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Question Paper Code : 21502

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Fourth Semester

Electrical and Electronics Engineering

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

(Regulations 2008/2010)

Time : Three hours

Maximum : 100 marks

(Use of steam tables and Mollier Chart is permitted)

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the advantages of Air preheater.
2. What is an Economizer?
3. State the advantages of hydro power plants.
4. What is Penstock? Mention the need for it.
5. What is the purpose of a moderator?
6. Define nuclear fission.
7. List the advantages of gas turbine power plants.
8. Write the methods to be introduced to increase the thermal efficiency.
9. What is OTEC? Mention its types.
10. What are fuel cells?

PART B — (5 × 16 = 80 marks)

11. (a) With a neat sketch, explain the layout and components of steam power plant.

Or

- (b) Explain the following.
(i) Turbine governing system
(ii) Thermodynamic cycles.

12. (a) (i) Explain the factors affecting selection of water turbines. (6)
(ii) Explain the classification of dams with necessary diagrams. (10)

Or

- (b) With a neat sketch, explain the layout of Pumped Storage plant.

13. (a) Draw the schematic diagram and explain the following :
(i) Pressurized water reactor (8)
(ii) Boiling water reactor. (8)

Or

- (b) With a neat schematic diagram explain the power generation in a nuclear power plant.

14. (a) Explain the following :
(i) Open cycle gas power plant (8)
(ii) Closed cycle gas power plant. (8)

Or

- (b) Discuss the advantages and disadvantages of diesel engine power plant and also mention the applications of diesel engine power plant.

15. (a) Write short notes on :
(i) Solar energy generation (8)
(ii) Thermionic power generation. (8)

Or

- (b) Explain the following :
(i) Wind energy conversion (8)
(ii) Tidal power plant. (8)