Reg. No. :

H 0625

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2011

FOURTH SEMESTER

ELECTRICAL AND ELECTRONICS ENGINEERING

EE1252 POWER PLANT ENGINEERING

(REGULATION 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Name the different types of coal handling equipments.

2. Specify the role of condenser in thermal power plant.

3. What is the use of surge tank?

4. Specify the turbine suited for high, medium and low head hydro power plants.

5. What are the desirable properties of a good moderator?

6. What are the requirements to sustain fission process?

7. What is meant by the term inter-cooling in gas turbine Power plant?

8. Specify the role of turbocharger in Diesel Engine.

9. Mention the various types of solar collectors.

10. How the tides are originated?

PART B — (5 × 16 = 80 marks)

11. Explain the construction and working of steam power plant with a layout. (16)

Or

12. Discuss role of forced draft and Induced draft fan in modern high pressure boiler. Also explain the various regenerative techniques used to improve the boiler efficiency. (16)

13. What are the various factors to be considered in selecting the sit for a hydroelectric power plant? Also discuss the primary and secondary investigations. (16)

Or

14. Explain the role of Pumped storage hydro electric power plant in a power system. Also discuss the important features and limitations of pumped storage power plant. (16)

15. Describe the fast breeder reactors. Also discuss the advantages and limitations of breeder reactors. (16)

Or

16. What is a chain reaction? How it is controlled? Explain the various methods of controlling the nuclear reaction. (16)

17. With a diagram explain the working principle of closed cycle type gas turbine with a schematic diagram. (16)

Or

18. Describe the following systems in brief with respect to Diesel power plant.

(a) Fuel Storage and supply system

(b) Exhaust system

(c) Lubrication system. (16)

19. List the various energy conversion techniques to tap energy from ocean. Explain the technique to convert tidal energy, which uses the hydro electric power plant principle. (16)

Or

20. Explain the closed cycle OTEC system? Also specify the limitations of open cycle OTEC system. (16)