Exam.Code:0937
Sub. Code: 6995

2031

B.E. (Electrical and Electronics Engineering)
Seventh Semester
Elective – I
EE-709: Electrical Power Generation

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Answer following questions in brief:-

a) What is Load Duration Curve? What is its significance?

b) How can power factor be improved in Power System?

c) How is cost of depreciation calculated?

d) List the factors used to select the size of a plant?

e) What are the advantages of run-off the river plant? (5x2)

UNIT - I

II. The yearly duration curve of a certain plant can be considered as a straight line from 140 MW to 30 MW. Power is supplied with one generating unit of 95 MW capacity and two units of 45 MW capacities each. Determine:

a) Installed capacity

b) Load factor

c) Plant capacity factor

d) Maximum demand

e) Utilization factor (10)

III. a) Explain the different types of tariffs for domestic, agricultural and industrial loads. What is the criterion of determining the tariff for them?

b) Explain how an economic power factor is determined for an industrial sector? (2x5)

IV. Discuss the importance of load forecasting. How is load forecasting done? Hence discuss the chronological load curves. (10)

P.T.O.

UNIT - II

V. The incremental fuel costs for two generating units 1 and 2 of a power plant are given below:

Where F is the fuel cost in rupees/hrs and P is the power output in MW. Find (a) Economic loading of two units when a total load supplied by the power plants is 160 MW. (b) The loss in fuel cost per hour if the load is equally shared by both units. (10)

VI. a) What are the advantages of operating hydro thermal plants together? What is the criterion of scheduling for hydro thermal generators? Discuss.

b) Discuss the capitalized cost methods as used in the selection and location of power plants (2x5)

VII. Write short notes on following:-

a) Criterion for selecting size and Location of Plants

b) Advantages of combined operation of run-off river plant and Steam plant. (2x5)

x-x-x