

Module-4

- 7 a. Explain resonant grounding with a neat diagram. (06 Marks)
 b. Explain the function of transformer, high voltage circuit breaker and high voltage insulator in substation. (06 Marks)
 c. Draw a neat single diagram of substation and explain it. (04 Marks)

OR

- 8 a. Define substation and mention different types of substations. (06 Marks)
 b. A 230V, 3 ϕ , 50Hz, 200 km transmission has a capacitance to earth of 0.01mF/km per phase. Calculate the inductance and KVA rating of Peterson coil used for earthing the above system. (05 Marks)
 c. Explain double bus without sectionalisation. (05 Marks)

Module-5

- 9 a. Define the following terms :
 i) Load factor ii) diversity factor iii) plant use factor. (06 Marks)
 b. A generating station has 3 \times 50 MW units. The station output is 876×10^6 KWH per annum. The maximum demand is 120 MW calculate : (06 Marks)
 i) average load on the station
 ii) annual load factor
 iii) annual capacity factor.
 c. Explain the factors affecting tariff. (04 Marks)

OR

- 10 a. Explain : i) two part tariff ii) power factor tariff iii) maximum demand tariff. (06 Marks)
 b. Discuss various methods of power factor improvement. (04 Marks)
 c. Calculate the annual energy cost of an industrial consumer who takes a load of 20 KW for 1 hour per day, 150 KW for 7 hours per day and 50 KW for 8 hours/day. The tariff in force is Rs. 20 per kilowatt of maximum demand and 10 paise per KWH. Assume 6 working days in a week. (06 Marks)

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