MMPC-005

MANAGEMENT PROGRAMME (MP)

Term-End Examination

June, 2022

MMPC-005 : 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.*

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

(iii) Use of calculator is permissible.

Section—A

1. "The standard deviation is the most widely used and important measure of variation." Comment on the statement. Also, discuss the properties of a good measure of variation.

P. T. O.

2. From the following data, compute arithmetic mean by short-cut method :

Marks	No. of Students
0—10	5
10—20	10
20—30	25
30—40	30
40—50	20
50—60	10

3. Find the coefficient of correlation between X and Y from the following data :

X	Y
1	12
2	11
3	13
4	15
5	14
6	17
7	16
8	19
9	18

4. "Time series analysis is one of the most powerful methods in use, especially for short-term forecasting purposes." Comment on the statement. Also, explain the decomposition method.

5. What are the various key issues in decision theory ? Explain the decision tree approach.

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

   (a) Coefficient of variation

   (b) Bayes' theorem

   (c) Probability sampling method

   (d) Correlation coefficient

   (e) Chi-square distribution

Section—B

7. A company that manufactures batteries guarantees them a life of 24 months.

   (i) If the average life has been found in tests to be 33 months and a S. D. of 4 months, how many will have to be replaced under guarantee if a normal distribution is assumed for battery lifetimes ?

P. T. O.

(ii) If annual sales are 10,000 batteries at a profit of ₹ 50 each and each replacement costs the company ₹ 100, find the net profit.

8. What do you understand by the term "Hypothesis" ? Explain null and alternate hypothesis along with the help of examples.