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

Question Paper Code: 31678

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

Elective

Instrumentation and Control Engineering

01UIC903 - POWER PLANT INSTRUMENTATION

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Write two examples of cogeneration.
2. What are the factors to be considered to improve the performance power plant?
3. Why drum level measurement is very important? How is it taken care of?
4. List the non electrical parameters power plant.
5. Name the different parts of gas chromatography.
6. How pH is measured in power plant?
7. What are the two basic types of deaerator?
8. What is induced draft?
9. What are the factors to be considered for choosing vibration sensors?
10. Mention the various cooling methods for turbo generator.

PART - B (5 x 16 = 80 Marks)

11. (a) With a block diagram, explain the operation of thermal power plant and mention the important parameters to be monitored in each block. (16)

Or

(b) With a neat sketch, explain the process of electric power generation in a nuclear power plant. (16)

12. (a) Specify the need of drum level measurement also explain the differential pressure method to measure the drum level in high pressure boiler. (16)

Or

(b) With a neat sketch explain in detail about smoke density measurement. (16)

13. (a) Explain in detail about the working principle of chromatography apparatus and also explain where it is used in power plant. (16)

Or

(b) Describe in detail about the flue gas oxygen analyzer. (16)

14. (a) With a block diagram, describe the function of a distributed control system in a power plant. (16)

Or

(b) Explain in detail about the furnace draft control systems. (16)

15. (a) Explain in detail about the various methods of measuring steam pressure. (16)

Or

(b) Briefly explain in detail about the lubricant oil temperature control. (16)

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