

EXECUTIVE LEVEL COURSES – ELECTRICAL ENGINEERING

Some of the courses are given below. However detailed position with regard to all the courses proposed during the year, their contents and schedules can be viewed at <http://www.irieen.com.in> directly or through <http://www.rites.co.in>

1. Course on Power Electronics - 3 Weeks (July 2011)

For Whom: Directly recruited Electrical Engineers/Supervisors with 2 – 3 years experience.

Course Contents

<ul style="list-style-type: none"> ✚ Power Semi-conductor devices, Power Diodes, SCR, GTO, IGBT's. ✚ Converter, inverter and chopper circuits. ✚ VVVF control of induction motor, Direct torque control of induction motor. ✚ Microprocessors (Software and hardware). ✚ Microprocessor based propulsion and control for traction vehicles. ✚ 25 KVA AC Coach Inverter, Train Lighting Regulators. 	<ul style="list-style-type: none"> ✚ Three phase locomotive power circuits, auxiliary circuit, control circuit, hardware & software details, MICAS – S@ control system, pneumatic system, trouble shooting, diagnostic system. ✚ Digital electronics – Labs for Logic gates, coding circuit, decoders, MUX, DeMUX, Flip flops, Counters, Memories. ✚ SCADA system for 25 KV AC traction.
--	---

2. Special Course on Train Lighting and Air conditioning - 3 week (June, August & December 2011).

For Whom:

Engineers/ Managers of Electrical Engineering discipline with 5-10 years experience.

Course Contents - Train lighting & Air-conditioning of Railway Coaches & Stationary plants

<ul style="list-style-type: none"> ✚ System of TL. ✚ Maintenance and Problem. ✚ Alternators and Regulators for TL/AC with wiring arrangement. Fire prevention in coaches. ✚ Conventional, VRLA batteries, Charging, Problems, Maintenance and Testing. ✚ Inverters in RMPU AC units in SG 	<ul style="list-style-type: none"> ✚ Reliability in TL/AC. ✚ LHB Coaches. ✚ Performance of AC coaches and directives of MSG meeting. ✚ Comparison of Air-conditioning in LHB and conventional coaches. ✚ Heat load and tonnage capacity of Air-conditioning system. ✚ Maintenance of equipment in
--	---

<ul style="list-style-type: none"> Coaches. ✚ EOG System of TL&AC. ✚ MSG Meeting ITEMS. 	centralized air-conditioning plant.
--	-------------------------------------

General power supply & Distribution

<ul style="list-style-type: none"> ✚ Power supply system in General services. Sub-Station and its protection. 	<ul style="list-style-type: none"> ✚ I.E. Rules involving safety in General Service.
--	---

Lighting

<ul style="list-style-type: none"> ✚ Lighting terminology. ✚ Light sources and Indoor lighting design. 	<ul style="list-style-type: none"> ✚ Illumination system control. ✚ Essentials of good lighting and energy effectiveness.
--	---

Water supply pumping installation

<ul style="list-style-type: none"> ✚ Types of pumps and characteristics of Centrifugal Pumps. ✚ Considerations for design of water supply pumping installation. 	<ul style="list-style-type: none"> ✚ Selection of centrifugal pumps. ✚ Maintenance, Operation of Pumps with an aim to energy conservation.
---	--

Condition monitoring in General service

<ul style="list-style-type: none"> ✚ Transformer and Oil. ✚ Cables and it's testing. 	<ul style="list-style-type: none"> ✚ Mechanical components. ✚ Lead Acid Batteries.
--	--