

16126(J) June 16

B. Tech 6th Semester Examination

Electrical Power Generation (NS)

EE-323

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Candidates are required to attempt five question in all, selecting one question from each of the section A, B, C & D of the question paper and all the subparts of question in Section E. Use of non-programmable calculator is allowed. Assume suitably any missing data.

SECTION - A

1. Define and explain in detail with suitable examples demand factor and diversity factor. (20)
2. Draw and explain in detail with suitable examples chronological load curve and load duration curve. (20)

SECTION - B

3. (a) Explain in detail various factors for selection of site regarding location of hydro power station. (10)
(b) It has been assessed in a hydro plant that a minimum run-off of $95\text{m}^3/\text{sec}$. will be available with a head of 40 meters. Find out the firm capacity and yearly gross output. Assume that 0.746 kW is equal to 75 kg.meter/sec . (10)
4. Explain in detail main parts and working of thermal power station. (20)

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SECTION - C

5. Explain in detail geothermal power plant. (20)
6. Explain in detail power generation by magneto Hydro Dynamic system. (20)

SECTION - D

7. (a) Explain in detail base load and peak load power plants. (10)
(b) Explain load allocation among various types of power station. (10)
8. (a) Explain in detail advantages of interconnecting various power station and systems. (10)
(b) Define and explain plant capacity factor. (10)

SECTION - E

9. (a) Define load factor.
(b) What are commercial sources of energy?
(c) What is the maximum head of a Kaplan turbine?
(d) What is the important factor on which calorific value of the coal depends?
(e) Define utilization factor.
(f) Which power plant will take least time in starting from cold condition to full load operation?
(g) What is the order of output of the solar cell?
(h) What is load dispatching?
(i) What is meaning of pulverized coal?
(j) What are different types of loads? (2×10=20)