

M.B.A. (E) SEM-III (2 YEAR COURSE) : WINTER - 2017
SUBJECT : MANAGEMENT SCIENCE & DECISION TECHNOLOGY

Day : **Thursday**
 Date : **21/12/2017**

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

W-2017-4379

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** Discuss the Scientific Management School thought in detail. [10]
- Q.2** Explain Management Science Techniques with suitable examples. [10]
- Q.3** Explain the concept of correlation, citing appropriate examples. [10]
- Q.4** Explain the formulation of Linear Programming Problems (LPP). [10]
- Q.5** Write short notes on **ANY TWO** of the following: [10]
- a) Mean
 - b) Dispersion
 - c) Decision and Risk Analysis

SECTION – II

- Q.6** A computer center has three expert programmers. The center wants three application programmes to be developed. Estimate time in minutes is presented in following table: [15]

		Programmers		
		A	B	C
Programmes	1	120	100	80
	2	80	90	110
	3	110	140	120

Assign the programmers to programmes in such a way that total computer time is minimum.

- Q.7** A television repairman find that the time spent on his jobs has an exponential distribution with a mean of 30 minutes. If he repairs the sets in the order in which they came in, and if the arrival of sets follows a Poisson distribution with an approximate average rate of 10 per 8-hour day. What is the repairman's expected idle time each day? How many jobs are ahead of average set just brought in? [15]
- Q.8** A company manufactures around 200 mopeds. Depending upon the availability of raw materials and other conditions, the daily production has been varying from 196 mopeds to 204 mopeds, whose probability distribution is as given below: [15]

Production / day	196	197	198	199	200	201	202	203	204
Probability	0.05	0.09	0.12	0.14	0.20	0.15	0.11	0.08	0.06

The finished mopeds are transported in a specially designed three-storied lorry that can accommodate only 200 mopeds. Using the following 15 random numbers: 82, 89, 78, 24, 53, 61, 18, 45, 04, 23, 50, 77, 27, 54 and 10, simulate the mopeds waiting in the factory.

- a) What will be the average number of mopeds waiting in the factory?
- b) What will be the number of empty spaces in the lorry?