

Roll No.

24323

**B. Tech. (EE) 6th Semester
Examination – May, 2015**

ELECTRIC POWER GENERATION

Paper : EE-318-F

Time : Three Hours] [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is *compulsory* and attempt any *one* question from each of *four* Sections.

1. (a) Discuss Peat, Brown coal and Anthracite. 20
- (b) Discuss objective and requirement of Tarrif.
- (c) State applications of Diesel Power Plants.
- (d) Discuss safety measures in Hydroelectric Power Plant.
- (e) Comment on energy audit.

SECTION – A

2. What is the difference between Energy and Power ?
Discuss energy sources and their availability in detail. 20

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3. (a) Discuss Recent trends in power generation. 10
(b) Explain interconnected generation of Power Plants. 10

SECTION - B

4. (a) What are load curves and load duration curves ? Discuss their utility in the economics of generation. 10
(b) Define the terms load factor and diversity factor and discuss their effect on the cost of generation of electrical energy. 10
5. A Power station has an installed capacity of 50 MW and it costs Rs. 1000 Per kW. The annual fixed cost is 15 % of the capital cost and at 100% load factor the variable cost per year is 1.3 times the fixed cost. Assuming that there is no reserve capacity, determine the cost of generation per kWhr at load factor 25%, 50%, 75%, 90% and 100%. 20

SECTION - C

6. (a) Explain the working of a 'Pelton turbine' with the help of neat diagram. 10
(b) Enumerate the various controls which are provided in an hydroelectric power plant. 10
7. Write short notes on : 10 × 2 = 20
(a) Working of MHD generator.
(b) Fuel cells and its application.

SECTION - D

8. Discuss concept of Energy Management and Energy Audit in detail. 20
9. Write technical note on : 2 × 10 = 20
- (a) Energy Efficient Motors.
- (b) Concept of Co-generation.
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