Faculty Development Programme on

Electric Vehicle Design using ANSYS and Performance Analysis Using

In collaboration with ISTE-BNY

BNY

Organised by-

DEPARTMENT OF

ELECTRICAL ENGINEERING

TECHNIQUE POLYTECHNIC INSTITUTE

Panchrokhi, Sugandhya, Hooghly

West Bengal – 712102

Approved by

AICTE and

Affiliated to

WBSCTVESD

(Formerly known as WBSCTE)

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Chief patron : Mr. Tapas Kumar Saha, Chairman, TPI & Secretary, BEF
Patron : Mr. Partha Sarathi Bhattacharya, Dean (Academic Affairs)
Chairperson : Dr. Avijit Karmakar, Principal, TPI
Co-ordinator : Mrs. Anjana Sengupta
Joint Co-ordinator : Mr. Snehashis Das

Organizing Committee Members :

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Mr. Sayak Pal
Mr. Pintu Das
Miss Tithi Mukhopadhyay
Mrs. Tiasha Roy
Mr. Pritam Ukil
Mr. Braja Gopal Dey
Mr. Debasish Hati

Mode of Conduct : online
Certification : E-certificates

Eligibility for Completion :
80% attendance, 60% marks in session end examination

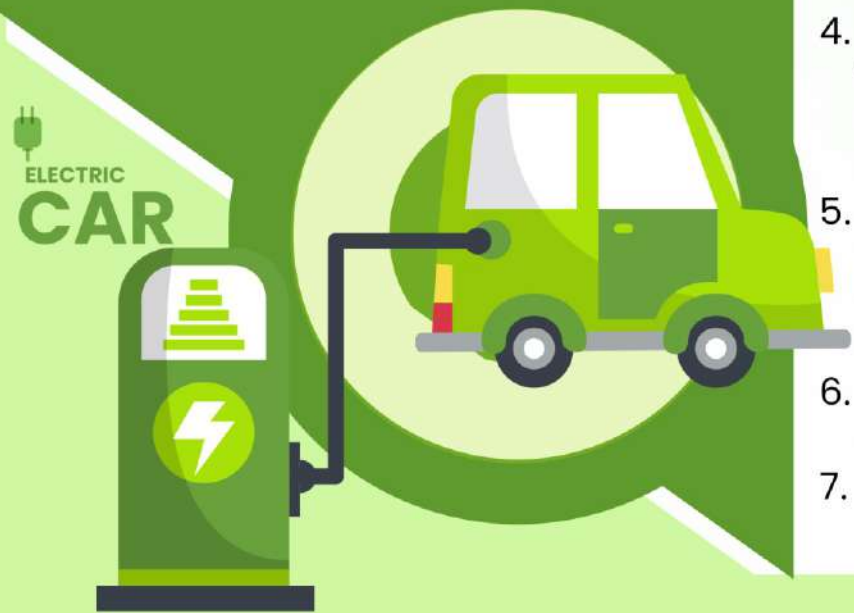
Priority will be given to ISTE Life Members

The registration and participation will be acknowledged on First Come First Served basis, considering 50 seats only

Registration link :
https://forms.gle/z6kiRViSaF4jQgzh8

ABOUT INSTITUTE : The College offers Diploma courses in various fields of engineering and technology. The Institute is situated at Panchrokhi, Sugandhya which is within the immediate vicinity of Historical cities as Hooghly and Bandel. Technique Polytechnic Institute has been the first Diploma College in West Bengal to to get NBA accreditation for the Department of Electrical Engineering. In later years, all the other courses were accredited. The institute has ISTE mebership along with Faculty Chapter and Student Chapter.

ABOUT DEPARTMENT OF ELECTRICAL ENGINEERING : The Department of Electrical Engineering has been imparting quality education and nurturing professional competencies among the students in the aim of exhibiting exuberant skill along with simultaneous capability of unpretentious learning since the inception of the Institute. Time and again, our students have proved their proficiencies be it professional workspace or higher education. We were recognized and certified of our aptitude by the National Board of Accreditation in the year 2014 as the only Department of the first ever Diploma College in the West Bengal.



