

GANPAT UNIVERSITY
M.TECH SEM. III ELECTRICAL ENGINEERING
REGULAR EXAMINATION NOVEMBER- 2014
3EE303: POWER SYSTEM RESTRUCTURING

TIME:-3 Hours
INSTRUCTIONS:-

TOTAL MARKS-70

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) Explain the main benefits of deregulation. (06)
- (b) Why are various countries shifted to deregulation of power system? Clarify the causes of restructuring of developed and developing countries. (06)

OR

- Que-1 (a) What are the main after effects of deregulation in various countries? (06)
- (b) Draw basic structure of deregulated market with power and money flow and write about basic component of competitive market. (06)

- Que-2 (a) What is the philosophy of market models? Compare wholesale competitive and retail competitive market. (05)
- (b) Explain the implementation of deregulation process in India. (06)

OR

- Que-2 (a) Discuss the comparison of PoolCo and Bilateral market. (05)
- (b) Explain the role of Independent System operator in Bilateral contract market. (06)

Que-3 Attempt any two: (12)

- (a) Make comparative study of generation scheduling practices in various countries.
- (b) A country 'A' is transmitting 100 MW power to a country 'D' through two intermediate countries 'C' & 'D'. Prepare a schedule of transmission payment involved by considering some arbitrary tariff components.
- (c) What is the concept of security management? Write a short note on security management practices.

Section-II

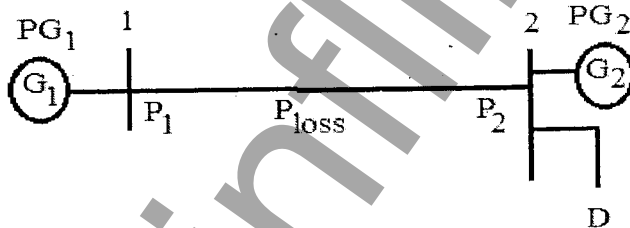
- Que-4** (a) Discuss Synchronous generator as ancillary service provider (06)
 (b) Write the steps of Bialek's cost allocation method and Implement it on any transmission system network. (06)

OR

- Que-4** (a) Define Power Transfer Distribution Factor (PTDF) and explain method of ATC calculation using PTDF by an example. (06)
 (b) Explain the role of GenCo in PoolCo market. (06)
- Que-5** (a) What do you mean by embedded cost method? Explain Postage stamp method of transmission pricing. (05)
 (b) Why are an ancillary services important in restructured market? Explain briefly about main ancillary services in restructured market. (06)

OR

- Que-5** (a) Explain ancillary service management in Australian market. (04)
 (b) The generation cost of generator placed on bus 1 and 2 are $C_1(P_{G1})=10Rs/hour$ and $C_2(P_{G2})=12.5Rs/hour$ respectively. For this system $P_{loss} = b_1 P_{G1}^2$, where loss coefficient $b_1=0.005$ and the only demand is on bus 2, $D = 40MW$. Calculate the cost to serve the load under all possible alternates. (07)



- Que-6** Attempt any two. (12)
 (a) Discuss MW-Mile method used for transaction cost calculation.
 (b) Explain the international transmission pricing scheme of Europe using G, L and T terms.
 (c) Write a short note on operational planning activities of ISO.

End of Paper