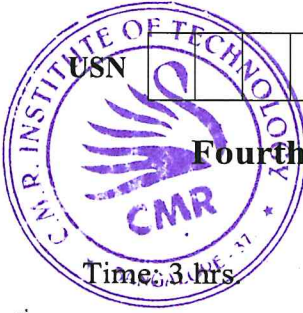


CBCS SCHEME



17EE42

Fourth Semester B.E. Degree Examination, July/August 2022 Power Generation and Economics

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the general arrangement and operation of hydro-electric power plant. (08 Marks)
- b. With a neat sketch, explain the function of pumped storage plant. (08 Marks)
- c. Mention the site-selection points for Hydro electric power plants. (04 Marks)

OR

- 2 a. Discuss the advantages and disadvantages of hydro-electric power plant. (08 Marks)
- b. Discuss the classification of hydro-electric power plant. Explain high head and base load power plant. (08 Marks)
- c. Explain mini Micro hydel power plants. (04 Marks)

Module-2

- 3 a. Draw schematic layout of a typical thermal power plant and explain the functions of various components. (12 Marks)
- b. Mention the site selection points for steam power plants and explain briefly. (08 Marks)

OR

- 4 a. Write short notes on:
 - i) Air pre heater
 - ii) Condenser
 - iii) Superheater
 - iv) Boiler
 - v) Cooling tower. (10 Marks)
- b. Write a note on ash disposal methods in steam power station. (05 Marks)
- c. Explain briefly why the over all efficiency of thermal power station is low. (05 Marks)

Module-3

- 5 a. What are the merits and demerits of nuclear power plants? (06 Marks)
- b. Draw a neat diagram of reactor and explain it. (08 Marks)
- c. What are the factors need to be considered for site selection of nuclear power plant? (06 Marks)

OR

- 6 a. Discuss the safety measures incorporated for nuclear power plant. (06 Marks)
- b. Enumerate and explain essential components of nuclear reactor. (10 Marks)
- c. Explain the methods of nuclear waste disposal. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-4

- 7 a. What is a substation? Explain briefly the main components of substation. (08 Marks)
b. Define bus bar. Explain double bus without sectionalization. (08 Marks)
c. List the merits and demerits of single bus bar system. (04 Marks)

OR

- 8 a. Write short notes on classification of sub stations. (08 Marks)
b. Discuss on the following:
i) Location of substation
ii) Indoor substation. (06 Marks)
c. Discuss the advantages of interconnection of power stations. (06 Marks)

Module-5

- 9 a. Explain the following terms as applied to power system:
i) Diversity factor
ii) Plant use factor
iii) Load duration curve
iv) Load curve
v) Load factor. (10 Marks)
b. Mention the objectives of tariff. (05 Marks)
c. Describe the characteristics of a tariff. (05 Marks)

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OR

- 10 a. Name the different types of tariff. Explain them briefly. (10 Marks)
b. What is power factor? Mention the disadvantages of low power factor. (05 Marks)
c. Explain the methods of improving power factor. (05 Marks)
