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**MS-08**

**MANAGEMENT PROGRAMME (MP)**

**Term-End Examination**

**June, 2020**

**MS-08 : QUANTITATIVE ANALYSIS FOR  
MANAGERIAL APPLICATIONS**

*Time : 3 Hours*

*Maximum Marks : 100*

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*Note : Section A has six questions, each carrying 15 marks. Attempt any four questions. Section B is compulsory and carries 40 marks. Attempt both questions. Use of calculator is permissible.*

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**Section—A**

1. Define matrices. Give examples of some special matrices. How would you represent the data of a transportation problem and a pay-off matrix in the matrix form ?

P. T. O.

2. Consider the following data which relate to the sales of 100 companies :

Sales (in ₹ lakhs)	No. of Companies
40—50	5
50—60	15
60—70	25
70—80	30
80—90	20
90—100	5

Compute the average deviation.

3. Bag A contains 2 white and 3 red balls and bag B contains 4 white and 5 red balls. One ball is drawn at random and is found to be red. Find the probability that it was drawn from bag A.
4. What is a Chi-square distribution ? How would you use it in testing the goodness of fit and testing independence of categorised data ?
5. A supplier of components to an electronic industry makes a product which sometimes fail immediately it is used. He controls his manufacturing process so that the proportion of

faulty products is supposed to be only 5%. Out of 400 units in one batch 26 proved to be faulty. Verify the manufacture's claim. Use 0.05 level of significance. Given value of test statistic at this level of significance is 1.96.

6. Write short notes on any *three* of the following :
- (a) Null matrix
  - (b) Skewness
  - (c) Poisson distribution
  - (d) Systematic sampling
  - (e) Rank correlation

**Section—B**

7. Calculate correlation coefficient from the following data :

X	Y
100	30
200	50
300	60
400	80
500	100
600	110
700	130

8. Describe the concept and significance of measures of central tendency. Define quantiles and discuss how would you compute several quantiles such as quartiles, deciles and percentiles.