



# INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI



# **PLACEMENT BROCHURE**

**2020-21**

**MTECH**

**STRUCTURAL ENGINEERING**



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**EDUCATION IS CHARACTER**

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# MESSAGE FROM DIRECTOR



**PROF. PRAMOD  
KUMAR JAIN**

**DIRECTOR,  
IIT (BHU) VARANASI**

Greetings from Indian Institute of Technology (BHU), Varanasi and a hearty welcome to the Land of Shiva !!!

We are proud to be the first to pioneer degree level engineering education in undivided India almost a century ago in 1919 and by none other than our revered Bharat Ratna Mahamana Pt. Madan Mohan Malviya Ji. The present day institute was created after the merger of three erstwhile colleges – Banaras Engineering College, College of Mining and Metallurgy and College of Technology.

In this age of liberalization, privatization and globalization, there is an ever increasing industry requirement for professionals who have high employability index and required competencies with an inquisitive mind set for innovations. Our collective and continuous commitment is to create vibrant and technology savvy environment where excellence is the credential. Our students imbibe all personality traits, values of the cultural city of Kashi and diversity of the BHU campus within which this Institute exists. Academic curricula not only provide them strength in their own area, but also from open electives in multiple disciplines. This uniqueness helps our students in successfully carrying out their responsibilities as a member of cross-functional team in any organization. Our excellent placement record over years speaks about the value of our students to their employers.

I am confident that our students will prove their mettle and will contribute immensely towards growth and success of your organization. Looking into great achievements of the alumni of this Institute, I am sure that you and your organization is going to have a wonderful experience of intern and full-time hiring at this Institute and this relationship will go beyond for having other kind of engagements as well for mutual benefits.

I extend my deep appreciation for our industry partners who have recognized the depth of our rich and diverse talent pool and accorded valuable opportunities. I am looking forward to your visit to this campus soon.

# MESSAGE FROM TPC INCHARGE



**PROF. ANIL KUMAR  
AGRAWAL**

**TRAINING AND  
PLACEMENT OFFICER,  
IIT (BHU) VARANASI**

It gives me immense pleasure to extend you a most cordial invitation to participate in the Campus Recruitment Programme of the Indian Institute of Technology (BHU), Varanasi. With an increasing thrust being placed on Institute-Industry Interaction, it is my sincere belief that your esteemed organization and IIT (BHU) Varanasi will stand to gain immensely from this symbiotic relationship.

Our Institute holds the pride of place being pioneer in the field of engineering and technical education in this country and has a glorious heritage. We have been continuously ranked amongst the elite by all peers and stakeholders. Our constant pursuit of excellence has made our institute a focal point in technical education for students and faculty members alike. Admissions to the institute take place through the reputed Joint Entrance Examination (JEE) and Graduate Aptitude Test in Engineering (GATE).

At this institute, we take utmost care to groom our students according to the needs of the industry. We seek to open frontiers of knowledge and reveal new horizons of change to broaden mindset and to create positive attitude in our students. Our students receive industrial exposure by their frequent industrial visits. Besides, our undergraduate students undergo an eight-week training during summer vacation in reputed industries/institutions/organizations (in India as well as abroad) as part of their academic requirements.

Brochure will provide brief profile of the Institute, as well as details of the various programmes/courses offered by the Departments and Schools including details of the contact persons. More details with regards to our placement policy can be had from our website. Please feel free to contact the Training & Placement Office should you require any further information/clarification.

We would be most delighted to host you for campus recruitment and beyond. I am looking forward to a mutually beneficial relationship.

# ABOUT DEPARTMENT OF CIVIL ENGINEERING



The Civil Engineering Department was established in 1949 (then known as Civil and Municipal Engineering) in BENCO (Banaras Engineering College) which was a part of BHU. The formal sanction of the Visitor of the University to create this Dept. was received in 1956 and the B.Sc Engineering (Civil & Municipal) Degree was recognized by the Govt. of India in 1958. The department was rechristened to the present name in the year 1975.

Presently, it caters its student with various Post Graduate courses like Environmental Engineering, Geotechnical Engineering, Hydraulic Engineering, Structural Engineering, and Transportation Engineering. The department has taken up various research programmes apart from regular teachings and the research activities, namely CSIR, UGC, SAP, HUDCO, DST and AICTE.

It has created cooperation with industries to work for the various tasks given by Govt., Semi-Govt. and other Private organisations. It is particularly dedicating in providing solutions to the people of the country with technical solutions and guidelines.

It conducts short-term courses, training courses, seminars, workshops and conferences for enrichment in quality of students and entrepreneurs. The department has its own Civil Engineering Society which is dedicated in organising lectures by various experts in their respective field, group discussions, competitions, sports and various other extra-curricular and cultural activities so that there would be an holistic all round development of students. Also this society conducts a separate fest for the Civil Engineering Students, known as, Shilp.



Commemorative stamp on the completion of 100 years of institute released by the Hon'ble PM

# ABOUT M.TECH. PROGRAMME IN STRUCTURAL ENGINEERING

Admission to this program is offered to GATE qualified/sponsored candidate through departmental level screening test/counseling.

This section provides students with a solid background on the principles of structural engineering design. It deals with the theories and concepts of concrete and steel design and analysis. This Lab helps students in different areas related to Construction Technology, Construction Management, Functional Design of Buildings and Building Materials. The lab is well equipped with latest equipment and software for both teaching and research purpose. In addition to their course studies, the students are offered big platform for their overall personality development through the participation in various extra-curricular activities of the institute.

