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Fifth Semester B.E. Degree Examination, June / July 08
Electrical Power Generation

Time: 3 hrs.

Max. Marks:100

Note : 1. Answer any FIVE full questions.
 2. Missing data may be suitably assumed.

- 1
 - a. Mention the factors to be considered for selecting the site of hydel power stations. (04 Marks)
 - b. Explain the hydroelectric plant with a schematic diagram. (08 Marks)
 - c. With a neat sketch, explain the function of a Governor used to control the speed of a hydraulic turbine. (08 Marks)

- 2 Write a brief note on any three of the following :
 - a. Tidel b. Solar c. Geo – thermal d. Wind. (20 Marks)

- 3
 - a. Explain with a schematic layout of a typical coal – fired power station. (12 Marks)
 - b. With a block diagram, explain coal handling steps in a thermal power plant. (08 Marks)

- 4
 - a. Explain with a neat sketch, main parts of a Nuclear Reactor and their functions. (10 Marks)
 - b. Explain with a neat sketch, Pressurized Water Reactor (PWR), mention it's advantages and disadvantages. (10 Marks)

- 5
 - a. With a neat diagram, explain a simple gas turbine. Discuss the advantages of the some over steam power plant. (10 Marks)
 - b. Explain plant layout and maintenance of a Diesel electric station. (10 Marks)

- 6
 - a. Define the following terms :
 - i) Load factor ii) Diversity factor iii) Demand factor. (06 Marks)
 - b. Explain the causes for low power factor. (04 Marks)
 - c. The peak load on a power station is 30 MW. The loads having maximum demands of 25MW, 10 MW, 5 MW and 7 MW are connected to the power station. The capacity of the power station is 40 MW and annual load factor is 50%. Find
 - i) Average load on the power station ii) Energy supplied per year iii) Demand factor
 - iv) Diversity factor. (10 Marks)

- 7
 - a. Explain the steps for calculating the symmetrical 3 – phase short circuit currents. (10 Marks)
 - b. With neat sketches, explain the following i) Double Breaker Scheme ii) Double Bus with Bypass arrangements. (10 Marks)

- 8
 - a. Explain with a neat sketch, the Resonant Grounding System. Draw the phasor diagram. (10 Marks)
 - b. Explain with a neat sketch, the grounding through a earthing transformer. (10 Marks)