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Question Paper Code: 31575

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

Fifth Semester

Mechanical Engineering

01UME505 – POWER PLANT TECHNOLOGY

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Compare nuclear and gas turbine power plants (any four points).
2. What is meant by fluidized bed boilers?
3. Mention any four ash handling equipment in thermal power plant.
4. What is meant by electrostatic precipitator?
5. Mention any four advantages of nuclear power plant.
6. What is need of surge tank?
7. State any four important functions of the lubrication system in the diesel power plant.
8. Name any four factor to be consider for the selection of engine in diesel power plant.
9. What is meant OTEC?
10. Compare geothermal and tidal power plants (any four points).

PART - B (5 x 16 = 80 Marks)

11. (a) With a neat sketch explain the diesel engine power plant. State its advantages and disadvantages. (16)

Or

- (b) (i) Discuss the methods to improve the performance of the gas turbine power plant. (8)

- (ii) Write brief about MHD. (8)

12. (a) (i) What do you understand by a word 'Draught'? How draughts are classified? (10)

- (ii) Name any six limitations of chimney draught. (6)

Or

- (b) Explain the different types of pulverizing mills with a neat sketch. (16)

13. (a) Draw a neat diagram of pressurized water reactor and explain the functions of different components. (16)

Or

- (b) Explain the working of hydel power plant state its any four advantages and disadvantages. (16)

14. (a) Draw a neat line diagram of diesel power plant showing all the systems and explain. (16)

Or

- (b) Sketch and explain the open and closed cycle gas turbine power plant. (16)

15. (a) Sketch and explain vapour and liquid dominated power plant. (16)

Or

- (b) Sketch and explain the working of tidal power plant? (16)