

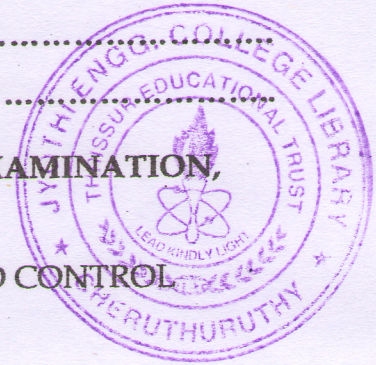
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Name: .....

Reg.No. ....

**EIGHTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION,  
JUNE 2011**

**AI 04 805 (F) - POWER PLANT INSTRUMENTATION AND CONTROL  
(2004 ADMISSIONS)**



**Time : Three Hours**

**Maximum: 100 Marks**

- I (a) Explain the steam pressure control system with a schematic diagram.  
(b) Explain the effect of air fuel ratio on Boiler heat losses.  
(c) Write short notes on cyclone dust collector.  
(d) Explain briefly the accessories (i) Economizer (ii) Airpreheater.  
(e) Write a short note on remote controlled plants with an example.  
(f) Write short notes on secondary air used in Thermal power stations.  
(g) Explain the instruments used to measure the pressures in power stations.  
(h) Describe the various factors which determine the location of a steam power plant.  
(8×5 = 40)
- II (a) Explain the following liquid level gauges (i) Gauge glass and (ii) Electrical level gauges.  
(OR)  
(b) Explain with a neat schematic diagram, the feed and Drum level control system.
- III (a) Explain the various types of surface condensers. Bring out the differences between jet types and surface type condensers.  
(OR)  
(b) Classify the water turbines. What type of water turbine is used in high head hydro electric plant and why? Discuss the various factors to be considered while selecting a water turbine.
- IV (a) Describe DCS method of power plant automation.  
(OR)  
(b) Describe how the voltage and frequency of power generation are regulated.
- V (a) Describe a horizontal axis and vertical axis windmill. Also describe an expression for power coefficient.  
(OR)  
(b) What are the different types of coal conveyors? Describe the construction and operation of belt conveyor and screw conveyor.  
(4×15 = 60)

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