



# CBCS SCHEME

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18EE824

**Eighth Semester B.E. Degree Examination, June/July 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. Explain in detail the planning process. Also enumerate the components of planning. (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 enterprise resource planning with module diagram. (10 Marks)
- b. Write a short note on :  
i) Reactive load forecast ii) Peak load forecast (10 Marks)

### **Module-2**

- 3 a. Explain renovation and modernization of power plants. (10 Marks)
- b. Write a short notes on :  
i) Rural Electrification Investment ii) Credit Risk Assessment. (10 Marks)

**OR**

- 4 a. Explain the broad options available with respect to power sector finance. (10 Marks)
- b. Explain the concept of clean coal technologies. (10 Marks)

### **Module-3**

- 5 a. Enumerate the technical and economic aspects considered for sub-station development . Briefly explain various substation bus-bar schemes. (10 Marks)
- b. Illustrate the advantages and disadvantages of HVDC transmission system. Also mention few applications of HVDC transmission system. (10 Marks)

**OR**

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

### **Module-4**

- 7 a. Explain the benefits of deregulation. (10 Marks)
- b. Mention the adequacy indices in Distribution System Reliability Model. (10 Marks)

**OR**

- 8 a. Explain the need for power system studies. (10 Marks)
- b. Enumerate the concept of reliability by citing a suitable reliability model. (10 Marks)

### **Module-5**

- 9 a. Enumerate the demand response programmes. (10 Marks)
- b. Enumerate the principles of electricity market. (10 Marks)

**OR**

- 10 a. With a relevant block diagram explain the importance of energy efficiency programme. (10 Marks)
- b. Write a short notes on :  
i) Smart power market ii) Power pool (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.