

C 63006

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Name

Reg.



**SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
[SUPPLEMENTARY] EXAMINATION, APRIL 2016**

(2009 Scheme)

AI 09 706 L17—POWER PLANT INSTRUMENTATION AND CONTROL

Time : Three Hours

Maximum : 70 Marks

**Part A**

I. Answer *all* questions. Each question carries 2 marks :

- 1 Name commonly used moderators in nuclear power plants.
- 2 Define once through boiler.
- 3 Specify device used for measuring current and voltage in a power plant.
- 4 State the principle of ionization smoke detector.
- 5 What is deaerator ?

(5 × 2 = 10 marks)

**Part B**

II. Answer any *four* questions. Each question carries 5 marks :

- 6 Explain tracking control mode of boiler system.
- 7 List out the junctions of superheater.
- 8 Discuss about shell temperature monitoring and control.
- 9 Explain the wind power generation with a neat block diagram.
- 10 Explain about dust monitors with a neat sketch.
- 11 Explain working principle of a pH meter.

(4 × 5 = 20 marks)

**Part C**

III. Answer *all* questions. Each question carries 10 marks :

- 12 Explain various types of condensers.

(10 marks)

*Or*

- 13 Explain building blocks of a thermal power plant with a neat sketch.

(10 marks)

Turn over

14. Write short notes on radiation detectors.

(10 marks)

*Or*

15. Explain measurement of flow of steam with correction factor for temperature in a power plant.

(10 marks)

16. Explain interlocks in boilers.

(10 marks)

*Or*

17. Explain the functions of a distributed control system in a power plant.

(10 marks)

18. Discuss in detail about lubrication system for a steam turbine with a neat sketch.

(10 marks)

*Or*

19. Discuss methods for monitoring speed and vibration in power plants.

(10 marks)

(4 × 10 = 40 marks)