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EEE-8/2024-2025

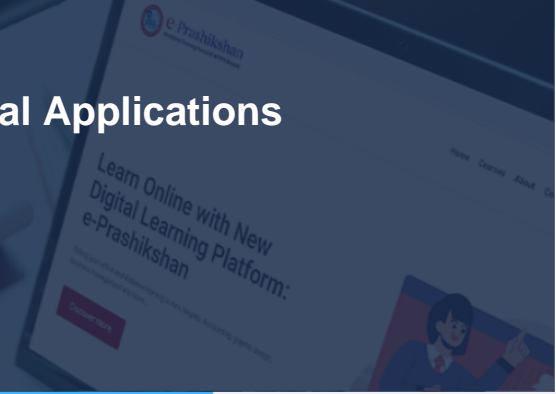
Power Converters for Electrical Applications

23-09-2024 to 27-09-2024

NITTTR Bhopal



<https://erp.nittrbpl.ac.in/poc2024/?id=regEEE-8>



Rationale

Power converters are essential for transforming electrical energy from one form to another, enabling efficient energy transfer, voltage regulation, and control across various applications. These applications span renewable energy systems, electric vehicles, industrial automation, and consumer electronics, where power converters facilitate the integration of various energy sources and optimize electrical power usage.

Educating professionals in power converter technology is crucial to meet the growing demand for energy-efficient solutions, reduce environmental impact, and drive innovation in the dynamic field of electrical engineering. This program aims to provide participants with in-depth knowledge and practical skills in designing, operating, and applying power converters. Doing so prepares them to address current challenges and contribute to the development of sustainable electrical systems for the future.

Programme Outcomes

- Identify various types of power converters used in electrical applications
- Summarise the impact of converter topology, switching frequency, and modulation techniques
- Critique existing power converter designs
- Demonstrate the ability to select appropriate power converter topologies and components
- Apply control strategies and modulation techniques to design power converters
- Compare different power converter topologies.
- Analyse the impact of design parameters
- Design a suitable DC-DC converter for EVs

Programme Content

The program aims to provide participants with a thorough understanding of power converter technology and its applications across various electrical systems, preparing them to design, analyze, and implement power converters for diverse electrical applications. The contents include Introduction to Power Converters, Classification of Power Converters, Power Electronic Converters in Renewable Energy, Control and Modulation Techniques Emerging Trends GaN and SiC Technologies.

Target Group

Faculty of Electrical Engineering discipline

Coordinator & Co-Faculty

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Expert



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An Online Training Portal of NITTTR Bhopal
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