

CBCS SCHEME

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21EE731

Seventh Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Power System Planning

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. What do you mean by planning? Also enumerate the components of planning with block diagram. (10 Marks)
b. Explain the need and importance of load forecasting in power system. Mention the different techniques of load forecasting. (10 Marks)

OR

- 2 a. Explain with the help of flow chart the least-cost utility planning. (10 Marks)
b. Explain the different tools for power system planning. List out the constraints in planning an energy system. (10 Marks)

Module-2

- 3 a. Explain private participation with respect to ownership options and modes of participation in power system planning. (10 Marks)
b. Explain renovation and modernization of power plants. (10 Marks)

OR

- 4 a. Explain the concept of clean coal technologies. (10 Marks)
b. Write notes on: (i) Credit Risk Assessment (ii) Rural Electrification Investment (10 Marks)

Module-3

- 5 a. Explain in detail the transmission planning criteria. (10 Marks)
b. Explain the planning criteria for reactive power compensation. (10 Marks)

OR

- 6 a. Explain the substation development with respect to transmission. (10 Marks)
b. Illustrate the advantages and disadvantages of HVDC transmission system. Also mention few applications of HVDC transmission system. (10 Marks)

Module-4

- 7 a. Explain the benefits of deregulation. (10 Marks)
b. Illustrate the concept of reliability by citing a suitable reliability model. (10 Marks)

OR

- 8 a. Mention the adequacy indices in distribution system reliability evaluation. (10 Marks)
b. What are the different basic distribution network systems used by utilities and explain the system with figure? (10 Marks)

Module-5

- 9 a. What is demand response? Explain demand response planning with block diagram. (10 Marks)
b. Write notes on: (i) Power pool (ii) Power trading (10 Marks)

OR

- 10 a. With block diagram, explain energy efficiency programmes. (10 Marks)
b. Explain about the Independent System Operator (ISO) and Distribution System Operator (DSO). (10 Marks)

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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.