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

Fourth Semester

Electrical and Electronics Engineering

EE 2252 — POWER PLANT ENGINEERING

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions

PART A — (10 × 2 = 20 marks)

1. State and explain the Carnot cycle process.

2. Define boiler mountings and boiler accessories.

3. Mention the merits of hydro electric power plants.

4. Classify the hydro electric turbines with respect to high medium and low head.

5. What is nuclear fission?

6. State the fuels used in the gas turbine power plants.

7. Distinguish between PHWR and LMFBR.

8. What is meant by combined cycle power plant?

9. State the application of solar thermal system.

10. What are the different types of geothermal fluid and give its temperature range.

PART B — (5 × 16 = 80 marks)

11. (a) Draw a Rankin cycle for a coal fired and steam thermal power plant. State the means of increasing the efficiency of the plant.

Or

(b) Explain in detail the coal handling system with suitable block diagram.

12. (a) With a neat sketch explain in detail the construction and working principle of Hydro electric power plant.

Or

(b) Neatly explain the hydro electric energy resources in India.

13. (a) Write a detailed technical note on the following : (8 + 1)

(i) Boiling water reactor

(ii) Gas cooled reactor.

Or

(b) Explain the importance of nuclear waste management.

14. (a) Write a detailed technical note on the following : (8 + 8)

(i) Reheating

(ii) Regeneration.

Or

(b) With a neat sketch explain in detail, about the component and layout of

Diesel engine power plant.

15. (a) Explain in detail, about the various types of wind Energy system.

Or

(b) Classify and explain in detail about the Tidal Energy Conversion System.