C 2802 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER M.B.A. DEGREE EXAMINATION, JUNE 2016

(CUCSS)

BUS 2C 15—MANAGEMENT SCIENCE

(2013 Admission onwards)

Time : Three Hours Maximum : 36 Weightage

Part A

Answer **all** *questions.*
Each question carries 1 *weightage.*

1. What do you mean by crashing ?
2. What do you mean by Feasible solution ?
3. Define Alternative optima.
4. Define Intuitive approach.
5. Define Decision variable.
6. Briefly explain sensitivity analysis.

(6 × 1 = 6 weightage)

Part B

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

7. Draw a flowchart for the computational procedure for a LPP using simplex method.
8. Briefly describe the steps for solving a Transportation Problem.
9. Write short note on two person zero sums game.
10. Explain the basic characteristics of a queuing system.
11. Distinguish between the advantages and disadvantages of simulation ?
12. Write down the steps of the graphical method to obtain an optimal solution to a linear programming problem.
13. Distinguish between operations research and operations management.
14. Develop a model for dependent and independent variables for factors influencing managerial decision with a hypothetical example.

(6 × 3 = 18 weightage)

Turn over

Part C

Answer any **two** *questions.*
Each question carries 6 weightage

15. Explain with example, how decision trees are helpful in decision-making ? What are the limitations of decision tree approach ?

16. A transistor radio company manufactures models A, B and C which have profit contributions of 8, 15 and 25 respectively. The weekly minimum production requirements are 100 for model A, 150 for model B and 75 for model C. Each type of radio requires a certain amount of time for the manufacturing of component parts, for assembling and packing. Specially a dozen units of model A require three hours of manufacturing, four hours of assembling and one hour of packing. The corresponding figures for a dozen units of model B are 3.5, 5 and 1.5 and for a dozen unit of model C are 5, 8 and 3. During the forthcoming week the company has available 150 hours of manufacturing, 200 hours of assembling and 60 hours of packing time. Formulate the production scheduling problem as a linear programming model.

17. Assuming that the expected time are normally distributed, find the critical path and project duration of :

		Days		
Activity		*Optimistic time*	*Most likely time*	*Pessimistic time*
1 - 2	...	2	5	14
1 - 3	...	9	12	15
2 - 4	...	5	14	17
3 - 4	...	2	5	8
3 - 5	...	8	17	20
4 - 5	...	9	9	12

(2 × 6 = 12 weightage)