MANAGEMENT PROGRAMME
(MP)
Term-End Examination
December, 2023

MS–8 : QUANTITATIVE ANALYSIS FOR MANAGERIAL APPLICATIONS

Time : 3 Hours   *Maximum Marks : 100*

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.*

(iii) *Use of calculator is permitted.*

Section—A

1. Calculate mode from the following data :

Size of Items	No. of Items
45—50	2
40—45	5
35—40	10
30—35	20

25—30	30
20—25	18
15—20	8
10—15	4

2. Explain the meaning of statistics. Also, state the classification of statistical methods.

3. A bag I contains 4 white and 6 black balls while another bag II contains 4 white and 3 black balls. One ball is drawn at random from one of the bags, and it is found to be black. Find the probability that it was drawn from Bag I.

4. What do you understand by time series analysis ? Explain the decomposition method in brief.

5. Find the coefficient of correlation from the following data :

Fertilizer used (in metric tonnes)	Productivity (in metric tonnes)
15	85
18	93
20	95
24	105
30	120
35	130
40	150
50	160

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

    (a) Properties of a good measure of central tendency

    (b) Cluster sampling

    (c) Bernoulli process

    (d) Auto-correlation and time series analysis

    (e) Linear regression

Section—B

7. There are 600 business students in the PG department of a university and the probability of any student to need a particular book of OR from the library on any day is 0.05. How many copies of the book should be kept in the library so that the probability may be greater than 0.90 that none of the students needing a copy from the library has to go disappointed ? (Use normal approximation to the Binomial probability law). (Corresponding value of Z from the table = 1.28).