PROGRAMME HIGHLIGHTS

AICTE will do the certification of this program. Technical Sessions including hands on training will be handled by the experts from IIITDM, NIT, Anna University and Affiliated Institutions. This programme will be considered for Career Advancement Schemes of AICTE.

HOW TO APPLY

The applicants should register at AICTE-ATAL web portal at the earliest.

Website : http://www.aicte-india-org/atal

ELIGIBILITY AND SELECTION

Faculty members in the cadre of Associate Professors, Assistant Professors, Ph.D. Scholars and PG students can register as participants. Selection is on "first come first serve" basis. Selection will be intimated through mail and selected participants should confirm their participation.

REGISTRATION

- No Registration Fee
- TA/DA will be provided as per AICTE Norms
- Selected Participants should attend the program at EEE Department, GCE, Bodinayakkanur for the entire duration.

CHIEF PATRON

Dr. C.VASANTHANAYAKI, B.E., M.E., Ph.D.,
PRINCIPAL

Coordinator

Dr. C. PONMANI
Professor (CAS)/EEE

Co - Coordinator

Dr. SUJATHA BALARAMAN
Professor (CAS)/EEE

Organizing Committee

Dr. N.V.UMA MAHESWARI, AP/EEE
Dr. M. MURUGAN, AP/EEE
Mr. R. VINOTH KANNAN, AP/EEE

Address for Correspondence

Dr. C. PONMANI,
Coordinator, AICTE-ATAL FDP,
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Government College of Engineering,
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One Week

AICTE -Teaching and Learning (ATAL) Academy

Sponsored

Faculty Development Programme

On

"Design and Challenges of Electric Vehicles and Charging Systems"

September 02- 07, 2024

Coordinator
Dr. C. PONMANI
Professor (CAS)

Co - Coordinator
Dr. SUJATHA BALARAMAN
Professor (CAS)

Organized By
Department of Electrical and Electronics Engineering,
Government College of Engineering,
Bodinayakkanur – 625 582.

ABOUT THE INSTITUTION

Government College of Engineering, Bodinayakkanur, a spice valley of Tamil Nadu, affiliated to Anna University, Chennai is one of the esteemed institutions in India. It was founded in 2012 for the welfare of students in the western region of Tamil Nadu. It occupies 10.06 acres of space. GCE, Bodinayakkanur offers five undergraduate courses. More than fifty permanent faculty members provide them with excellent teaching and training. All departments have set up laboratories equipped with cutting edge technology to conduct research.

INSTITUTE VISION

To be a global, vibrant and innovative centre for Technical Education, to equip students with knowledge and skills in Engineering, expose hidden talents, opportunities to realize their full potential, inculcate national and human values and thus shape them into future professional engineers, entrepreneurs and above all good human beings.

INSTITUTE MISSION

The mission of the College is to contribute to society through promotion of teaching, learning and knowledge by developing the personality of students in a holistic manner by combining skills and values and by assimilating global development in education and adopting the latest technology.

EEE DEPARTMENT

EEE Department was started since the commencement of the college. The department along with its highly qualified faculty members started functioning right from inception and engages actively in teaching Electrical and Electronics Engineering Programme. State of the art experimental and computational facilities are available in the department.

ABOUT THE COURSE

The drive for zero-emission vehicles led to numerous research and development initiatives on electric vehicles in many countries. The internal combustion engine vehicles are having many precisely designed moving parts for the successful operation. Therefore the cost of engine becomes expensive and heavier. All the moving parts create a quick wear and tear, and leads to more maintenance requirement. The losses in heat engine are more because of the wastage of oil in the engine and thus lesser energy efficiency around 25 % only. On the other hand, Electric Vehicle motor drive trains are having less number of parts, relatively light in weight, compact in size and less expensive. Electric motors require less maintenance compared to IC engine vehicles. Energy is regenerated back to the source during regenerative braking operation. Hence electric vehicles can accelerate much faster and market penetration becomes quick. Electric vehicles and charging system infrastructure is not developed to the expected level in our country.

This FDP aims to impart knowledge and skills in the thrust areas of electric motor drives and controllers, Power circuit design of different types of converters used for electric vehicles and charging systems and challenges, Benefits and challenges of V2G/G2V operation, Wireless power transfer techniques, International standards and regulations, Challenges in Electromagnetic field effect of EV charging stations and IoT applications in electric vehicles. Experts from renowned Institutions and Industries are arranged for handling the sessions.

COURSE CONTENTS

Design And Challenges of Electric Vehicle Power Trains

Electric Vehicle Mechanics

Motors and controllers for Electric Vehicles

Battery Modelling, Types and BMS

Types of Electric Vehicle Chargers, Standards and regulations

Overview on Electromagnetic field effect of Electric Vehicle Charging station

Design of power Converters for Electric Vehicle Charging

Wireless power Transfer Technologies and Trends

Electric Vehicle Charging V2G and G2V using renewable and storage systems

Control strategies for Electric Vehicle Charging/Discharging Systems

Benefits, Challenges and Solutions to V2G/ G2V grid integration of Electric Vehicles

IoT applications in Electric Vehicles

Hands on Training
Life Skills