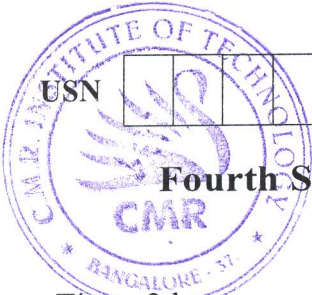


CBCS SCHEME

18EE42



Fourth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Power Generation and Economics

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Define the following:
 - (i) Hydrograph
 - (ii) Mass curve
 - (iii) Flow duration curve

(06 Marks)
- b. Explain the classification of hydroelectric power plants.

(06 Marks)
- c. Explain with neat sketch the working of hydroelectric power plant station and explain the function of each components in it.

(08 Marks)

OR

- 2 a. What are the main considerations for selection of site for a hydroelectric power station?

(06 Marks)
- b. Give difference between impulse turbine and reaction turbine.

(07 Marks)
- c. Explain the governing mechanism of water turbine with neat sketch.

(07 Marks)

Module-2

- 3 a. Draw the schematic diagram of modern steam power station and explain its operation with its important components.

(07 Marks)
- b. Explain the factors to be considered for site selection of a steam power plant.

(06 Marks)
- c. Explain with neat sketch, block diagram of diesel power plant.

(07 Marks)

OR

- 4 a. With a neat sketch explain working of gas turbine power plant.

(07 Marks)
- b. Discuss the advantages and disadvantages of a diesel power plant.

(07 Marks)
- c. Discuss in brief methods of improving thermal efficiency of gas turbine power plant.

(06 Marks)

Module-3

- 5 a. Explain with a neat diagram various parts of a nuclear reactor. Explain clearly the each part.

(07 Marks)
- b. Explain the methods of nuclear waste disposal.

(07 Marks)
- c. Mention the factors to be considered for the selection of site for nuclear power plant.

(06 Marks)

OR

- 6 a. Describe construction and working of a pressurized water reactor.

(07 Marks)
- b. Explain the function of Moderator, coolant control rod and shielding in nuclear power plant.

(08 Marks)
- c. Mention advantages and disadvantages of nuclear power plant.

(05 Marks)

Module-4

- 7 a. Write short notes on:
(i) High voltage fuses (06 Marks)
(ii) High voltages circuit breakers (06 Marks)
- b. Define substation and mention different types of substation. (06 Marks)
- c. Explain resonant grounding and resistance grounding with a neat diagram. (08 Marks)

OR

- 8 a. Explain single bus bar with bus sectionalizer. (06 Marks)
- b. Explain the factors to be considered for substation site selection. (06 Marks)
- c. Explain gas insulated substation and mention its advantages. (08 Marks)

Module-5

- 9 a. Define tariff. Explain:
(i) Block rate tariff (06 Marks)
(ii) Two port tariff (08 Marks)
(iii) KVA maximum demand tariff (06 Marks)
- b. Explain methods of determination of depreciation. (08 Marks)
- c. Write a short note on classification of costs. (06 Marks)

OR**CMRIT LIBRARY**
BANGALORE - 560 037

- 10 a. Explain the methods of power factor improvement. Explain any one. (08 Marks)
- b. List the principal factors affecting framing of tariff. (06 Marks)
- c. Explain the economics of power factor improvement. (06 Marks)
