

ABOUT THE INSTITUTE

The Indian Institute of Technology (Indian School of Mines), Dhanbad formerly known as Indian School of Mines, Dhanbad was formally opened on 09th December 1926, by Lord Irwin, the then Viceroy of India to address the need for trained manpower related to mining activities in the country with disciplines of Mining and Applied Geology. In 1967, it was granted the status of a deemed to be university under Section 3 of UGC Act, 1956. Since its establishment, IIT (ISM), Dhanbad has undergone considerable expansion of its activities and presently it can be considered as a total technology education Institute. Indian Institute of Technology (Indian School of Mines) is the only Institute of its kind in India caters to human resource needs of the nation in the areas of Mining, Petroleum, Mining Machinery, Mineral Engineering and Earth Sciences besides training manpower in the related disciplines of Management, Electrical Engineering, Electronics Engineering, Environmental Science and Engineering, Computer Science and Engineering, Chemical Engineering, Civil Engineering, Applied Science, Humanities and Social Science. The Institute is linked with reputed Universities and Institutes across the globe and has an alumni base all over the world. Today, the Institute is making a foray into the newer areas of academic endeavors in tune with the changing times.

ABOUT THE PROGRAMME

The program has been designed to keep in view the diverse aspects of electrical drives technology and safety issues of the minors and preventive maintenance of machinery under operations in underground and open-cast mines. Besides the huge production, safety is the first and foremost choice for the miners as well as the smart preventive maintenance of machineries is the vaccine for production. Also, the realization of the vast potential of its applications in various dimensions of its functioning has been considered. So, the topic is quite relevant

nowadays for sustainable mines to increase productivity efficiently and effectively with safety.

PROGRAMME PROFILE

The program is encapsulated in five days and the copy of presentation files and study materials shall be made available by resource persons. The following modules will be offered in the program:

- Introduction to power semiconductor devices, Power Electronics converters.
- Classical and solid-state electrical drives in mining application & control techniques.
- Man-winding systems: Mechanical & Electrical– case studies.
- Health monitoring of mining equipment for preventive maintenance.
- Importance and scope for innovation on mine machinery failures and analysis.
- Challenges in Men & Material transport systems in mines.
- Changing regulatory framework with reference to Occupational Safety Health & Working Condition.
- Indian Electricity Act, Regulation, Standards and the National Electric Code applied to mines.
- Case studies on electric shock hazards, fatal accidents and its prevention.
- Flameproof enclosure, intrinsic safety, lightning and its possible protection.
- Electric vehicles used in mines.
- Neutral grounding and equipment earthing practices for safe operation of mining equipment– case studies.
- Importance of Electrical & Mechanical Safety Audit in achieving zero accident– case studies.
- IoT and AI based approaches for monitoring of mines safety.
- Emergency lighting, cap-lamp charging and communication systems for mines- present & future.

- Exposure on advanced mine-research laboratories.

ABOUT THE DEPARTMENT

The Department of Electrical Engineering was formed in February 2005. The B.Tech. course in Electrical Engineering has been started in the academic session 2006-2007. As a part of the Department of Mining Machinery Engineering, the Electrical Engineering Section was fully functional with teaching and R&D activities from 1975. Along with the B.Tech. in Electrical Engineering, the Department runs M.Tech. in Power Systems Engineering, M.Tech. in Power Electronics and Electrical Drives. The Department also runs Ph.D. programmes. The Department has a history of strong R&D based research activity and it has produced several Ph.D. students. It has also published many research papers in foreign and Indian Journals and Conferences.

DURATION

Five days; from **17th August to 21st August 2026**. Reporting time: **17th August 2026 at 08:00 AM**.

VENUE

Seminar Room (No. 113), 1st Floor, New Academic Complex, Department of Electrical Engineering, IIT (ISM), Dhanbad, Jharkhand– 826004.

COURSE FEES

- **Non-residential** (*No accommodation*): **Rs. 50,000/- per participant** (includes charges towards registration kit, course material, certificate, 5-days working lunch, and tea). ***In addition, an extra 18% GST amount as per guideline of Govt. of India is applicable.***
- However, limited accommodation on a twin-sharing basis at EDC, IIT (ISM) Dhanbad as per availability may be provided on a first-come-first serve and additional payment basis.

REGISTRATION

The registration form duly filled along with the course fees may be sent to the coordinator on or before **10th August 2026** by **SPEED POST / Official e-mail**. The program brochure / registration form may also be available on the institute website (www.iitism.ac.in). The number of participants is limited on a first-come-first-serve basis. *Being an educational institute, IIT (ISM) is exempted from payment of Income Tax.*

The course fees may be paid through any one of the following:

1) **Demand Draft (DD):** DD in favor of “*IIT ISM CEP ACCOUNT*” payable at *Dhanbad*.

2) **Electronic Transfer:** Electronic transfer may be done to the following bank details:

- i) Name of Bank: CANARA BANK
- ii) Branch Name: Saraidhela, Dhanbad, Jharkhand-828127
- iii) Account No: 110261358281
- iv) Account Holder Name: IIT ISM CEP ACCOUNT
- v) IFSC Code: CNRB0000986
- vi) MICR Code: 826015003

Advanced copies of the duly filled registration form and course fees payment detail/ receipt are to be sent to the **Email ID:** <nitai@iitism.ac.in>. The course fee is refundable if the program is cancelled due to unavoidable circumstances.

REGISTRATION FORM

Executive Development Program
on

“Mine Electrical Drives Technology and Safety Challenges”

17th–21st August 2026

Organized by

**DEPT. OF ELECTRICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY
(INDIAN SCHOOL OF MINES)
DHANBAD – 826004, JHARKHAND**

1. Name: _____
(Capital Letters with Surname)

2. Designation: _____

3. Organization/Institution: _____

4. Office Address: _____

5. Phone (Office) : _____
(Residence) : _____

6. Mobile No.: _____

7. Email ID: _____

8. Gender (M/F): _____

9. Payment Details: Payment enclosed

(DD No. _____ Date _____, Drawn
from _____ Amount _____).

Date: _____ *Signature*

Executive Development Program

on

“Mine Electrical Drives Technology and Safety Challenges”

Duration: 17th–21st August 2026

**Venue: Seminar Room (No. 113), 1st Floor,
New Academic Complex, Department of
Electrical Engineering, IIT(ISM) Dhanbad**



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**DEPT. OF ELECTRICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY
(INDIAN SCHOOL OF MINES)
DHANBAD – 826004, JHARKHAND**

PROGRAMME COORDINATORS

Prof. Nitai Pal, Professor & CI

and

Prof. Pradip Kumar Sadhu, Professor (HAG) & Co-CI

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