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

Question Paper Code : 60502

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

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. On what factors does the selection of a water turbine for hydel plants depend upon?

4. What for surge tank is provided in the hydel plant?

5. Name the different types of fuels used in nuclear reactors.

6. What is the purpose of a moderator in a nuclear reactor?

7. Write the classification of gas turbine.

8. Write two advantages of diesel power plants.

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) 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) With the help of a simple diagram, explain the essential features of hydro power plant. (12)

(ii) What is the function of a draft tube? (4)

Or

(b) (i) Compare and contrast Kaplan turbine and Francis turbine. (8)

(ii) What is meant by a pumped storage plant? Discuss its advantages and disadvantages. (8)

13. (a) What is meant by uranium enrichment? Describe some methods of Uranium enrichment. (16)

Or

(b) Explain the various factors to be considered while selecting the site for nuclear plant. (16)

14. (a) (i) Make a comparison of gasturbine power plant with diesel engine power plant of same capacity (8)

(ii) Write a note on open cycle gas turbine power plant. (8)

Or

(b) Draw the layout of a diesel power plant showing the various systems and discuss about them. (16)

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 the different types of MHD generators with neat sketch. (10)

(ii) Briefly explain the working principal of fuel cell. (6)

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