M.Tech. Electrical Power System (CBCS Pattern) Semester-III

PEPS322 - Power System Deregulation

P. Pages : 1 **GUG/W/24/11068**

Time : Three Hours * 4 2 1 0 * Max. Marks : 70

Notes :
1. All questions carry equal marks.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answers wherever necessary with the help of neat sketches.
5. Use of slide rule, Logarithmic tables, Steam tables, Mollier's chart, Drawing instruments, Thermodynamic tables for moist air, Psychrometric charts and Refrigeration charts is permitted.
6. None programmable calculator is permitted.
7. Answer **any five** questions.

1. a) Draw a block diagram & explain salient features of single purchasing agent model. **7**

b) Explain the structure and different entities ion deregulated electricity market with necessary diagram. **7**

OR

2. a) Categories electric power markets & explain them. **7**

b) State and explain the types of ancillary services. **7**

3. a) Explain the working of Independent system operation. **7**

b) State & Explain monopoly based model. Also write their merits and demerits. **7**

OR

4. a) Explain the separation of ownership and operation. **7**

b) Explain the internal congestion management. **7**

5. a) Write short note on the following electricity trading models based on industrial structure. **7**

i) Pool and bilateral trades ii) Multilateral trades

b) Write a short note on 'Transmission pricing. **7**

OR

6. a) Explain transmission pricing method with incremental cost based on Location Marginal Pricing (LMP). **7**

b) What is the importance of congestion management in the deregulated environment? **7**

7. a) Explain the function of **14**

i) PFC ii) CEA

b) Illustrate the basic principle of marginal transmission pricing paradigm. **14**

OR

8. a) Write features of Electricity act 2003 in light of power system deregulation. **14**

b) Explain in details the Inter Zonal and Intra zonal congestion management. **14**

****