



**Date : 6 & 7 May 2026 (Wed & Thu)**  
**Venue : Wyndham Grand Bangsar**  
**Kuala Lumpur Hotel**

**2 Days Program**

# ***BASIC ELECTRICAL KNOWLEDGE TRAINING***

## **OBJECTIVES OF THIS PROGRAM**

To provide participants on:

1. Basic principle of electrical system
2. Electrical terminology , symbol and units
3. Electrical circuit series and parallel
4. Understanding of electrical machine concept design
5. Understanding of basic operation of electrical wiring system for 1 phase and 3 Phase
6. Application of Digital Multi Meter , Test Pen and Insulation Tester
7. Electrical component specification and basic function
8. Safety precaution on electrical system
9. Identify component part no
10. Generate basic electrical wiring project
11. Voltage measurement
12. Identify status of battery , Bulb and Solid State Relay

## **OUTCOMES OF THIS PROGRAM**

After completed this training, the technician will be able to:

- Identify component symbol, specification and basic function
- Understanding of electrical machine basic design
- Understanding basic operation of electrical wiring system for 1 phase & 3 Phase.
- Application of Digital Multi Meter , Test Pen and Insulation Tester
- Understanding of electrical component specification and basic function
- Alert to Safety precaution on electrical system
- Identify component part no
- Generate basic electrical wiring project
- Voltage measurement
- Identify status of battery , Bulb and Solid State Relay

## OVERVIEW

Most of the machine in manufacturing industry using electrical system to control and generates desire output based on production process. The Technician must have basic knowledge and understanding of electrical system to perform daily task assign by Supervisor or Manager.

To ensure effectiveness of production output and minimize machine breakdown delay time, the technician must be able to assist senior technician or engineer by monitoring operation of electrical system. He/she will report to senior technician or engineer if machine in fault conditions and be able to response the problems as” first line repair technician”.

### **BASIC ELECTRICAL KNOWLEDGE TRAINING WILL EXPOSE THE PARTICIPANTS ON:**

- Basic principle of electrical system
- Electrical terminology , symbol and units
- Electrical circuit series and parallel
- Understanding of electrical machine concept design
- Basic operation of electrical wiring system for single phase and 3 Phase
- Application of Digital Multi Meter , Test Pen and Insulation Tester
- Electrical component specification and basic function
- Safety precaution on electrical system
- Identify component part no
- Generate basic electrical wiring project
- Voltage measurement
- Identify status of battery , Bulb and Solid State Relay

### **This training suitable for:**

- Maintenance Department
- Production Department
- Service Department

## COURSE CONTENT

### DAY 1

Module Contents	Time
Opening and Introduce Session	9.00 - 9.15
<b>Basic electrical fundamentals</b> <ul style="list-style-type: none"> <li>• What is electricity?</li> <li>• Electrical Terminology</li> <li>• Electrical Symbol</li> <li>• Unit of Electrical Measurement</li> </ul>	9.15 - 10.30
Coffee Break	10.30 - 10.45
<b>Electrical Circuit</b> <ul style="list-style-type: none"> <li>• Series and Parallel Circuit</li> <li>• Ohms Law Calculation</li> </ul>	10.45 - 11.45
<b>Introduction to basic electrical machine design</b> <ul style="list-style-type: none"> <li>• Power Device / Section</li> <li>• Control Device / Section</li> <li>• Output Device / Section</li> </ul>	11.45 - 13.00
Lunch & Prayer	13.00 - 14.00
<b>Electrical diagram and basic operation</b> <ul style="list-style-type: none"> <li>• Single Phase</li> <li>• 3 Phase</li> </ul>	14.00 - 15.00
Coffee Break	15.00 - 15.15
<b>Practical 1</b> <b>Application of Test Equipment</b> <ol style="list-style-type: none"> <li><b>Digital Multi meter</b> <ul style="list-style-type: none"> <li>• Measurement of Voltage</li> <li>• Measurement of Current</li> <li>• Continuity Test /Short /open test</li> <li>• Resistance Test</li> <li>• Capacitance Test</li> </ul> </li> <li><b>Test Pen</b> <ul style="list-style-type: none"> <li>• Current Detector</li> </ul> </li> <li><b>Insulation Tester</b> <ul style="list-style-type: none"> <li>• Insulation Resistance of conductor</li> <li>• Insulation Resistance of 3 Pin power cable</li> <li>• Insulation Resistance of equipment earthing system</li> </ul> </li> </ol>	15.30 - 17.00
Question & Answer	
End of Day 1	

## COURSE CONTENT

### DAY 2

Module Contents	Time
<b>Review</b>	<b>9.00 - 9.30</b>
<b>Electrical Component specification and basic function</b> <ul style="list-style-type: none"> <li>• Fuses</li> <li>• Main Circuit Braker</li> <li>• Magnetic contactor</li> <li>• AC Relay</li> <li>• DC Relay</li> <li>• Solid state Relay (SSR)</li> </ul>	<b>9.30 - 10.30</b>
<b>Coffee Break</b>	<b>10.30 - 10.45</b>
<b>Electrical Component specification and basic function</b> <ul style="list-style-type: none"> <li>• Switching Mode Power Supply</li> <li>• Programmable Logic Controller –PLC Unit</li> <li>• Inverter motor</li> <li>• Lamp</li> <li>• Heater Assembly</li> <li>• Single Phase Motor</li> <li>• 3 Phase Motor</li> </ul>	<b>10.45 - 12.00</b>
<b>Safety Precaution on Electrical System</b> <ul style="list-style-type: none"> <li>• Safe working Practices</li> <li>• Safe Isolation &amp; Earthing System</li> <li>• Electrical Shock &amp; action taken</li> </ul>	<b>12.00 - 13.00</b>
<b>Lunch &amp; Prayer</b>	<b>13.00 - 14.00</b>
<b>Practical 2</b> <b>Identify electrical component and Part no for practical session.</b> <ul style="list-style-type: none"> <li>• Single phase Supply</li> <li>• Fuse</li> <li>• AC Bulb</li> <li>• Solid State Relay</li> <li>• Battery 9V</li> </ul>	<b>14.00 - 15.00</b>
<b>Coffee Break</b>	<b>15.00 - 15.15</b>
<b>Practical 3</b> <b>Based on drawing diagram attached:</b> <ul style="list-style-type: none"> <li>• Generates electrical wiring according to the diagram</li> <li>• Measure Voltage on DC Circuit and AC Circuit</li> <li>• Identify status of battery ,SSR and AC Bulb</li> </ul>	<b>15.15 - 17.00</b>
<b>Question &amp; Answer</b>	
<b>End of Day 2</b>	