banner that reads "SUMMER INTERVIEW PROGRAM".

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