| 7th Semester | REI7D001 | Power Plant Instrumentation | L-T-P | 3 Credits |
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**Module I:** **(12 hours)**

**General Concepts**
Power Plants of different types: Setups, energy conversions and measurementrequirements, examples of Thermal, Hydel, and Nuclear plants. Thermal power plant and systeminstrumentation.

**Module II:** **(12 hours)**

**Instrumentation for** 1) Turbines 2) Condensers 3) Generators 4) Coal handling 5) Water treatment 6) Feed water, combustion air and flue gases

**Module III:** **(12 hours)**

**Control:** Boiler Control - Steam pressure control, combustion control, Furnace Draft control, Steam temperaturecontrol, Feed water control, Data logger and computer control, supervisory control and monitoring system.Instrumentation for safety interlocks - protective gears, emergency measures, Alarm systems and Analysis etc.Pollution measurement, monitoring and control.

**Module IV:**

Data handling-processing, logging, acquisition, accounting, display and storage.Instrumentation for Generator and Busbar coupling.Introduction to power plant modeling/simulation

**Books:**
[1] Principles of Industrial Instrumentation, D. Patranabis, TMH New Delhi
[2] Electric Power Engineering Handbook – Edited by L. L. Grigsby.
[3] Instrument Engineers Handbook, B. G. Liptak, Chilton Book Co., Philadelphia