



10EE761

Seventh Semester B.E. Degree Examination, Aug./Sept.2020
Power System Planning

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO full questions from each part.

PART – A

- 1 a. Briefly explain the concept of least cost utility planning with the aid of logic used for planning. (06 Marks)
b. Discuss the different planning tools. (06 Marks)
c. Discuss any four load forecasting technique in power system. (08 Marks)
- 2 a. What is Co-generation? Briefly explain the two basic process topping and bottom cycle with a neat diagram. (10 Marks)
b. List out in brief the National Action plan goals associated with generation planning. (10 Marks)
- 3 a. Explain the strategies for transmission system expansion in India. (08 Marks)
b. What are the objectives of a sound pricing structure? Explain. (06 Marks)
c. Write a short note on rural electrification. (06 Marks)
- 4 a. What is reactive, power compensation? List the advantages and disadvantages of any four compensating equipments. (06 Marks)
b. Describe the major environmental hazards caused by fossil fired thermal plants and the methods to minimize them. (08 Marks)
c. Explain with the help of V-T curve, the need of insulation co-ordination in power system. (06 Marks)

PART – B

- 5 a. What is system Adequacy and Security? (04 Marks)
b. Explain in brief the following real time operation:
i) State estimation
ii) AGC
iii) Economic load dispatch
iv) Stability. (10 Marks)
c. Explain with the aid of schematic diagram, the various means of load management. (06 Marks)
- 6 a. With a neat diagram, explain the state estimation and its functions. (10 Marks)
b. With a neat diagram, explain the power system simulator. (10 Marks)
- 7 a. Mathematically define and narrate the objective function of power system expansion planning. (10 Marks)
b. What are the constraints observed during the optimization process of power system expansion planning? (10 Marks)
- 8 a. Explain the linear and dynamic programming method. (10 Marks)
b. Discuss the problem modeling with respect to optimization technique. (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.