

USN

10EE761

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020

**Power System Planning**

Time: 3 hrs.

Max. Marks:100

**Note:** Answer any FIVE full questions, selecting atleast TWO questions from each part.**PART – A**

- 1
  - a. What is Power System Planning? What are the planning tools? (07 Marks)
  - b. Write step – by – step procedure for strategic planning. (05 Marks)
  - c. What is Load Forecasting? Explain any one technique of load forecasting in power system. (08 Marks)
- 2
  - a. What is Co-generation? Describe two co-generation techniques. (10 Marks)
  - b. Write a note on transmission and distribution planning. (10 Marks)
- 3
  - a. Mention the objectives of consumer tariff and explain cost based and market based tariff. (10 Marks)
  - b. Explain Private participation with respect to ownership and modes of participation. (10 Marks)
- 4
  - a. Mention the choice of technology in order to minimize emissions. (06 Marks)
  - b. Explain the method of post combustion clean – up process to reduce gaseous pollutants. (06 Marks)
  - c. Define Wheeling in power system and list the typical objectives of wheeling. (08 Marks)

**PART – B**

- 5
  - a. What do you understand by power system reliability? Discuss the system adequacy and system security as applied to power system reliability. (10 Marks)
  - b. With the help of schematic diagram, explain various means of load management. (10 Marks)
- 6
  - a. What do you mean by state estimation? With the help of neat diagram, explain functioning of state estimation. (10 Marks)
  - b. What is Power System simulator? Explain its functions using block diagram. (10 Marks)
- 7
  - a. Explain the methodology to be adopted for optimal expansion planning of power system. (10 Marks)
  - b. Explain Mathematical development of generation expansion planning considering objective functions and constraints. (10 Marks)
- 8
  - a. Discuss Least cost optimization problem for thermal power plants. (10 Marks)
  - b. Describe any two mathematical optimization techniques for solution. (10 Marks)

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11.3.FEB.2020

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.

