



BIRLA INSTITUTE OF TECHNOLOGY, MESRA

www.bitmesra.ac.in



PLACEMENT
BROCHURE
2021 - 22

Department of
MECHANICAL ENGINEERING

Programmes Offered :

Undergraduate Programmes

- B.Tech. in Mechanical Engineering

Post-Graduate Programmes

- M.Tech. in Heat Power Engineering
- M.Tech. in Design of Mechanical Equipments
- M.Tech. in Computer Aided Analysis and Design
- M.Tech. in Energy Technology

Doctoral Programmes

- Ph.D. degrees are offered by the Department in Mechanical Engineering related disciplines as well as multi-disciplinary fields.



Since its inception in 1955, the Department of Mechanical Engineering has a wide reputation for the quality of teaching and research it offers. It has been awarded top grades for both teaching and research activities from independent and government bodies. The excellent laboratory facilities, modern computer clusters, systematically designed curriculum, and dedicated faculty members make this Department a dynamic place to study.

Mechanical Engineering Graduates from BIT Mesra are sought after by many prestigious companies. There is also an excellent careers center on campus, which helps the students to get entry into multinational companies. The department strives to be globally recognized for quality engineering education and research leading to well qualified engineers, academicians and researchers who are innovative, entrepreneurial and successful in achieving excellence in their field of study.

B. Tech (MECHANICAL ENGINEERING)

- Engineering graphics
- Engineering Mechanics
- Principles of Mechanical Engineering
- Thermodynamics Fluid Mechanics and
- Hydraulics Mechanics of Solids
- Heat Power Conversion
- Mechanics of Materials
- IC Engines and Gas Turbines
- Kinematics and Kinetics of Machines
- Design of Machine Elements
- Automobile Engineering
- Heat Mass Transfer Dynamics of Machines
- Design of Machine Elements
- Non-Conventional Energy

Electives

- Mechanical vibration
- Finite Element Analysis (FEA)
- Computational Fluid Dynamics (CFD)
- Refrigeration and Air Conditioning
- Power Plant Engineering Mechatronics

M.Tech (MECHANICAL ENGINEERING)

- Advanced Fluid Mechanics
- Turbo machines
- Computational methods in Thermal system
- Design of thermal system
- Theory and Design of IC engine
- Advanced Thermodynamics
- Gas turbine and Jet Propulsion
- Fuels and Combustion
- Advanced strength of materials
- Optimisation methods in Engineering
- Advanced computer graphics
- Advanced Energy System
- Advanced Mechanical Engineering design
- Engineering design methodology
- Mechanics of Robotic Manipulator Reverse Engineering and Rapid prototyping
- Foundations of Energy Engineering
- Direct Energy Conversion
- Energy systems modelling and analysis Wind Energy conversion system
- Solar Energy Technology
- Alternative Fuel Technology
- Energy Management

- ENGINEERING MECHANICS LAB
- FLUID MECHANICS LAB
- MECHANICS OF SOLIDS LAB
- ENGINEERING MEASUREMENT LAB
- MECHANICAL ENGINEERING LAB
- NON-CONVENTIONAL ENERGY LAB
- I.C ENGINE LAB
- ENERGY ENGINEERING LAB
- CAD LAB
- AUTOMOBILE ENGINEERING LAB
- HEAT TRANSFER LAB
- DYNAMICS OF MACHINE LAB
- ENERGY AUDITING OF DIFFERENT ENERGY SYSTEM LAB



The mechanical engineering department BIT Mesra has undertaken research programs in an array of fields some of them being -

Publications :

- Smt. B. Srilakshmi, Ph.D. Scholar in the Department of Mechanical Engineering, and Ashok Misra have reported an additional new phenomenon on “Emission of Secondary Electromagnetic Radiation during micro-plastic deformations of metals and alloys” which has been published in the Journal of Materials Science, U.S.A.
- “Effects of Strain Rate and Elevated Temperatures on Electromagnetic Radiation Emission during Plastic Deformation and Crack Propagation in ASTM B 265 Grade 2 Titanium Sheets” by Vishal S. Chauhan and Ashok Misra has been published in the Journal of Materials Science
- “Dynamic Analysis of Banana Fibers Reinforced high-density polyethylene/poly (Î-caprolactone) composites” by R.K. Misra, Sandeep Kumar, K. Sandeep and Ashok Misra has been published in the Journal of Mechanics of Materials and structures.
- “Some Experimental and Theoretical investigations on Fire Retardant Coir/Epoxy Micro-composites “by R.K. Misra, Sandeep Kumar, K. Sandeep, Ashok Misra has been published in the Journal of Thermoplastic Composite Material.

Research Areas :

- Computational Fluid Mechanics
- Heat Transfer
- Renewable Energy
- Design of Thermal System
- Computer Aided Analysis and Design
- Solar Energy
- Waste Heat Recovery
- I.C. Engines and Gas Turbines
- Bio-fuels and Combustion
- Refrigeration and A/c Systems
- Fluidics
- Mechanics of Materials
- Plastic Deformation and Fracture.

