C 82136 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER M.B.A. DEGREE EXAMINATION, JUNE 2020

(CUCSS)

M.B.A.

BUS 2C 14—MANAGEMENT SCIENCE

(2016 Admission onwards)

Time : Three Hours Maximum : 36 Weightage

Part A

Answer **all** *the questions.*
1 *weightage to each.*

1. Define iconic models.
2. Network diagrams must be timely updated. Why ?
3. What is critical path ?
4. What can be inferred from simplex method of LPP ?
5. When is the game said to be fair ?
6. What is the outcome of uncertainty in decision making ?

(6 × 1 = 6 weightage)

Part B

Answer any **four** *questions from the below questions.*
(3 weightage to each)

7. What are the uses of Transportation model ?
8. You are given following pay off matrix. From the following pay off matrix and details, calculate EMV and decide which of the Acts can be chosen ?

Pay off table

Perfume	Sales 1 (S1)	Sales 2 (S2)	Sales 3 (S3)
A1	25	400	650
A2	–10	440	740
A3	–125	400	750

Turn over

9. The manager of an oil refinery must decide on the optimal mix of 2 possible blending processes of which the inputs and outputs per production run are as follows :

Sl. No.	Crude A	Crude B	Diesel X	Diesel Y
1	6	3	6	9
2	5	6	5	5

Maximum availability of crude A and B are 250 units and 200 units respectively. The market requirement shows that at least 150 units of Diesel X and 130 units of Diesel Y must be produced. The profits per production run from process 1 and 2 are Rs. 40 and Rs. 50 respectively. Formulate the problem for maximizing the profit.

10. Explain the objectives of network analysis.

11. What are the characteristics of a decision maker ?

12. What characteristics should a good model possess in order to be effective ? Enumerate.

(4 × 3 = 12 weightage)

Part C

Answer any three *from the following questions.*
4 weightage to each.

13. Linear programming is a powerful quantitative technique which is useful to solve problems. Explain through examples.

14. Explain the steps involved in solving a problem using scientific method.

15. Explain degeneracy in detail.

16. What are the steps to be followed in solving a Management Transportation problem ?

17. Explain the concept of Monte Carlo simulation.

(3 × 4 = 12 weightage)

Part D

Answer the question below.
(6 weightage)

18. A company is trying to decide whether to bid for a certain contract or not. They estimate that merely preparing the bid will cost £10.000. If their company bid then they estimate that there is a 50% chance that their bid will be put on the "short-list", otherwise their bid will be rejected.

Once "short-listed" the company will have to supply further detailed information (entailing costs estimated at £5,000). After this stage their bid will either be accepted or rejected.

The company estimated that the labour and material costs associated with the contract are £127,000. They are considering three possible bid prices, namely £155,000, £170,000 and £190,000. They estimate that the probability of these bids being accepted (once they have been short-listed) is 0.90, 0.75 and 0.35 respectively.

(1 × 6 = 6 weightage)