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Question Paper Code: S31954

B.E. / B.Tech. DEGREE EXAMINATION, OCT 2016

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. What factors to be considered for power plant performance?
2. Mention the renewable and non-renewable source of energy.
3. Give different types of radiations in nuclear power plant.
4. What is the use of dust monitor?
5. List the selection criteria for carrier gas in chromatography.
6. Define pH.
7. What is furnace draft?
8. What are the various methods used for steam temperature control?
9. What are the requirements for vibration monitoring instruments?
10. List the different methods of dry cooling.

PART - B (5 x 16 = 80 Marks)

11. (a) With the layout diagram of a typical thermal power plant, explain the working of each part and main flow circuits. (16)

Or

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

12. (a) Explain how is a radiation detector useful for measurement in power plant? Describe the types of radiation detector with neat sketch. (16)

Or

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

13. (a) With neat sketch, explain the construction and working of High Pressure Liquid Chromatography (HPLC) with advantages and disadvantages. (16)

Or

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

14. (a) Explain the principle and operation of furnace draft control systems with neat sketch. (16)

Or

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

15. (a) With neat diagram of elements in the steam turbine, explain each block in detail. (16)

Or

- (b) Describe about the necessity of cooling the condenser water and discuss about the classification of cooling system. (16)