



Department of Electrical and Electronics Engineering

Industry - Institute Interaction

Training Report

Name of the Event	:	Knowledge Sharing Session
Date	:	11.04.2025
Participants	:	RML Employers
Objective	:	To share industrial knowledge, practical concepts, and troubleshooting techniques relevant to electrical and electronics applications in industries.

Session Summary

A knowledge sharing session was conducted by faculty members of the Department of Electrical and Electronics Engineering for RML Employers. The session focused on bridging the gap between academic concepts and industrial practices by covering key topics such as industrial electronics, power systems, motor drives, and power converters.

The session also incorporated insights from the **Solar Rooftop Training Program**, including system design, troubleshooting, and real-time industrial applications

Details of Faculty Contributions

1. Dr. A. Arun Kumar

Topic: Concept of Industrial Electronics and Troubleshooting Procedures

- Explained fundamentals of industrial electronics systems used in automation and control.
- Covered components such as sensors, actuators, PLCs, and control circuits.
- Discussed **troubleshooting techniques**, including:
 - Fault identification using multimeter and testing tools
 - Diagnosing issues in power circuits and control panels
 - Preventive maintenance practices
- Related concepts with real-time industrial fault scenarios.

2. Dr. P. Prem

Topic: Concept of Single Line Diagram

- Introduced **Single Line Diagram (SLD)** and its importance in power system representation.
- Explained:
 - Symbols and standard representations
 - Power flow from generation to distribution
 - Protection devices and switchgear representation
- Demonstrated how SLD is used in:

- Electrical system planning
- Fault analysis and maintenance
- Linked with solar system layouts and grid integration concepts.

3. Dr. S. Jeyanthi

Topic: Concept of Industrial Motor Drives

- Explained working principles of **motor drives** used in industries.
- Covered:
 - Types of drives (AC, DC, Variable Frequency Drives)
 - Speed control methods
 - Energy efficiency and performance improvement
- Discussed applications in:
 - Manufacturing industries
 - Pumps, conveyors, and automation systems
- Highlighted common faults and troubleshooting in motor drive systems.

4. Mr. S. Meenakshi Sudaravel

Topic: Introduction to Power Electronics Converters and Inverters

- Introduced basics of **power electronics converters**:
 - AC to DC (Rectifiers)
 - DC to DC (Choppers)
 - DC to AC (Inverters)
- Explained role of **inverters in solar PV systems**:
 - Grid synchronization
 - Power conversion efficiency
- Demonstrated applications in:
 - Renewable energy systems
 - Industrial power supplies
- Discussed practical aspects like:
 - Installation
 - Testing and commissioning
 - Troubleshooting inverter faults

Key Learning Outcomes

- Enhanced understanding of **industrial electrical systems and components**
- Improved knowledge of **troubleshooting techniques**
- Practical exposure to **power system design and analysis**
- Awareness of **motor drives and power electronics applications**
- Insights into **renewable energy systems and solar applications**

Conclusion

The knowledge sharing session was highly beneficial for RML Employers as it provided a clear understanding of both theoretical concepts and their practical industrial applications. The session successfully strengthened industry-institute interaction and helped participants gain hands-on insights into modern electrical engineering practices.

Photographs:





sd/-
Faculty Coordinator

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HoD – EEE

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Principal