## COURSES OFFERED

- Matrix Analysis of structures
- Concrete Structures
- Elasticity and Experimental Stress Analysis
- Stability of Structures
- Metal and Cable Structures
- Structural Dynamics
- Advanced Concrete Technology
- Advanced Numerical Methods
- Soil Structure Interaction
- Theory of Plates
- Shell Structures
- Finite Element Method
- Plastic Design of Structures
- Optimization Methods
- Advanced Foundation Engineering
- Structural Design of Foundation and Retaining Structures
- Advanced Aseismic Design of Structures
- Prestressed Concrete Design
- Mechanics of Composite Material

## CURRICULUM

### SEMESTER I

- Matrix Analysis of structures
- Structural Dynamics
- Concrete Structures
- Elasticity and Experimental Stress Analysis
- Advanced Concrete Technology
- Laboratory Structural Engineering- 1

### SEMESTER II

- Finite Element Methods
- Theory of Plates
- Plastic Design of Structures
- Mechanics of Composite Material
- Prestressed Concrete Design
- Thesis
- Laboratory Structural Engineering- 2

### SEMESTER III

- Thesis

### SEMESTER IV

- Thesis

# STRUCTURAL ENGINEERING LABORATORY

This laboratory is equipped with the following equipment:

Universal Testing Machine 100 ton capacity, Universal Testing Machine 200 ton capacity, Non-destructive test hammer, Furnace 1200° C, Concrete core cutter, Pre-stressing bed, Load Frame, Data printer (strain measuring system), Ultra sonic tester, Rebar locator, Flexural testing machine, Resistivity meter for measuring the rate of corrosion, Shake Table (Seismic Analysis Table) etc. The Structural Engineering Laboratory has a heavy testing floor and equipped with necessary facilities for testing scaled structural models.

Computer laboratory is well equipped with various modelling, structural analysis and finite element analysis software such as AutoCAD, STAAD Pro, MATLAB, ANSYS, ETABS, REVIT etc.



# FACULTY PROFILE



## PROF. VEERENDRA KUMAR

**Qualification:** B.tech [Civil Engg.]- IIT Kanpur, M.tech [Structural Engg.]- IIT Kanpur, Ph.D.- IIT BHU

**Areas of Interest:** Structural Engineering- Materials , Plastic Analysis



## DR. PABITRA RANJAN MAITI

**Qualification:** B.E.[Civil Engineering]- BESU Shibpur, M.E.- BESU Shibpur, Ph.D.- IIT Kharagpur

**Areas of Interest:** Fluid – Structure Interaction , Hydraulic Structure, Fluid Flow , Computational Dynamics



## PROF. S. MANDAL

**Qualification:** B.E.[Civil Engg.]- Jadavpur University, M.E. [Structural Engineering]- Roorkee University, Ph.D. -IIT Roorkee

**Areas of Interest:** Structural Engineering – Finite Element Analysis of Structures, Wind Effect on Structures



## PROF. KRISHNA KANT PATHAK

**Qualification:** B.Tech[Civil Engg]- KNIT Sultanpur, M.E.[Structural Engg.]- MNNIT Allahabad, Ph.D. [Solid Mechanics]- IIT Delhi.

**Areas of Interest:** Structural Engineering – Continuum Mechanics, Structural Analysis & Design, Structural Shape



## PROF. RAJESH KUMAR

**Qualification:** B.Tech [Civil Engg.]-BIT Sindri Dhanbad , M.E. [Structural Engg.]- NIT Rourkela, Ph.D. [Structural]- IIT Kharagpur.

**Areas of Interest:** Structural Optimization, Non-Linear Structural Mechanics, Finite Element Analysis, Earthquake



## DR. ROSALIN SAHOO

**Qualification:** M.Tech [Structural]- NIT Rourkela, Ph.D.- IIT kharagpur

**Areas of Interest:** Shear Deformation Theories, Laminated Composites, Sandwich Construction, Plate and Shell Structures , Finite Element method, Uncertainty Quantification



# THESIS WORK 2020-21

- Analysis and Design of multi-storey building using shear-wall and flat slab system
- Buckling and post-critical behaviour of elastic infinite plate strip resting on linear elastic foundation
- Analysis of along and across wind effects on tall buildings with unconventional configurations
- Investigation of optimum structural plan density for open ground storey Reinforced Concrete buildings
- Vibrational analysis of bridge using finite element method
- Development of theoretical model capable of predicting buckling load for laminated composite plate
- Seismic analysis of an open ground storey building
- Buckling analysis of structure

## PAST RECRUITERS



ATKINS



TATA

Thornton  
Tomasetti

RAMBOLL

ACC

# WHY SHOULD YOU HIRE US?

Our students have all of the skills and experience that you're looking for. Apart from the civil engineering subjects, our students are also taught various other courses which provide them with the upper hand in various situations.

Over the course, our students have also developed excellent communication skills. Our students have passed all the labs and subjects with flying colors and the projects they submitted were all quite impressive and provided innovative solutions to some major problems around us. They are well acquainted with various software used by civil engineers.

For the past few years the department of Civil Engineering has provided various firms with their most prized engineers, project managers, and even programmers. We raise our students to be more than just-engineers, we raise them to be the harbingers of positive change, we raise them to be the ones who help and guide others and at the same time are always ready to learn.



# CONTACT US

## HEAD OF DEPARTMENT

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## DEPARTMENT PLACEMENT OFFICER

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## TRAINING AND PLACEMENT OFFICE

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For any queries, please contact department placement co-ordinators or TPO during office hours.  
For additional information on Department of civil engineering please visit : [www.iitbhu.ac.in/civ](http://www.iitbhu.ac.in/civ)