

S.D.E.

M.B.A. (E) SEM-III (2 YEAR COURSE) : SUMMER - 2018

SUBJECT : MANAGEMENT SCIENCE & DECISION TECHNOLOGY

Day : Saturday  
Date : 02/06/2018

S-2018-4570

Time : 10.00 A.M. TO 01.00 P.M.  
Max. Marks : 70

N.B.:

- 1) Attempt ANY FOUR questions from Section – I and ANY TWO questions from Section – II.
- 2) Answers to both the sections should be written in SEPARATE answer books.
- 3) Figures to the right indicate FULL marks.

SECTION – I

- Q.1 Explain the Evolution of Management Thought. [10]
- Q.2 Explain Decision Process with suitable examples. [10]
- Q.3 Discuss the measures of Central Tendency with suitable examples. [10]
- Q.4 What do you understand by Linear Programming? Explain its significance. [10]
- Q.5 Write short notes on ANY TWO of the following: [10]
- a) Probability Theory
  - b) Dispersion
  - c) Applications of Assignment Problem

SECTION – II

- Q.6 Use Vogel's Approximation Method (VAM) to find Initial Basic Feasible Solution to the following Transportation Problem; [15]

	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	Supply
S <sub>1</sub>	19	30	50	10	7
S <sub>2</sub>	70	30	40	60	9
S <sub>3</sub>	40	8	70	20	18
Demand	5	8	7	14	24

- Q.7 In a railway marshalling yard, goods trains arrive at a rate of 30 trains per day, assuming that interarrival time follows an exponential distribution and the service time (the time taken to hump a train) distribution is also exponential with an average of 36 minutes. Calculate: [15]
- a) Expected queue size (line length).
  - b) Probability that the queue size exceeds 10.

- Q.8 A bakery keeps stock of a popular brand of cake. Previous experience shows the daily demand pattern for the item with associated probabilities, as given below: [15]

Daily demand (number)	0	10	20	30	40	50
Probability	0.01	0.20	0.15	0.50	0.12	0.02

Use the following sequence of random numbers to simulate the demand for next 10 days.

Random numbers: 25, 39, 65, 76, 12, 05, 73, 89, 19, 49.

Also estimate the daily average demand for the cakes on the basis of the simulated data.

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