

**Netaji Subhash Engineering College**  
**Dept. Of Electrical Engineering**  
**Power Plant Instrumentation and Control (EE-802a)**

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**Lesson Plan:**

Sl No.	Module	Lecture No	Topic Covered	Mapping with COs/POs	Use of Special Resources	Remarks
1	I	1	Concepts of Power plants of different types: Setups, energy conversions and measurement requirements	CO1	Black Board & Chalk [BBC]	
2	I	2	Discussion about thermal power plant	CO1, CO4	Black Board & Chalk [BBC]	
3	I	3	Discussion about hydro power plant and nuclear power plant	CO1, CO4	Black Board & Chalk [BBC], PPT	
4	I	4	Detailed operation of Thermal power plant and system instrumentation.	CO1, CO4	BBC	
5	II	5	Detail discussion on Turbines	CO1, CO3	BBC	
6	II	6	Detail discussion on Condenser	CO1, CO3	BBC	
7	II	7	Detail discussion on Generator	CO1, CO3	BBC	
8	II	8	Detail discussion on Coal handling	CO1, CO3	BBC, PPT	
9	II	9	Detail discussion on water treatment	CO1, CO3	BBC	
10	II	10	Detail discussion on Feed water, combustion air and flue gases	CO1, CO3	BBC, PPT	
11	III	11	Discussion on Boiler Control - Steam pressure control, combustion control, Furnace Draft control	CO2, CO3	BBC	
12	III	12	Discussion on Steam temperature control, Feed water control, Data logger	CO2, CO3	BBC, PPT	
13	III	13	Discussion on computer control, supervisory control and monitoring system	CO2, CO3	BBC	
14	III	14	Instrumentation for safety interlocks - protective gears	CO2, CO3	BBC	
15	III	15	Emergency measures, Alarm systems and Analysis etc	CO2, CO3	BBC	
16	III	16	Pollution measurement, monitoring and control	CO2, CO3	BBC	
17	IV	17	Data handling-processing, logging, acquisition	CO2	BBC, PPT	
18	IV	18	Data accounting, display and storage.	CO2	BBC	
19	IV	19	Instrumentation for Generator and Busbar coupling.	CO2		
20	IV	20	Introduction to power plant modeling/simulation	CO2	BBC	

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**Text Books:**

1. Principles of Industrial Instrumentation, D. Patranabis, TMH New Delhi

**Reference Books:**

1. Electric Power Engineering Handbook – Edited by L. L. Grigsby.
2. Instrument Engineers Handbook, B. G. Liptak, Chilton Book Co., Philadelphia

POWER PLANT INSTRUMENTATION & CONTROL EE 802.A	COs	<b>On completion of this course, the student will be able to:</b>
	EE802.A 1	<b>categorize</b> the power generation technique used in different types of power plants.
	EE802.A 2	<b>identify</b> and <b>measure</b> physical parameters for instrumentation in various major power plant components.
	EE802.A 3	<b>Assess</b> different plant parameters and their control in the power plant.
EE802.A 4	<b>develop</b> the P & I diagram of various power plant loops.	