

Elective-III : Power Systems Deregulation

P. Pages : 1

Time : Three Hours



GUG/W/18/11068

Max. Marks : 70

- Notes :
1. Attempt **any five** questions.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Use of slide Drawing Instruments, Thermodynamic tables for moist air, Psychometric Charts and Refrigeration charts is permitted. Use of non programmable calculator is permitted.

1. a) Explain the structure and different entities in deregulated electricity market with necessary diagrams. **7**
b) Define, enumerate and explain ancillary service management. **7**
2. a) Explain various ISO (Independent system operator) models. **7**
b) Explain briefly reactive power balancing market, as applicable to power system restructuring. What are its advantages? **7**
3. a) Write short note on the following electricity trading models based on industrial structure:
i) Pool and Bilateral trades ii) Multilateral trades. **7**
b) Discuss the wholesale competition market model. Draw block diagram. Write merits and demerits. **7**
4. a) Explain in details embedded cost based transmission pricing methods. **7**
b) Explain transmission pricing method with incremental cost based on location marginal pricing (LMP). **7**
5. a) Explain ATC (Available transfer capability) Enlist and describe any three methods, generally utilized for its determination. **7**
b) What are the transmission congestion issues, Explain in detail. **7**
6. a) What is the importance of congestion management in the deregulated environment. **7**
b) What are the present challenges before the Indian power sector. Explain them. **7**
7. a) Explain the following terms with respect to the CEA notified definitions: **7**
 - Base load Operation.
 - Basic Insulation Level (BIL)
 - Black start.
 - Boiler Maximum Continuous Rating. (MCR)b) Discuss some of the provisions of CEA with respect to NOISE LEVEL in thermal generating stations. **7**
8. a) Enlist any seven services offered by the power finance corporation (PFC) limited. **7**
b) Explain the institutional structure of India power sector before and after restructuring opted. **7**
