

D 70239

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Name _____

Reg. _____

**SEVENTH SEMESTER B.TECH. (ENGINEERING) (09 SCHEME) DEGREE
EXAMINATION, NOVEMBER 2014**

AI 09 706 L 17—POWER PLANT INSTRUMENTATION AND CONTROL

Time : Three Hours

Maximum : 70 Marks

Part A

I. Answer *all* questions :

- 1 Name some nuclear fuels.
- 2 What are the instruments used to measure feed water temperature ?
- 3 List out the advantages of a dissolved oxygen analyzer.
- 4 Why is monitoring of shell temperature important ?
- 5 Define deaeration.

(5 × 2 = 10 marks)

Part B

II. Answer any *four* questions :

- 6 Discuss the factors to be considered while selecting a power plant.
- 7 Compare hydel power plant with thermal power plant.
- 8 Mention the role of distributed control system in power plants.
- 9 Explain the working principle of Geiger Muller counter.
- 10 How will you measure level in a drum level controller ?
- 11 Draw the circuit for an electro dynamometer type wattmeter and explain its working principle.

(4 × 5 = 20 marks)

Part C

MODULE I

III. 12. (a) Explain the various types of boilers in detail.

Or

(b) Explain the basic building blocks of a thermal power plant with a neat sketch.

Turn over



MODULE II

13. (a) Explain the working principle of a flue gas analyzer.

Or

- (b) Explain in detail about the measurement of steam temperature.

MODULE III

14. (a) Discuss in detail about interlocks in boilers.

Or

- (b) Explain the various combustion control systems in a power plant.

MODULE IV

15. (a) Explain the methods to monitor and control the vibration of turbine blades.

Or

- (b) Explain in detail about the method of nuclear power generation.

(4 × 10 = 40 marks)