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**Seventh Semester B.E. Degree Examination, Dec.2014/Jan.2015**

**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. Describe the structure of power system indicating the power system components and types. (10 Marks)  
b. Illustrate forecasting modeling with reference to the factors and hence explain mathematical modeling simulation considering domestic, commercial and other sectors. (10 Marks)
- 2 a. What is co-generation? State and explain the categories of co-generation systems. (10 Marks)  
b. List out national action plan goals associated with generation planning in brief terms. (10 Marks)
- 3 a. Explain private participation with respect to ownership options and modes of participation. (10 Marks)  
b. Discuss sound pricing structure in brief. (10 Marks)
- 4 a. Mention the choice of technology in order to minimize emissions. Explain the method of post-combustion clean up process to reduce gaseous pollutants. (10 Marks)  
b. Explain with the help of V-T curve the need of insulation coordination in power system. (10 Marks)

**PART – B**

- 5 a. What do you understand by power system reliability? Explain optimum reliability with respect to reliability planning. (10 Marks)  
b. With the help of a schematic diagram, explain the various means of load management. (10 Marks)
- 6 a. What do you mean by state estimation? With the help of neat diagram, explain the functions of state estimation. (10 Marks)  
b. What is power system simulator? Explain its functions using a block diagram. (10 Marks)
- 7 a. Describe mathematical development of generation expansion planning considering objective functions and constraints. (10 Marks)  
b. Formulate the least cost generation expansion planning problem in brief. (10 Marks)
- 8 a. Discuss problem description with respect to optimization technique. (10 Marks)  
b. Describe any one mathematical optimization technique. (10 Marks)

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