- ▶ A number of students from the department have appeared for examinations to pursue higher studies and have become successful, thereby seeking admissions in prestigious institutions at both national and international levels. Some of the institutions being Chalmers University, Delft University, Binghamton University, Michigan Technological University, IIM, XLRI and University of California.
- ▶ Undergraduate Student selected for AICTE sponsored Mitacs Globalink Research internship at prestigious institutes of Canada.
- ▶ Team Firebolt racing from received international recognition, secured 1st position in India and 8th Internationally in BAJA SAE.
- ▶ The department has successfully organized an international conference on Alternative Energy Resources, a number of workshops on Fluid mechanics, operation maintenance, troubleshooting of concentrated solar collector and advances in automotive research have also been conducted by the department in which professors from IIT Kharagpur and IIT Bombay have been invited to give guest lectures.
- ▶ Students received PPI opportunities by finishing in top teams in ZS Campus beats challenge held by ZS Associates in 2020 and 2021.
- ▶ Students from the department have won laurels in many business and technical case competitions organized on a national level.
- ▶ Undergraduate students were Winners of "MIND OVER MATTER" competition held by TATA Steel in 2018, 2019 and selected in 2020.
- ▶ Students selected for TATA Steel "WOMEN OF METAL" and earned PPIs in 2020, 2021.

TEAM FIREBOLT RACING

Firebolt Racing is the official off-road racing team of BIT Mesra. They fabricate and design the All-Terrain Vehicle (ATV) of our dreams. This very group, participates BAJA SAE INDIA. They have a legacy of receiving laurels for our performance in BAJA SAE INDIA and as of now, stand as the 3rd fastest ATV in the country. Apart from BAJA SAE INDIA, we also participate in Mega ATV Championship and ESI International.

AEROSPACE SOCIETY

Aerospace Society, BIT Mesra is the Official Aero-modelling and Drone Research Team of Birla Institute of Technology, Mesra. Here students design and fabricate aerial vehicles for various research and competitive applications. The project was founded 2019 and now has grown into a thriving team of over 30 interdisciplinary undergraduate, post graduate and PhD students from BIT Mesra, Ranchi.

TEAM AVEON RACING

Team Aveon Racing consists of highly zealous students who come together to build an "Electric All-Terrain Vehicle" and participate in a national-level event called electric-BAJA. The team is highly dedicated to design, build, test, promote and race an ATV within due limits. Designing, fabrication, assembly and testing-all kinds of work are done by the students themselves in the college workshops with an aim to build a lighter, faster and the more durable ATV.

ROBOLUTION

The ROBOLUTION club of BIT Mesra aims to instill Robotics temperament among our fellow students and. A part of the team 'Team Pratyunmis' is the official ABU ROBOCON participating team of BIT Mesra which is the largest robotics competition in the Asia Pacific. Well defined goals, an organized and disciplined work structure, and motivated members are the features of the club that have helped the club to grow to a level where we see it now.

TEAM SRIJAN

Team Srijan is one of the oldest technical clubs of Birla Institute of Technology, Mesra Ranchi, that has been growing steadily since 2007. It is a group of undergraduates who work together to design, conceive and manufacture the prototype of a formula race car to participate in Formula Student competitions held across the globe.

SIME

The Society for Industrial Management and Engineering, BIT Mesra is a platform for students with an affinity for industrial science, technology, and management. Society members work on diverse research projects, events, workshops, publications to enrich their expertise. Members have excelled in some of the most prestigious technical competitions like Hero Campus Challenge, Campus Innovathon and Institute Innovation Contest.

The students have in them a varied sense of understanding in the current methods and operating procedures by the help of subsequent internships during summer and winter breaks. In order to facilitate the students with new advancements the department also ensures industrial visits over the period of semester so that students are convinced by practical means of theoretical sorts. These are some of the places wherein our students have worked as interns:

Industries:

- PwC
- KPMG
- Axis Bank
- Tata Motors
- Hindalco Industries Ltd.
- Indian Railways
- SAIL
- Heavy Engineering Corporation Ltd.
- BHEL
- South Eastern Railway
- Honda Cars India Ltd
- National Thermal Power Conversion

- Tata Steel
- Dr. Reddy's Lab
- Maruti Suzuki
- NBC Bearings
- Indian Steel & Wire Products Ltd.
- Coal India Limited
- Tech Mahindra
- Eicher Motors
- Hindustan Aeronautics Ltd
- Bhushan Steel
- NTPC Limited

Institutes:

- Illinois Institute of Technology, Chicago
- University of Regina, Canada
- IISc Bengaluru
- IIM Bengaluru
- IIM Kolkata

- IIT Guwahati
- IIT Indore
- IIT Kharagpur
- DRDO



Few of our proud
RECRUITERS



Thank You

for your Time & Attention !

Contact Us :

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