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## DEPARTMENT OF MECHANICAL ENGINEERING

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. Today the department is recognized as one of the leading departments in its domain with infrastructure and facilities to match the very best in the country. 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.

### BIRLA INSTITUTE OF TECHNOLOGY, MESRA RANCHI (INDIA)

The Birla Institute of Technology (BIT) Mesra, Ranchi was founded by the Philanthropist, Industrialist Mr. B.M. Birla, in the year 1955, as part of his lifelong commitment towards building a technologically advanced and industrially strong India. The achievements of the Institute, both in terms of research and excellent standards of academic programmes led to its attaining the status of a Deemed University under the UGC Act of the Government of India, in 1986, and one of the top Technical Institutes of the country. Today, BIT offers undergraduate, postgraduate as well as doctoral level programmes in all major branches of engineering and technology, architecture, pharmaceutical sciences as well as management. The Institute has laterally expanded through establishment of several extension centres, both in India and abroad.

One Week Workshop  
On

## Energy Utilization, Conservation and Sustainability in Modern Engineering

09-13 March 2026  
Mode: Hybrid



**Department of Mechanical  
Engineering**

**Birla Institute of Technology  
Mesra, Ranchi-835215, Jharkhand**  
<http://www.bitmesra.ac.in>

## Importance and Scope of the Program

The one-week workshop on “Energy Utilization, Conservation and Sustainability in Modern Engineering” is crucial for advancing knowledge and innovation in sustainable engineering practices. Efficient energy utilization and conservation strategies play a vital role in reducing environmental impact and ensuring long-term resource security. This workshop will cover the latest advancements, optimization techniques, and practical applications of sustainable energy systems in various sectors, including industry and infrastructure. Participants will gain insights into policy frameworks, technological challenges, and economic opportunities, fostering collaboration and driving the transition toward a more energy-efficient and environmentally sustainable future.

## Workshop Objective

- 1. Enhance Knowledge on Sustainable Energy Practices:** Provide participants with a comprehensive understanding of energy utilization, conservation techniques, and emerging sustainable technologies in modern engineering.
- 2. Promote Efficient and Responsible Energy Management:** Highlight strategies to improve energy efficiency, reduce environmental impact, and optimize resource utilization across industrial and infrastructural sectors.
- 3. Encourage Industry-Academia Collaboration:** Facilitate interaction among researchers, industry professionals, and policymakers to share best practices and foster innovation in sustainable engineering solutions.
- 4. Address Challenges and Future Opportunities:** Identify key technological, economic, and policy challenges in sustainable energy systems and explore practical solutions and future research directions.

## Course Content

The course content outline for a five-day workshop on “Energy Utilization, Conservation, and Sustainability in Modern Engineering”:

### **Day 1: Fundamentals of Energy Utilization and Sustainability**

- Overview of Global Energy Scenario and Challenges
- Principles of Energy Conservation and Efficiency
- Role of Sustainable Engineering in Modern Development

### **Day 2: Energy Efficiency and Conservation Techniques**

- Energy Auditing and Management Practices
- Industrial Energy Optimization Methods
- Integration of Renewable Energy Systems

### **Day 3: Industrial Visit to JSPL Steel Plant, Patratu**

- Overview of Energy Management Practices at JSPL
- Interaction with Industry Experts on Sustainable Operations

### **Day 4: Sustainable Technologies and Applications**

- Waste-to-Energy and Resource Recovery Technologies
- Case Studies on Sustainable Engineering Solutions

### **Day 5: Policy, Economics, and Future Directions**

- Energy Policies, Standards, and Regulatory Frameworks
- Economic Aspects of Sustainable Energy Projects
- Future Research Directions and Collaboration Opportunities

### **Important Dates:**

|              |                          |
|--------------|--------------------------|
| Registration | 23/02/2026 to 06/03/2026 |
| Workshop     | 09/03/2026 to 13/03/2026 |

### **Accommodation:**

Nominally paid accommodation will be arranged for outstation participants in the institute guest house or hostels, subject to prior request and availability.

**Speaker:** Eminent academicians, industry experts, and distinguished researchers from leading industries and universities.

**Who Should Attend:** Faculty members, industry professionals, and scholar/students with an active interest in energy utilization, conservation, and sustainable engineering are encouraged to apply.

## **One Week Workshop on Energy Utilization, Conservation and Sustainability in Modern Engineering**

**Date: 09-13 March 2026**

### **Registration Details:**

Participants are required to complete the registration process on or before **6th March, 2026**.

### **Registration Fee: 100/-**

This includes seminar kit, lunch, and high tea.

### **Step-by-Step Payment Instructions**

Please follow the steps below to complete the registration:

1. Click on the payment link:  
<https://www.onlinesbi.sbi/sbicollect/icollecthome.htm?corpID=322526>
2. On the webpage, click on “Educational Institutes”.
3. In the search box, type “Birla Institute of Technology”.
4. Select Birla Institute of Technology (State: Jharkhand) from the list displayed.
5. On the Payment Category page, select “EUCSM-2026” from the dropdown menu.
6. Fill in the required details and complete the payment process.

**Participants are advised to keep a copy of the payment receipt for future reference.**

### **Registration Form Link:**

<https://forms.gle/dnznwjeALBFpB8ZT6>