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Reg. No. : .....

Name : .....

Fourth Semester M.Com. Degree Examination, July 2018

Elective : Finance/Marketing

MANAGEMENT OPTIMISATION TECHNIQUES

Common for CO243F (2014 Adm. Onwards)/CO244M (2015 Adm. Onwards)

Time : 3 Hours Max. Marks : 75

PART – A

Answer **all** questions. **Each** question carries **2** marks.

1. Explain the term crashing in project scheduling.
2. What do you mean by Degeneracy in LPP ?
3. Distinguish between Slack and Artificial variables.
4. Explain the term Saddle point in Game Theory.
5. What do you understand by selective inventory control ?
6. Define pay off matrix.
7. State any two advantages of network analysis.
8. What do you mean by PERT ?
9. Why study about queuing ?
10. What are the inventory control models ? **(10×2=20 Marks)**

PART – B

Answer **any 5** questions. **Each** question carries **5** marks.

11. What do you understand by zero sum in the context of Game Theory ?
12. In what ways a transshipment problem is different from a transportation problem ?
13. What are the components of LPP ? What does non negativity restriction mean ?

P.T.O.

14. Write a short note on travelling salesmen problem.

15. Explain the importance of network analysis.

16. Give game theory introduction and its applications.

17. Solve the following transportation problem.

Luminous lamps has three factories – F_1, F_2 and F_3 with production capacity 30, 50 and 20 units per week respectively. These units are to be shipped to four warehouses W_1, W_2, W_3 and W_4 with requirement of 20, 40, 30 and 10 units per week respectively. The transportation costs (in Rs.) per unit between factories and warehouses are given below.

Factory	**Warehouse**				**Supply**
	W_1	W_2	W_3	W_4	
F_1	1	2	1	4	30
F_2	3	3	2	1	50
F_3	4	2	5	9	20
Demand	20	40	30	10	

Find an initial basic feasible solution of the given transportation problem using northwest corner rule.

18. How would you identify the existence of multiple solutions in a Hungarian assignment problem ? **(5×5=25 Marks)**

PART – C

Answer **any 2** questions. **Each** question carries **15** marks.

19. Explain operation research and its models.

20. Describe the methods of Transportation problem.

21. Determine an initial feasible solution to the following transportation problem where Oi and Dj represent ith origin and jth destination, respectively.

Source	**Dest. 1**	**Dest. 2**	**Dest. 3**	**Dest. 4**	**Supply**
O_1	6	4	1	5	14
O_2	8	9	2	7	16
O_3	4	3	6	2	5
Demand	6	10	15	4	35

22. Explain in detail the influence of various relevant costs in replacement problem. **(2×15=30 Marks)**