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MS–08

MANAGEMENT PROGRAMME
(MP)

Term-End Examination

December, 2024

MS–08 : 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 from this Section.*

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

(iii) Use of calculator is permitted.

Section—A

1. What is central limit theorem ? Why is it called one of the most important results of Applied Statistics ?

2. Consider the following data of workers in an establishment :

Age (years)	No. of Workers
Below 25	120
25—30	125
30—35	180
35—40	160
40—45	150
45—50	140
50—55	100
55 and above	25

Find the median age.

3. Define matrices. Give example of some special matrices. How would you represent the data of a transportation problem in the matrix form ?

4. In a sample of 500 people from village A 280 are found to be rice eaters and the rest wheat eaters. Can we assume that both the food articles are equally popular ? Test at 1% significance level.

(Given the value of test statistic at 1% = 2.58)

5. From the following data, obtain the regression of y on x :

x	y
6	9
2	11
10	5
4	8
8	7

6. Write short notes on any *three* of the following :

   (a) Null matrix

   (b) Poisson distribution

   (c) Rank correlation

   (d) Maximin criteria for decision-making

   (e) Algebraic and transcendental functions

Section—B

7. What is correlation coefficient ? How do you test the significance of the correlation coefficient ?

8. The customer accounts of a certain store have an average balance of ₹ 120 and a standard deviation of ₹ 40. Assuming the account balances are normally distributed, what proportion of the accounts is over ₹ 150 ?

   (Given area between mean & 150, z-value = 0.2734)

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