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Question Paper Code: 39052

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Elective

Electronics and Instrumentation Engineering

01UEI916 - INSTRUMENTATION FOR POWER PLANTS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. How the sites for nuclear power plants are selected?
2. Mention the renewable and non-renewable source of energy.
3. What do you mean by 'swelling' and 'shrinking' in a boiler drum?
4. What is the use of dust monitor?
5. List the selection criteria for carrier gas in chromatography.
6. Define pH.
7. Why interlocks are important in power plant boilers?
8. What are the various methods used for steam temperature control?
9. Why speed control is required in a turbine?
10. List the different methods of dry cooling.

PART - B (5 x 16 = 80 Marks)

11. (a) Draw the schematic layout of modern thermal power plant and explain in detail. (16)

Or

(b) Explain the classification of nuclear reactors and describe briefly about the PWR. (16)

12. (a) Explain the operation of smoke and dust monitor. (16)

Or

(b) Discuss about the boiler feed water circulation with neat diagrams. (16)

13. (a) Discuss the important analytical measurements carried out in flue gas with neat diagram. (16)

Or

(b) What is pH value? How is it controlled in water? Discuss in detail with neat sketch. (16)

14. (a) Draw and explain the different levels of DCS with different buses for power plant automation. (16)

Or

(b) Explain the combustion control in air-fuel circuits, with neat diagrams. (16)

15. (a) Classify and explain the turbines based on the process conditions. (16)

Or

(b) Discuss the cooling systems operating in turbo alternator process with neat diagram. (16)
