

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech II Year I Semester Regular & Supplementary Examinations December-2023

GENERATION OF ELECTRICAL POWER

(Electrical and Electronics Engineering)

Time: 3 Hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 Draw the schematic diagram of a modern steam power station and explain its operation. CO1 L1 12M

OR

- 2 a What are the differences between thermal and hydro power plant. CO1 L1 6M
b Explain the function of the following in thermal power plant. CO1 L2 6M
i) Economizer ii) Electrostatic Precipitator iii) Condenser

UNIT-II

- 3 a Explain Nuclear chain Reaction. CO3 L2 6M
b Discuss the factors consider for the selection of site in nuclear power plant. CO3 L2 6M

OR

- 4 Draw the schematic diagram of a nuclear power station and discuss its operation. CO3 L1 12M

UNIT-III

- 5 a What is the role and potential of solar energy? Explain in detail. CO4 L1 6M
b List the applications of solar energy. CO4 L1 6M

OR

- 6 a Explain the construction of Flat plate collectors with neat diagram. CO4 L2 6M
b Explain the working principle of concentrating collectors. CO4 L2 6M

UNIT-IV

- 7 a What is ocean energy? How is it produced? CO5 L1 6M
b What is basic principle of ocean thermal energy conversion. CO5 L1 6M

OR

- 8 a What are the advantages and disadvantages of geothermal energy? CO5 L1 6M
b Write some applications of geothermal Energy. CO5 L1 6M

UNIT-V

- 9 A annual peak load on a 30 MW power station is 25MW. The power station supplies loads having maximum demands of 10MW, 8.5MW, 5MW and 4.5Mw. the annual load factor is 45% Find
i) Average load. ii) Energy supplied per year iii) Demand factor CO6 L4 12M

OR

- 10 a What is Tariff? What are the Desirable Characteristics of a Tariff? CO6 L1 6M
b Consumer has a maximum demand of 200 kW at 40% load factor. If the tariff is Rs. 100 per kW of maximum demand plus 10 paise per kWh, find the overall cost per kWh. CO6 L2 6M

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