

**CANPAT UNIVERSITY**  
**M.TECH SEM. III ELECTRICAL ENGINEERING**  
**REGULAR EXAMINATION NOV- DEC 2015**  
**3EE303: POWER SYSTEM RESTRUCTURING**

TIME:-3 Hours

TOTAL MARKS-60

**INSTRUCTIONS:-**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Answer to two sections must be written in separate answer books.
4. Figures to the right indicate full marks.

**Section-I**

- Que-1** (a) A country 'X' is transmitting 200 MW power to a country 'Y' through two intermediate countries 'W' & 'Z'. Prepare a schedule of transmission payment involved by considering some arbitrary tariff components. (05)
- (b) What is the role of Independent System operator in Bilateral contract market? Explain it. (05)

**OR**

- Que-1** (a) Explain the concept of security management? Also Write down on security management practices. (05)
- (b) What do you mean by Bilateral market? How does it differ from PoolCo market? (05)

- Que-2** (a) Draw basic structure of deregulated market and discuss the basic components of competitive market. (05)
- (b) What is the motivation behind deregulation of various developed and developing countries? (05)

**OR**

- Que-2** (a) Enlist and explain the main after effects of deregulation in various countries? (05)
- (b) Discuss the main benefits of deregulation in power system. (05)

- Que-3** **Attempt any two:** (10)
- (a) What is the philosophy of market models? How can we compare wholesale competitive and retail competitive market?
- (b) Discuss MW-Mile method used for transaction cost calculation.
- (c) Write a short note on operational planning activities of ISO.



### Section-II

- Que-4** (a) Which are the main points of discussion for ancillary service management in different countries? Also discuss on Australian ancillary market management. (05)
- (b) List all embedded cost methods and explain Postage stamp method of transmission pricing. (05)

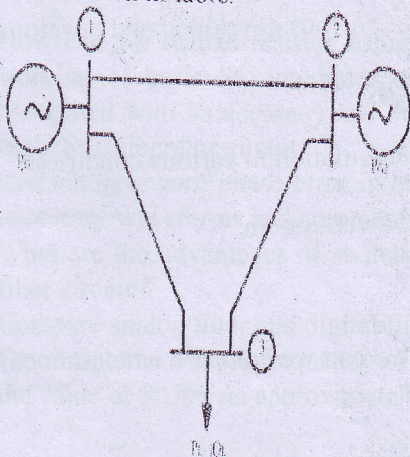
OR

- Que-4** (a) Illustrate Bialek's method of cost allocation using main steps. (05)
- (b) With respect to any three deregulated electricity market, compare the reactive power management system. (05)

- Que-5** (a) Enlist the important ancillary services in deregulated market and explain frequency control. (05)
- (b) Define Power Transfer Distribution Factor (PTDF) and explain method of ATC calculation using PTDF by an example. (05)

OR

- Que-5** (a) Calculate ATC for line between bus 2 and 3, for the given system with generation and load data shown in table. (05)



Bus No	Generation (MW)	Load (MW)
1	100	0
2	800	200
3	0	700

From Bus	To Bus	Line Reactance (pu)	Max. Power capacity (MW)
1	2	0.1	500
2	3	0.033	200
3	3	0.1	500

- (b) List the various LDCs in India. Explain the role of various load dispatch centers in restructuring (05)

**Que-6**

**Attempt any two.**

- (a) By some of the main points explain ancillary service management in UK market. (10)
- (b) Make comparative study of generation scheduling practices in various countries.
- (c) Define: Congestion. Discuss various transmission limits violated due to congestion.

End of Paper