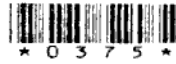M.E. First Semester (Civil Engg. (Construction Engg. & Managt.)) (CGS)
13064 : Quantitative Methods in Construction Engineering : 1 CM 03

P. Pages : 2

AW - 3785

Time : Three Hours

‖0375‖

Max. Marks : 80

Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.

SECTION – I

1. a) What is Queuing & Simulation Models.   4

   b) Maximize $z = 0.12x_1 + 0.15x_2$ 9
   Subjected to $30x_1 + 30x_2 \geq 150$
   $$6x_1 + 3x_2 \geq 18$$
   $$5x_1 + 15x_2 \geq 45$$
   $$x_1 \ \& \ x_2 \geq 0$$

OR

2. a) Explain Duality Theorem in brief.   4

   b) Maximize $z = 30x_1 + 20x_2$ 9
   Subjected to $2x_1 + x_2 \leq 100$
   $$x_1 + x_2 \leq 80$$
   $$x_1 \leq 40$$
   $$x_1 \ \& \ x_2 \geq 0$$

3. a) What is Transportation problem?   4

   b) Solve the following Transportation problem.   10

S \ D	1	2	3	4	Supply
A	1	5	3	4	100
B	4	2	2	4	60
C	3	1	2	4	120
Demand	70	50	100	60	

OR

4. a) What is PERT?   4

b) Solve in Assignment Method. **10**

	I	II	III	IV	V
A1	11	07	10	17	10
A2	13	21	07	11	13
A3	13	13	15	13	14
A4	18	10	13	16	14
A5	12	08	16	19	10

5. a) What is fixed order quantity system? 6

   b) Explain various types of simulation modeling? 7

OR

6. a) What is periodic review system? 6

   b) What is Queuing Structure? Explain Last come first served basis of customer Handling? 7

SECTION - B

7. a) What is cost-plus pricing concept? 6

   b) Explain concept of Risk and Uncertainty? 7

OR

8. a) Discuss the objective and principle of Capital Budgeting. 6

   b) Explain Break Even Analysis for non-linear cost function? 7

9. a) Explain Nature & Scope of Managerial Economics? 6

   b) What are the objectives of Business Firms? 7

OR

10. a) Explain the concept of Multiple Product Pricing? 6

    b) What are the social responsibility of Business Firm? 7

11. a) What are the factors determining the Market Structure? 7

    b) Explain about Price Determination Under Pure Monopoly? 7

OR

12. a) What are various Pricing Strategies and Practices? Explain in brief? 7

    b) Explain Equi-Marginal Principle with suitable example? 7

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