



HARNESS THE POWER
OF KNOWLEDGE

Advanced Training Program on Power Electronics Equipment

TRAIN



Introduction

Power electronics plays a crucial role in modern electrical systems, converting and controlling electrical energy for a wide range of applications

This comprehensive 5-day training program, delivered by Global Business Minds, will equip participants with in-depth knowledge and practical skills in the selection, application, and maintenance of power electronics equipment

Day 1: Fundamentals of Power Electronics

- Overview of power electronics and its significance in modern electrical systems
- Understanding the principles of power semiconductor devices, such as diodes, thyristors, MOSFETs, and IGBTs
- Familiarization with the basic concepts of power conversion, including AC-DC, DC-DC, DC-AC, and AC-AC conversion

Day 2: Power Electronic Converters

- In-depth analysis of various power electronic converters, including rectifiers, inverters, and choppers
- Understanding the principles of operation, control strategies, and performance characteristics of different converter topologies
- Familiarization with the application of power electronic converters in various industries, such as motor control, power supplies, and renewable energy systems

Day 3: Power Electronics Components and Selection

- Comprehensive overview of power electronics components, including transformers, inductors, capacitors, and cooling systems
- Understanding the selection criteria for power electronics components based on specific application requirements
- Familiarization with design considerations for power electronics circuits, including efficiency, power density, and EMI/RFI protection

Day 4: Power Electronics System Design and Analysis

- Exploring the principles of power electronics system design, including system architecture, control strategies, and protection schemes
- Understanding the use of simulation tools for power electronics system analysis and optimization
- Familiarization with fault diagnosis and troubleshooting techniques for power electronics systems

Day 5: Advanced Topics in Power Electronics

- Exploring emerging trends and advancements in power electronics technology, such as wide bandgap semiconductors, silicon carbide, and gallium nitride
- Addressing challenges in power electronics applications, such as high-power density, high-frequency operation, and environmental constraints
- Staying up-to-date with the latest industry standards, regulations, and best practices in power electronics
- Discussing the integration of power electronics systems with smart grids, renewable energy sources, and advanced manufacturing processes

Target Audience

This training program is designed for engineers, technicians, and professionals involved in the design, application, operation, and maintenance of power electronics systems, including:

- Electrical engineers
- Power electronics engineers
- Control engineers
- Application engineers
- Maintenance technicians
- Plant engineers

Learning Outcomes

Upon completion of this training program, participants will be able to:

- Demonstrate in-depth knowledge of power electronics principles, components, and converters
- Select and apply appropriate power electronics equipment for specific applications
- Design and analyze power electronics systems using simulation tools
- Implement control strategies and protection schemes for power electronics systems
- Diagnose and troubleshoot faults in power electronics systems
- Stay up-to-date with the latest advancements in power electronics technology and best practices
- Apply power electronics solutions to address challenges in various industries, such as renewable energy, transportation, and industrial automation

Certificate Delivered by Global Business Minds:

- Certificate of Completion in Power Electronics Equipment

Additional Notes

- This detailed professional training program can be tailored to specific industry requirements and application needs
- Hands-on exercises and case studies can be customized to reflect real-world challenges and scenarios faced by participants
- The training can be delivered in a blended format, combining in-person sessions with online modules for flexibility and accessibility
- Global Business Minds can provide ongoing support and resources to participants to ensure their continued success in selecting, applying, and maintaining power electronics equipment for their specific applications