

Information Brochure

2024-2025



3 Year M.Tech Programmes (Electrical Engg and Mechanical Engg)

INDIAN INSTITUTE OF TECHNOLOGY
(INDIAN SCHOOL OF MINES)
DHANBAD – 826004
Jharkhand, India

@ New Delhi

&

@ Kolkata

About IIT (ISM)

The **Indian Institute of Technology (Indian School of Mines), Dhanbad** is one of the most reputed Institutes for technological education and research in India. From its inception in 1926 the institute had a national outlook. What started as an institution to impart mining education has graduated into a full-fledged technical institution of international acclaim offering programs like B.Tech, Dual Degree, Double Major Integrated M.Tech, M.Tech, MSc, MSc Tech., MBA, Executive MBA, PhD and Post-Doctoral Fellowship programme. The institute has relations with reputed universities worldwide.



The serene campus comprises academic buildings, student hostels and 100% residential facilities for faculty and staff apart from other infrastructure facilities for a cosmopolitan community. The Institute has links with reputed universities and institutes across the globe and has an alumni base all over the world. The Institute today is making foray into the newer areas of academic endeavours in tune with the changing times.

Indian Institute of Technology (ISM), Dhanbad is offering three years M Tech programme for Working Executives / Academicians who could not complete their M. Tech. as full time regular student, for the academic session 2024-2025.

IIT (ISM) Institute Industry Interaction Facility (IIIF)

at:

- **NBCC Centre, 4th Floor, Plot No. II, Okhla, Phase – I, New Delhi, 110020**
- **NBCC Shopping Centre, Street 175, CE Block, New Town, Rajarhat, West Bengal, Kolkata 70156**

Will be used for academic interaction with the students mostly on weekends.

It is a slow pace programme without compromising the course structure or contents. This aims to help the Working Executives / Academicians to improve their technical aptitude and opts for Higher Degree as a regular student within the existing pace of the program with some time expansion to promote completion of program.

This is essentially a self-financing programme for working class executives of the industry and academicians with adequate professional focus.

Course Structure is distributed in six semesters and is designed to prepare Working Executives / Academicians for professional careers in the area.

Candidates may be permitted to do their dissertation (in final year) in industries and other approved organizations.

1. Candidates seeking admission to M.Tech. Programme of the Institute should have Minimum 60% or CGPA/CPI of 6 in 10 point scale (without rounding off) in the qualifying degree for UR (Unreserved)/OBC candidates
2. Minimum 50% or CGPA/CPI of 5.0 in 10 point scale (without rounding off) in the qualifying degree for SC/ST candidates.
3. Executives / Academicians / supervisors with **one** year's post qualification experience from reputed industrial / R&D, Academic Institute, public sector, Government, Semi-Government and reputed private sector organisations are eligible.

About The Programme

Eligibility Criteria

Courses

- (i) M. Tech in Electrical Engineering with following Specializations:
 - (a) Power System Engineering (PSE)
 - (b) Power Electronics and Electrical Drives (PEED)
- (ii) M Tech in Mechanical Engineering(MECH)

Intake

(i) Electrical Engineering:	
PSE	30
PEED	30
(ii) Mechanical Engineering (MECH)	50

Qualifying Degree

M.Tech. in Electrical Engineering (specialization in PSE):

B.E./B.Tech. or equivalent degree in Electrical / Electrical & Electronics / Power Plant Engineering and / or in the relevant field of Electrical Engineering.

M.Tech. in Electrical Engineering (specialization in PEED):

B.E./B.Tech. or equivalent degree in Electrical / Electrical & Electronics / Power Plant Engineering / Electronics / Electrical & Instrumentation / Electrical & Communication / Electronics & Communication / Instrumentation / Electronics & Instrumentation / Power Electronics & Drives and / or in the relevant field of Electrical Engineering.

M.Tech. in Mechanical Engineering (MECH):

B.E./B.Tech. or equivalent degree in Mechanical Engineering / Production / Manufacturing / Automobile /Aeronautical / Aerospace Engineering and/or in the relevant field of Mechanical Engineering

- The M Tech Program is of three years duration (Six Semesters).
- Session commences as per IIT (ISM), Dhanbad Academic Calendar.
- The classes will be held at **Institute Industry Interaction Facility (IIIF) of IIT (ISM), Dhanbad at New Delhi and Kolkata** , preferably in the following schedule:
 - Saturday- 03:00 PM to 8:00 PM**
 - Sunday- 10:00 AM to 8:00 PM**
 - Monday to Friday - 06:00 PM to 8:00 PM (If necessary)**
- Candidates will be required to visit IIT (ISM), Dhanbad for practical classes on selected weekends (Saturdays and / or Sundays).

Duration

Course Fee

The total programme fee is Rs. 5,10,500.00 (Five Lakhs ten thousand five hundred only) payable in six instalments:

- Rs. 97,400/- at the time of admission as a fee for first semester.
- Rs. 81,300/- as a fee for second semester.
- Rs. 84,600/- as a fee for third semester.
- Rs. 81,300/- as a fee for fourth semester.
- Rs. 84,600/- as a fee for fifth semester.
- Rs. 81,300/- as a fee for sixth semester.

