

MANAGEMENT PROGRAMME (MP)

Term-End Examination

June, 2026

**MS-008 : QUANTITATIVE ANALYSIS FOR
MANAGERIAL APPLICATIONS**

Time : 3 Hours

Maximum Marks : 100

Weightage : 70%

Note : (i) *Section A has **six** questions, each carrying 15 marks. Attempt any **four** questions.*

(ii) *Section-B is compulsory and carries 40 marks. Attempt **both** the questions.*

(iii) *Use of calculator is permissible.*

Section—A

1. What are the two broad categories into which the sources of secondary data may be

divided ? Briefly discuss the precautions undertaken in the use of secondary data.

2. Units A, B and C of a factory manufacture 25%, 35% and 40% respectively of the total cars. Out of their output, 5%, 4%, 2% defective cars came from the units A, B and C respectively. Using Baye's theorem or otherwise, find the probability that a randomly selected car found to be defective has come from the unit B.
3. Consider a sample study in which 50 families were surveyed to find the number of children per family. The data obtained are :

3 2 2 1 3 4 2 1 3 4

5 0 2 1 2 3 3 2 1 1

2 3 0 3 2 1 4 3 5 5

4 3 6 5 4 3 1 0 6 5

4 3 1 2 0 1 2 3 4 5

Condense this data into a discrete frequency distribution.

4. "Probability sampling is theoretically superior to non-probability sampling." Do you agree or not ? Give justifications. Also list down some probability and non-probability sampling methods.

5. To test the effectiveness of training, a group of 5 participants were selected and given a test before and after the training. The result of the tests was as under :

Participant	Score before training	Score after training
1	10	15
2	12	10
3	15	18
4	18	32
5	10	25

Can the training be regarded as effective at 5% level of significance ? (Given the tabulated value of test statistics at required degree of freedom and level of significance is 2.57).

6. Write short notes on any *three* of the following :
- (a) Binomial Distribution
 - (b) Quartile Deviation
 - (c) Standard error of the mean
 - (d) Testing the Goodness of Fit
 - (e) Type-1 error

Section—B

7. What is Central Limit Theorem ? Why is it called one of the most important results of Applied Statistics ?
8. Using the method of least squares, find the regression equation of x on y for the data given below :

x	y
1	5
2	7
3	9
4	10
5	11

Also, from the regression equation obtained, find the value of corresponding to $y = 6$.

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