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MBS/M-15
MANAGEMENT SCIENCE
Paper-CP-201

Time Allowed: 3 Hours] [Maximum Marks: 70

Note: Attempt any eight questions from Unit -I, and any three Question from Unit –II.

Unit-1

1. What is Linear Programming? Explain the assumptions of continuity and proportionality of LP Models.
2. What is rule of Dominance for solving a game problem?
3. Explain the WOQ model of Inventory held by an organization?
4. What are the various types of inventory by an organization?
5. What is the difference among Linear Programming, Integer programming and Goal programming?
6. Explain the VAM method of obtaining initial feasible solution of Transportation problem.
7. Explain the Hungarian Assignment Method for solving an assignment problem.
8. What is the difference between PERT and CPM? Explain.
9. What is Decision tree? Explain.
10. What are the phases of the simulation process? Explain.

Unit-1I

11. **"**Management is equivalent to Decision making." Do you agree? Explain. What is Management Science approach to decision making? Discuss.

12. What is linear programming? Solve the following problem by simplex method:

$$\text{Maximize } Z=16x+8y$$
$$\text{Subject to } x+y \leq 200$$
$$X \leq 125$$
$$6x+3y \leq 900$$
$$X,y \geq 0$$

13. What is Game Theory? Solve the following game:

A's Strategy	B's Strategy: B1	B2
A1	14	-8
A2	-14	12
A3	16	-12
A4	-8	-4

14. The manager of a flower shop purchases roses for Rs. 60 per dozen and sells them for Rs. 125 per dozen. At the end of the day, all unsold roses are donated to a local hospital. The daily demand for roses is as follows:

Demand (in dozens):	70	80	90	100	110
Probability	: 0.100.25	0.35	0.20	0.10	

Find how many dozens of roses the manager should purchase each morning to maximum his profit? What is the optimum expected profit? Also calculate the EVPI.

15. What is the question problem? Present the general structure of a queuing system. Describe some of the important performance measures of a queuing system.