ABOUT ISTE-BNY : The ISTE-BNY Knowledge Enhancement Programme is a collaborative initiative between the Indian Society for Technical Education (ISTE) and BNY Mellon, designed to upgrade the technical skills of engineering faculty and students in India. Primarily focused on emerging technologies such as Artificial Intelligence (AI) and Machine Learning (ML) applications in power systems and renewable energy, this one-week online faculty enhancement programme aims to bridge the gap between academic curriculum and industry requirements. Targeted toward ISTE institutional members, the training programs are conducted by industry experts & academic experts, often with a focus on practical applications, to foster skill development and enhance employability among technical education participants.

OBJECTIVE OF THE FDP :

1. Provide comprehensive understanding of EV architecture and subsystem integration.
2. Train participants in ANSYS tools for EV component design.
3. Enable participants to study and analyze different motors & power electronics devices required in the functioning of EV.
4. Develop a quality management flowchart for battery pack modeling and list the critical parameters.
5. Introduce AI\ML techniques for State of Health estimation, congestion prediction, design optimization, fault detection.
6. Acquaint with the industry case studies.
7. Inform the Government plans & policies.

TOPIC	MAPPING
• EV architectures and subsystems.	CO1
• Importance of magnetic circuit design and introduction to ANSYS software and Design and analysis of electromagnetics using ANSYS (hands on approach)	CO1, CO2
• Theoretical Modeling of electric vehicle power train for performance optimization with Simulation &Performance analysis of electric vehicle power train using MATLAB/ Simulink.	CO1, CO2
• AI driven EV fault prediction and performance analysis	CO1, CO2, CO4
• National Education Policy, 2020	CO1-CO6
• An optimized Bi-LSTM machine learning (ML) model for predicting congestion at electric vehicle charging stations	CO1, CO2, CO4
• Design of high efficiency motor for electric vehicle applications using ANSYS	CO1, CO2
• AI in Electric vehicle battery management systems (BMS)	CO1, CO4
• Sustainable energy management solution of a fuel cell hybrid electric vehicle Sustainable energy management solution of a fuel cell hybrid electric vehicle	CO1
• Research in EV Industry	CO1, CO6
• Importance of mental and emotional development and stress management in professional life Importance of mental and emotional development and stress management in professional life	CO6
• Adaptive control of Quasi Dynamic electric vehicle charging under Grid constraints	CO1-CO6
• Fundamentals & applications of Li ion battery technology and the CTQs	CO1, CO3
• AI and ML applications in EV performance analytics	CO1, CO2
• Government plans and policies for EV industry Government plans and policies for EV industry	CO1, CO6
• Role of academicians and researchers in the EV industry	CO1, CO6

After completion , participants will be able to-

CO1. Explain and analyze the architecture and operational principles of Electric Vehicle substations

CO2. Develop simulation models of EV, inverters, traction motors and its parts using MATLAB and ANSYS tools and interpret electromagnetic performance parameters

CO3. List the critical testing quantities of the battery

CO4. Apply AI and ML algorithms to predict and optimize performance parameters

CO5. Explain the effect of EV charging stations on existing power supply system

CO6. Design industry relevant EV laboratory modules, research proposals or student projects

Participants will demonstrate their ability to apply FDP learning into academic, research & industry oriented applications

