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Question Paper Code : 21396

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Fourth Semester

Electrical and Electronics Engineering

EE 2252/EE 43/ EE 1252/10133 EE 403/080280027 – POWER PLANT
ENGINEERING

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the function of hot primary air?
2. What is super-critical boiler? Give any two advantages.
3. What is the function of draft tube?
4. List any four advantages of hydro-electric power plant.
5. What is an LMFBR? Why is a liquid metal the preferred coolant in a fast breeder reactor?
6. What do you mean by mass defect?
7. How the solid injection system is classified?
8. What do you mean by regeneration in gas turbine power plant?
9. What do you understand by zero energy houses?
10. What are the classifications of geothermal energy?

PART B — (5 × 16 = 80 marks)

11. (a) Describe the different types of overfeed stokers and discuss the merits and demerits of each over others. (16)

Or

- (b) (i) Explain with a neat sketch the function of Benson Boiler and give its advantages. (8)
- (ii) Briefly explain the air-cooled cooling system. (8)

12. (a) (i) Enlist the advantages and disadvantages of water power. (8)
(ii) What is spill ways? Briefly explain different types of spillways with sketch. (8)

Or

- (b) (i) How does a pumped hydro system operate? Show the main components in a neat sketch of the system. (10)
(ii) Discuss the criteria to be considered while selecting site for dam construction. (6)
13. (a) (i) Explain different types of nuclear reactions and initiation of nuclear reactions. (8)
(ii) Briefly explain the pressurized water reactor (PWR) with neat sketch. (8)

Or

- (b) (i) Explain Boiling Water Reactor (BWR) with neat sketch. Give its advantage and disadvantage. (8)
(ii) Explain different methods for nuclear waste disposal with necessary sketch. (8)
14. (a) (i) Explain different components of gas turbine plant with neat sketch. (8)
(ii) Discuss the effect of intercooling and reheating in a gas turbine plant. (8)

Or

- (b) (i) Explain water cooling system in diesel power plants with neat sketch. (10)
(ii) What is an engine day tank? State the functions of a fuel injection system. (6)
15. (a) (i) Briefly explain the classification of tidal power plant with neat sketch. (8)
(ii) Briefly explain the low temperature system with flat plate collector in solar power plants. (8)

Or

- (b) (i) Explain different types of MHD generators with neat sketch. (10)
(ii) Briefly explain the working principal of fuel cell. (6)