This is a self-financed course and therefore, no fee waiver / exemption will be allowed and there is no provision for payment of scholarship to the student under these courses.

Rules for withdrawal and refund of admission fee is same as that of 2 year M.Tech programme.

Application Process

Application for Admission in the Three-Year M Tech. Program will be invited by the Admission Cell of the institute. **Application Fee (Non-Refundable):** Rs. 2000.

Or

Through the agencies/organization/industry having a MoU with the Institute. In both the cases cited above, all the application forms will be scrutinized by the Admission Committee of the concerned department.

All the applications are through following online portal:

<https://www.iitism.ac.in/>

“Admissions” link may be clicked on this portal to start application process.

Selection

Selection will be on the basis of GATE/written test (if required) to be conducted by the IIT (ISM) Dhanbad, followed by an Interview. Final selection shall be based on aggregate scores of written test/Interview. GATE qualified candidates are eligible for direct admission. Syllabus of written test/Interview is as per GATE examination

If it is observed that all the eligibility criteria have been fulfilled by the candidate then the HOD of the department will send the list of the candidates to the Admission Cell for final verification and issuing of the admission letter after approval from the competent authority.

NOTE: The institute will not issue any letter to any candidate regarding appearing for attending interview as well as selection to the Programme. The candidates must consult institute's website (www.iitism.ac.in) regularly in this regard or for any updates, if any. The Institute reserve the right of not running any/all the courses, if number of admitted students are less than ten.

- **Application Form Availability in the Website: 08/04/2024**
- **Closing of Online Application: 12/07/2024**
- **Date of Written test/Interview at IIF (Kolkata & New Delhi): 14/07/2024**
- **Publication of Result on website and Notice Board of IIF (Kolkata & New Delhi): 18/07/2024**
- **Admission of selected candidates at IIF (Kolkata & New Delhi): 21/07/2024**
- **Physical registration and Commencement of classes in IIF (Kolkata & New Delhi): 27/07/2024**

Total Courses in first four semester: 5 DC + 4 DE + 1 OE + 4 DP (As per NEP 2020)
Thesis unit will be covered in Fifth and Sixth Semester.

DC Courses (PSE&PEED): Power System Analysis, Modelling of Electrical Machines, Advanced Control System, Power Electronics Converter, Renewable Energy Sources, Soft Computing Techniques, Industrial Instrumentation, HVDC Transmission and FACTS etc.

DE / OE Courses for PSE: Wireless Power Transfer, Smart Grid Technology, Power System Dynamics, Advanced Power System Protection, Power Quality, Power System Optimization, High Voltage Engineering, Power System Transients, Digital Control of Power Electronics and Drives etc.

DE / OE Courses for PEED: Design of Power Converters, Advanced Machine Drives, Wireless Power Transfer, Digital Control of Power Electronics and Drives, Power Electronics for Renewable Energy Systems, High Power Converters, Multivariable Control and Estimation, Smart Grid Technology, Electric & Hybrid Electric vehicles, Condition Monitoring of Electrical Machines, Modern Sensors and Signal Conditioning Circuits, Mines Instrumentation etc.

DP Courses (PSE & PEED): Advanced Electrical Machine Lab, Advanced Power System Lab, Advanced Power Electronics Lab, Advanced power System Simulation Lab, Advanced Drives Lab, Advanced Power System Protection Lab etc.]

DC Courses (MECH): Mechanical Vibration, Advanced Heat Transfer, Advances in Machining, Fluid Power Systems and Control, Theory of Elasticity, Unconventional Manufacturing Processes, Numerical Methods, Basics of Scientific Computing etc.

DE Courses (MECH): Thermo-Production Processes, Theory of Metal Forming, Advanced Thermodynamics, Engineering Tribology etc.

OE Courses (MECH): Refrigeration and Air-conditioning, Robotics, Additive Manufacturing, Automation and Control etc.

DP Courses(MECH):: Machining Lab, Thermo-fluids Lab, Additive Manufacturing Lab, Mechanical Characterization Lab, Modelling and Simulation Lab, Computational Fluid Dynamics Lab etc.

[DC: Departmental Core, DE: Departmental Elective, OE: Open elective, DP: Departmental Practical. Above is indicative only, detail course structures are available in institute portal www.iitism.ac.in, Institute have rights to change, modify of the course structure internally without prior notice]

Important Dates

Course Structure

- Mid Semester Examination/End Semester Examination will be conducted in offline Mode at IIT(ISM) Campus.
- At the end of the fourth semester. One supervisor from the Institute and co-supervisor (optional) from the respective Industry/company/R & D organization.
- Presentation of research work for evaluation in Offline Mode at the end of relevant semester within the specified duration given in the Academic Calendar.
- M Tech Degree (under 3 Year M Tech Program) will be awarded to the candidates upon fulfilment of all the requirements of successfully completing the program as per IIT(ISM) rule.

Examination

Supervisor
Allotment

Evaluation of
Thesis

Award of Degree

Contact Persons

Electrical Engineering:

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Prof S K Ghosh

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JURISDICTION: *In case any claim or dispute arises in respect of 3 Year M.Tech. Admission and related issues, it is hereby made absolutely clear that the Courts at Dhanbad and Dhanbad alone shall have the exclusive jurisdiction to entertain and settle any such dispute or claim.*