DATE	SESSION	TIME	PROGRAMME OUTLINE	EMINENT PERSON
29th June, 2026		10:30 - 10:45	Lighting the lamp & Rashtriya Geet	
		10:45 -11:00	Inaugural Speech	**Dr. Avijit Karmakar** (Principal, TPI) 
	1st	11:00 - 11:15	Introductory Talk	**Mr. Partha Sarathi Bhattacharya,** Dean (Academic Affairs) 
		11:15 - 11:30	Introductory Talk	**Mr. Snehashis Das** In-Charge, Electrical Engineering Department, TPI 
		11:30 - 12:00	Speech by the Chief Guest	
	2nd	12:30 - 14:00	EV architectures and subsystems.	**Dr. Pradip Kumar Sadhu** Professor (HAG) Department of Electrical Engineering IIT(ISM), Dhanbad 
	3rd	15:00 - 16:30	Importance of magnetic circuit design and introduction to ANSYS software and Design and analysis of electromagnetics using ANSYS (hands on approach)	**Mr. Rajeev Kumar** Assistant Professor Department of Electrical Engineering, Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda 
30th June, 2026	1st	10:30 -12:00	Theoretical Modeling of electric vehicle power train for performance optimization with Simulation &Performance analysis of electric vehicle power train using MATLAB/ Simulink.	**Mr. Subinay Sarkar** Lecturer, Technique Polytechnic Institute. Research Scholar Jadavpur University Department of Electrical Engineering 
	2nd	12:30 - 14:00	AI driven EV fault prediction and performance analysis .	**Dr. Surajit Chattopadhyay** Associate Professor (HoD) Department of Electrical Engineering, Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda 
	3rd	15:00 - 16:30	National Education Policy, 2020	**Dr. Urmila Kar** Head and Professor Education and Management NITTTR, Kolkata 
1st July, 2026	1st	10:30 -12:00	An optimized Bi-LSTM machine learning (ML) model for predicting congestion at electric vehicle charging stations	**Dr. Amarjit Roy** Assistant Professor Department of Electrical Engineering, Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda 
	2nd	12:30 - 14:00	Design of high efficiency motor for electric vehicle applications using ANSYS	**Mr. Rajeev Kumar** Assistant Professor Department of Electrical Engineering, Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda 
	3rd	15:00 - 16:30	AI in Electric vehicle battery management systems (BMS)	**Mr. Indranil Kushary** Research Scholar Jadavpur University 
2nd July, 2026	1st	10:30 -12:00	Sustainable energy management solution of a fuel cell hybrid electric vehicle	**Dr. Chiranjit Sain** Assistant Professor Department of Electrical Engineering, Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda. 
	2nd	12:30 - 14:00	Research in EV Industry	**Mr. Abdul Gaffar** R&D Manager, Valeo India pvt ltd. 
	3rd	15:00 - 16:30	Importance of mental and emotional development and stress management in professional life	**Mr. Mrinal Chaklader** Soft Skill Trainer , Motivational Speaker and A Certified Life Coach [NLP Expertise] 

DATE	SESSION	TIME	PROGRAMME OUTLINE	EMINENT PERSON
3rd July, 2026	1st	10:30 -12:00	Adaptive control of Quasi Dynamic electric vehicle charging under Grid constraints	**Dr. Sandip Chanda** Associate Professor Department of Electrical Engineering, Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda 
	2nd	12:30 - 14:00	Fundamentals & applications of Li ion battery technology and the CTQs.	**Mr. Biswadeep Das** QA engineer Exide Industries Limited Haldia 
	3rd	15:00 - 16:30	AI and ML applications in EV performance analytics	**Mr. Pratik Biswas** Manager (Commercial) Damodar Valley Corporation 
4th July, 2026	1st	10:30 -12:00	Government plans and policies for EV industry	**Mr. Arkajyoti Bhattacharjee** Senior Consultant Deloitte Touche Tomatsu India LLP 
	2nd	12:30 - 14:00	Role of academicians and researchers in the EV industry.	**Dr. Sujit Kumar Biswas** Former Professor Jadavpur University Department of Electrical Engineering 
	3rd	15:00 - 15:30	Interaction with participants	
		15:30 - 16:15	Test	
		16:15 - 16:30	Vote of Thanks	**Mrs. Anjana Sengupta** Co-ordinator, Faculty TPI 
		16:30	Rashtriya Gaan	

Dates : 29th of June, 2026 - 4th of July, 2026

Department of Electrical Engineering

Technique Polytechnic Institute

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Contact Person :

Co-Ordinator & Jt. Co-Ordinator

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Last Date of Registration:
31st May, 2026