



M.Tech Program in Electric Transportation

Jointly offered by

**Advanced Technology Development Centre
and
Department of Electrical Engineering**

Indian Institute of Technology Kharagpur

Major Courses & Research Areas

**Automotive
Power Converters**

**Automotive
Motor Drives**

**Automotive
Dynamics &
Control**

Smart EV Charging

**Embedded
Control of Drives**

**Automotive
Electronics**

**Battery & Fuel
Cell Powered HEV**

**Intelligent
Transportation**

**E-Transportation
System Design**

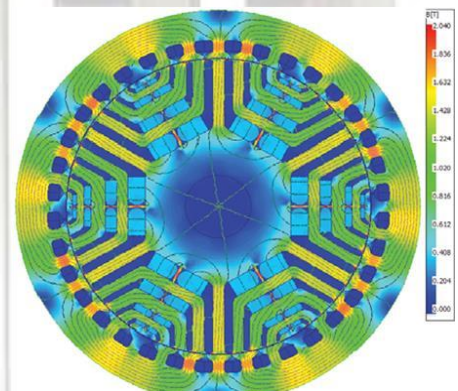
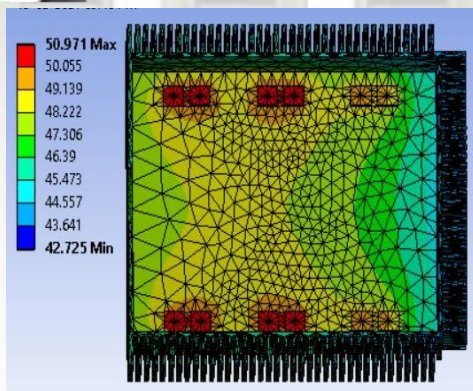
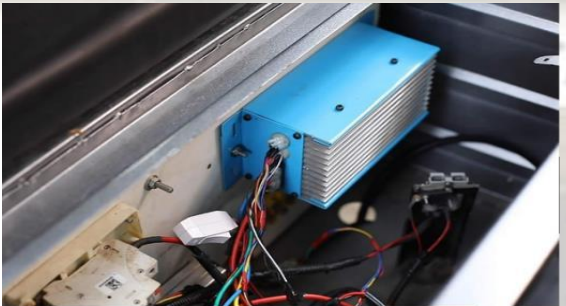
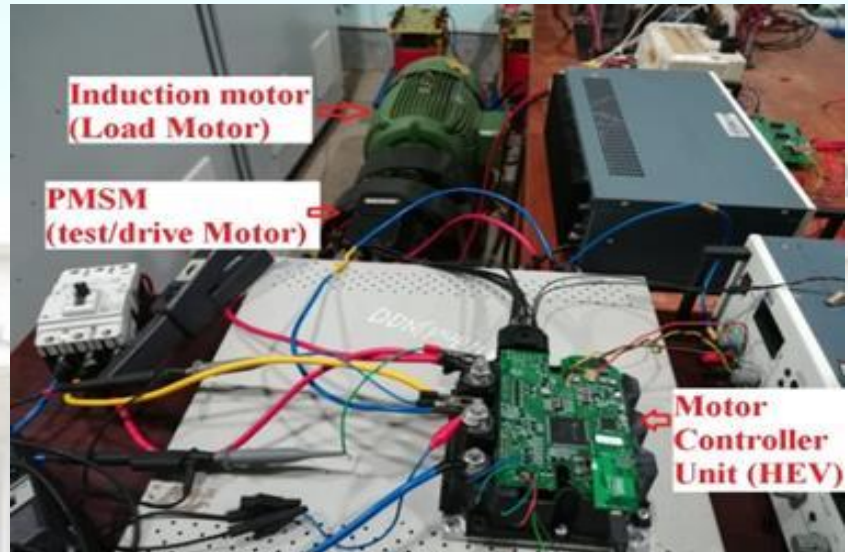
-  **Invited Lectures from Industry Experts**
-  **Summer Internship Opportunities**
-  **Research Opportunities on Trending Areas**
-  **Placements in Reputed EV & HEV Industries**

**Admissions
Open**

Eligibility Criteria

➔ **GATE Papers: EE, EC, IN, and ME**

➔ **BE/B.Tech in EE, EC, IN, ME and related disciplines**
(Ref: JMP Brochure-2025)



Contact Details

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M.TECH. IN ELECTRIC TRANSPORTATION (Jointly offered by ATDC & EE Dept.)
Course Curriculum

SEMESTER NO-1

SUBJECT NO	SUBJECT NAME	LTP	CRD	SUBJECT TYPE
AT60201	PRINCIPLES OF AUTOMOTIVE DYNAMICS AND CONTROL	3-0-0	3	CORE I
ES61207	BATTERY STORAGE & FUEL CELLS	3-1-0	4	CORE II
EE69247	PG POWER ELECTRONICS LAB	0-0-3	2	CORE III
AT69145	SEMINAR	0-0-3	2	CORE IV
	<i>List of Elective Subjects is mentioned below</i>			ELECTIVE I
				ELECTIVE II
				ELECTIVE III

