

**15862**

**M-2011**

**Sl. No.**

**Total No. of Pages : 3**

**IV Semester (Repeaters) M.Com. Examination, June - 2017**  
**(Scheme : Choice Based Credit System)**  
**(Admitted before 2015-16 Batch)**  
**COMMERCE**  
**HC: Operations Research**

**Time : 3 Hours**

**Max. Marks : 70**

**PART - A**

**Answer any five questions. Each question carries five marks : [5 × 5 = 25]**

1. Explain the Characteristics of Operation Research?
2. Write a short on Iconic models?
3. What do you mean by multiple optimal solutions?
4. Define infeasible solution in OR?
5. Briefly discuss on PERT and CPM?
6. What is least cost method?
7. Elucidate streamlined simplex method?
8. Briefly discuss on Hungarian Method in Optimal Assignment?

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**PART - B**

**Answer any three questions. Each question carries ten marks : [3 × 10 = 30]**

9. Introduce the different types of models in Operation Research Based on certainty?
10. Discuss on Sensitivity analysis?
11. Differentiate between standard forms and canonical forms of LPP.

12. Minimize :

$$120 \times 1 + 160 \times 2$$

Subject to

$$0.3 \times 1 + 0.4 \times 2 \geq 240$$

$$0.2 \times 1 + 0.1 \times 2 \geq 100$$

$$0.5 \times 1 + 0.3 \times 2 \geq 290$$

Find the optimum quantities of the two items to be purchased so that the company requirements of the three materials are satisfied at a minimum cost?

13. Describe the applications of Operation Research?

**PART - C**

14. Case study (Compulsory) : [1 × 15 = 15]

A tourist company owns one vehicle in each of the five locations viz L1, L2, L3, L4, L5 and a passenger in each of the five cities C1, C2, C3, C4, C5

respectively. The following table shows the distant between the locations and cities in kilometer. How should be Vehicles be assigned to the passengers so as to minimize the total distance covered?

|           |    | Cities |     |     |    |    |
|-----------|----|--------|-----|-----|----|----|
|           |    | C1     | C2  | C3  | C4 | C5 |
| Locations | L1 | 120    | 110 | 115 | 30 | 36 |
|           | L2 | 125    | 100 | 95  | 30 | 16 |
|           | L3 | 155    | 90  | 135 | 60 | 50 |
|           | L4 | 160    | 140 | 150 | 60 | 60 |
|           | L5 | 190    | 155 | 165 | 90 | 85 |



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