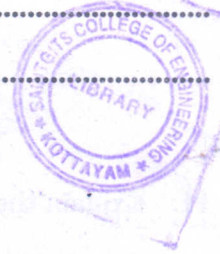


G 1194

(Pages : 2)

Reg. No.....

Name.....



B.TECH. DEGREE EXAMINATION, MAY 2015

Sixth Semester

Branch : Electrical and Electronics Engineering

EE 010 601—POWER GENERATION AND DISTRIBUTION (EE)

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. Draw the layout of steam power plant.
2. Define Diversity factor.
3. Explain about Kelvin's Law.
4. How will you estimate the power loss in distribution system ?
5. Briefly discuss about types of energy audit.

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Give detailed classification of hydro turbine.
7. Explain in detail about plant capacity factor.
8. What are all the design consideration of distribution feeder ?
9. Explain the method of voltage drop computation based on load density.
10. Discuss in detail about need for energy management.

(5 × 5 = 25 marks)

Turn over

**Part C**

Answer all questions.

Each question carries 12 marks.

11. Explain the various types of reactor used in Nuclear power plants.

Or

12. Explain the various components involved in steam power plant with neat sketches.

13. Explain the various types of tariffs involved in power generation and distribution system.

Or

14. A system has a straight line annual load duration curve with maximum and minimum Demands of 15 MW and 5MW respectively. The annual cost characteristics of base load and peak load stations are respectively. The annual cost characteristics of base load and peak station are respectively given by :

$$C1 = (\text{Rs. } 1,00,000 + \text{Rs. } 100/\text{KW} + 6P/\text{K Whr})$$

$$C2 = (\text{Rs. } 80,000 + \text{Rs. } 60/\text{KW} + 8P/\text{K Whr})$$

Determine the operating schedule of peak load station for minimum annual cost. Hence Determine the overall cost per K Whr.

15. Determine the most economical section for a 3-phase line 8 km long, to supply a load at a constant voltage of 33 KV. During each 24hr. period the load is 3000 KW for 10 hrs., 2,000 KW for 6 hrs, and 1000 KW for 8 hrs. at unity p.f. The capital cost per km of line is rs. $(6250 + 5000a)$ where a is in Sq.cms., interest and depreciation charges are 8% and the cost of energy is paise 5 per unit

Or

16. With neat sketch, explain the operation of ring and radial distribution in power system?

17. Discuss in detail about AC three phase three wire system.

Or

18. A 3-phase 4-wire 400 volts system feeds a balanced load of 480 kW at p.f. 0.8 and loads of 50 kW and 200 kW at unity p.f. when connected between respective phases. Determine the current in each line and in the neutral wire of the system.

19. What are the methods of energy savings in motors and lighting system ?

Or

20. Explain in detailed about demand side energy management system.

(5 × 12 = 60 marks)