SEMESTER NO-2

SUBJECT NO	SUBJECT NAME	LTP	CRD	SUBJECT TYPE
AT61202	AUTOMOTIVE ELECTRONICS	3-1-0	4	CORE V
EE60002	ADVANCED MACHINE DRIVES	3-1-0	4	CORE VI
AT60202	INTELLIGENT TRANSPORTATION SYSTEM	3-0-0	3	CORE VII
AT69202	ELECTRIC TRANSPORTATION SYSTEMS DESIGN LAB	0-0-3	2	CORE VIII
AT69002	EMBEDDED APPLICATIONS LABORATORY	0-0-3	2	CORE IX
AT67222	PROJECT - 1	0-0-3	2	CORE X
	<i>List of Elective Subjects is mentioned below</i>			ELECTIVE IV
				ELECTIVE V
				ELECTIVE VI

SEMESTER NO-3

SUBJECT NO	SUBJECT NAME	LTP	CRD	SUBJECT TYPE
AT68221	SUMMER INTERNSHIP	0-0-6	4	CORE XI
AT67223	PROJECT - 2	0-0-0	16	PROJECT -II

SEMESTER NO-4

SUBJECT NO	SUBJECT NAME	LTP	CRD	SUBJECT TYPE
AT67224	PROJECT - 3	0-0-0	20	PROJECT -III

LIST OF ELECTIVES

AT60203	EMBEDDED CONTROL OF ELECTRICALDRIVES:DESIGN AND IMPLEMENTATION	3-0-0	3	
EE61207	AUTOMOTIVE POWER CONVERTERS	3-1-0	4	
AT60204	DESIGN OF POWER ELECTRONICS CONVERTER SYSTEM	3-0-0	3	
AT60001	EMBEDDED CONTROL SYSTEMS	4-0-0	4	
AE60005	PROPULSION	3-1-0	4	
CE60013	URBAN TRANSPORTATION SYSTEMS PLANNING	4-0-0	4	
CS61063	COMPUTATIONAL FOUNDATIONS OF CYBER PHYSICAL SYSTEMS	3-1-0	4	
EC60503	EMBEDDED SYSTEMS DESIGN	3-1-0	4	
EE61211	RADIO FREQUENCY INTEGRATED CIRCUITS	3-1-0	4	

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ME60103	MACHINERY FAULT DIAGNOSTICS AND SIGNAL PROCESSING	3-1-0	4	
ME60403	VIBRATION ANALYSIS	3-1-0	4	
ME60419	MODELING AND SIMULATION OF DYNAMIC SYSTEMS	3-1-0	4	
RE61003	RELIABILITY ENGINEERING	3-1-0	4	
AI61005	ARTIFICIAL INTELLIGENCE: FOUNDATIONS AND APPLICATIONS	3-1-0	4	
EC60603	MODERN DIGITAL COMMUNICATION TECHNIQUES	3-1-0	4	
EE60005	RENEWABLE AND DISTRIBUTED ENERGY SYSTEMS	3-1-0	4	
EE60039	PROBABILITY AND RANDOM PROCESSES FOR SIGNALS AND SYSTEMS	3-0-0	3	
EE61011	AUTOMOTIVE SENSORS AND INSTRUMENTATION	3-1-0	4	
EE61201	INTRODUCTION TO ELECTRICAL MACHINES AND DRIVES	3-1-0	4	
RE61003	RELIABILITY ENGINEERING	3-1-0	4	
AI61005	ARTIFICIAL INTELLIGENCE: FOUNDATIONS AND APPLICATIONS	3-1-0	4	
EC60603	MODERN DIGITAL COMMUNICATION TECHNIQUES	3-1-0	4	
EE60005	RENEWABLE AND DISTRIBUTED ENERGY SYSTEMS	3-1-0	4	
EE60039	PROBABILITY AND RANDOM PROCESSES FOR SIGNALS AND SYSTEMS	3-0-0	3	
EE61011	AUTOMOTIVE SENSORS AND INSTRUMENTATION	3-1-0	4	
EE61201	INTRODUCTION TO ELECTRICAL MACHINES AND DRIVES	3-1-0	4	
EE61207	AUTOMOTIVE POWER CONVERTERS	3-1-0	4	
EE61209	LINEAR SYSTEMS AND CONTROL	3-1-0	4	
EE61211	RADIO FREQUENCY INTEGRATED CIRCUITS	3-1-0	4	
AE60020	AUTOMATIC CONTROL OF AIRCRAFT	3-0-0	3	
CE60014	TRAFFIC ENGINEERING	4-0-0	4	
EE60008	DISTRIBUTED SIGNAL PROCESSING IN SENSOR NETWORKS	4-0-0	4	
EE60012	OPTIMAL CONTROL	3-1-0	4	
EE60014	NON-LINEAR CONTROL	3-1-0	4	
EE61211	RADIOFREQUENCY INTEGRATED CIRCUITS	3-1-0	4	
EE60004	ADVANCED POWER ELECTRONIC CONVERTERS	3-1-0	4	
EE60034	INDUSTRIAL AUTOMATION AND CONTROL	3-1-0	4	
EE60036	MODEL PREDICTIVE CONTROL WITH APPLICATIONS	3-0-0	3	
EE60044	MODELING AND SIMULATION OF POWER ELECTRONIC SYSTEM	3-0-0	3	
EE60202	MODELING AND IDENTIFICATION	3-0-0	3	
EE61211	RADIO FREQUENCY INTEGRATED CIRCUITS	3-1-0	4	
ET60006	AUDIO SYSTEMS ENGINEERING	3-0-0	3	
ME60006	FUNDAMENTALS OF ELECTRONIC PACKAGING	3-0-0	3	