

21P245

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Name:

Reg.No:

SECOND SEMESTER M.Com. DEGREE EXAMINATION, APRIL 2022

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P MCM2 C10 - MANAGEMENT SCIENCE

(Commerce)

(2019 Admission onwards)

Time : 3 Hours

Maximum : 30 Weightage

Part-A

Answer any *four* questions. Each question carries 2 weightage.

1. What do you mean by Strategic Decision?
2. What do you mean by degeneracy in transportation?
3. What are assignment problems?
4. What do you mean by EOQ? Derive the formula of EOQ.
5. What is Queuing Theory?
6. What is Slack Variable?
7. How to calculate Market share?

(4 × 2 = 8 Weightage)

Part-B

Answer any *four* questions. Each question carries 3 weightage.

8. Describe the role of Management Science.
9. What are the uses and limitations of models ?
10. Find initial feasible solution to the transportation problem by Lowest Cost Entry method.

Plants	W ₁	W ₂	W ₃	Supply
P ₁	7	6	9	20
P ₂	5	7	3	28
P ₃	4	5	8	17
Demand	21	25	19	65

11. In a game of matching coins with two players, suppose A wins one unit of value when there are 2 heads and wins nothing when there are two tails and loses $\frac{1}{2}$ unit of value when there are one head and one tail. Determine the pay off matrix, the best strategy for each player, and the value of the game.
12. A project is expected to take 15 months along the critical path having a standard deviation of 3 months. What is the probability of completing the project on the due date. if the due date fixed is a) 18 months b) 12 months.
13. Mean and SD of a project duration are 300 and 100 days respectively. Within how many days would you expect to complete the project for which chance is 1)87.9% b)12.1%
14. What do you mean by assignment problem? Discuss any method of solving assignment problems.

(4 × 3 = 12 Weightage)

Part-C

Answer any *two* questions. Each question carries 5 weightage.

15. Briefly explain the areas of applications of Network techniques.
16. A manufacturing company can make two products A and B. each of the products require time on a cutting machine and a finishing machine. Relevant data are furnished below:

Particulars	Product A	Product B
Cutting Hours per unit	2	1
Finishing Hours per unit	3	3
Profit per unit	Rs.6	Rs. 4
Maximum Sales (Units per week)	200 units	

The number of cutting hours available per week is 390 and finishing hour is 810. How many units of the product should be produced each week in order to achieve maximum profit for the company.

17. The annual demand for an item is 4200 units. The unit cost is Rs. 8 and inventory carrying charges 35% per annum. If the cost at one procurement is Rs. 250 determine
 - (a) Economic Order quantity per unit.
 - (b) Number of orders per year.
 - (c) Time between 2 consecutive orders.
 - (d) The total optimal cost including purchase cost.
18. How is inventory control useful to a business man?

(2 × 5 = 10 Weightage)
