

TRAINING TITLE

INDUCTION MOTORS - BASICS

Training Duration

5 day

Training Venue and Dates

Ref. No. EE184	Induction Motors - Basics	5	14-18 July 2025	\$5,500	Abu Dhabi, UAE
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

This training course is designed to provide participants with a comprehensive understanding of Induction Motors, including their basic operation, construction, and application in industrial settings. It will cover essential concepts such as motor types, working principles, control systems, and troubleshooting techniques. The course will include both theoretical sessions and practical hands-on exercises to help attendees gain a well-rounded understanding of induction motors.

TRAINING OBJECTIVES

By the end of the course, participants will be able to understand

- To understand the basic principles of induction motors and their operation.
- To learn about the different types of induction motors and their applications.
- To become familiar with the construction and components of induction motors.
- To gain knowledge about motor control and protection techniques.
- To develop troubleshooting and maintenance skills for induction motors.

WHO SHOULD ATTEND?

- Electrical Engineers
- Maintenance Technicians

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- Plant Operators
- Engineering Students

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

COURSE PROGRAM:

Day 1: Introduction to Induction Motors

- Overview of electric motors
- Basic concepts: Electromagnetic induction, rotating magnetic field
- Types of induction motors: Squirrel cage vs. Wound rotor motors
- Applications of induction motors in industries

Day 2: Motor Construction and Operation

- Components of induction motors: Stator, rotor, bearings, cooling system
- Working principle of induction motors
- Motor speed and torque characteristics
- The concept of slip and its impact on motor performance

Day 3: Motor Control and Protection

- Motor starting methods: Direct-on-line, star-delta, autotransformer
- Variable speed drives and their control techniques
- Overload protection, short-circuit protection, and fault diagnostics
- Safety standards and precautions in motor operation

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Day 4: Troubleshooting and Maintenance of Induction Motors

- Common faults in induction motors (e.g., rotor failure, stator winding damage)
- Troubleshooting techniques: Visual inspection, electrical testing, vibration analysis
- Preventive and corrective maintenance strategies
- Studies on motor failure and repair

Day 5: Practical Sessions and Q&A

- Troubleshooting: Identifying faults in motor circuits
- Review of course content and best practices for maintaining motors
- Open Q&A session for clarifications

NOTE:

Pre- & Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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