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Name.....

Reg. No.....

SECOND SEMESTER M.Com. DEGREE EXAMINATION, JUNE 2017

(CUCSS-PG)

Commerce

MC 2C 9—MANAGEMENT SCIENCE

(2015 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Part A

Answer all questions.

Each question carries 1 weightage.

1. What is an Unbalanced Transportation Problem ?
2. What is an Assignment Problem ?
3. What is Network ?
4. Define Event Float in CPM.
5. What is meant by Critical Path ?
6. What is meant LPP ?

(6 × 1 = 6 weightage)

Part B

Answer any six question.

Each question carries 3 weightage.

7. Explain the scope of Operations Research.
8. What are the objectives of Linear Programming ?
9. Discuss the types of Activities in Network Analysis.
10. Briefly explain the Game theory.
11. Write a short note on Stepping Stone Method.
12. Distinguish between CPM and PERT.

Turn over

13. A manufacturing company is engaged in producing three types of product A, B and C. The production department produces each day, components sufficient to make 100 units of A, 50 units of B and 60 units of C. The management is confronted with the problem of optimizing the daily production of products in the assembly department, where any 200 man hours are available daily for assembling the products. The following additional information is available :

| Type of product | Profit contribution Per unit of product (Rs) | Assembly time per product (hrs) |
|-----------------|---|------------------------------------|
| A | 24 | 1.6 |
| B | 40 | 3.4 |
| C | 90 | 5 |

The company has a daily order 40 units of product A and total of 30 units of product B and C. Formulate this problem as Linear Programming problem so as to maximize total profit.

14. A small maintenance project consists of the following Jobs whose precedence relationships are gives below :

| Job | 1-2 | 1 - 3 | 2-3 | 2-5 | 3-4 | 3-6 | 4-5 | 4-6 | 5-6 | 6-7 |
|---------------------|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| Duration in days | 15 | 15 | 3 | 5 | 8 | 12 | 1 | 14 | 3 | 14 |

- Draw an Arrow Diagram.
- Find the Total Float for each activity.
- Find the Critical Path and the Project Duration.

(6 × 3 = 18 weightage)

Part C

Answer any two question.

Each question carries 6 weightage.

- What are the techniques in Operation Research ?
- State the Elements of Queuing Systems.
- Write a short note on Programme Evaluation and Review Technique.

(2 × 6 = 12 weightage)