Reg. No. : | | | | | | | | | | |

Question Paper Code: 39516

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

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. 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. What is furnace draft?
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) 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 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) With neat diagram of elements in the steam turbine, explain each block in detail. (16)

Or

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

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