**MMPC-005**

# MANAGEMENT PROGRAMME
## (MP)
### Term-End Examination
### June, 2023

**MMPC-005 : QUANTITATIVE ANALYSIS FOR MANAGERIAL APPLICATIONS**

*Time : 3 Hours*       *Maximum Marks : 100*

***Note :*** (*i*) *There are total **7** questions. Answer any **five**.*

(*ii*) *All questions are of equal marks.*

(*iii*) *Calculators are allowed.*

1.  Why is forecasting so important in business ? Identify the application of forecasting for short-term and medium-term decisions.

2.  The overall % of failure in a certain examination is 40. What is the probability that out of a group of 6 candidates at least 4 passed the examination ?

3.  Calculate Bowley's measure of skewness from the following data :

| Payment of Commission (in Rs.) | No. of Salesmen |
|---|---|
| 1,000 – 1,200 | 4 |
| 1,200 – 1,400 | 10 |
| 1,400 – 1,600 | 16 |
| 1,600 – 1,800 | 29 |
| 1,800 – 2,000 | 52 |
| 2,000 – 2,200 | 80 |
| 2,200 – 2,400 | 32 |
| 2,400 – 2,600 | 23 |
| 2,600 – 2,800 | 17 |
| 2,800 – 3,000 | 7 |

4.  "The success of collecting data through a questionnaire depends mainly on how skillfully and imaginatively the questionnaire has been designed." Explain in the view of the statement, designing of questionnaire.

5. A sample of 100 students is taken from a large population. The mean height of these students is 64 inches and S.D. of 4 inches. Can it be reasonably regarded that the population mean height is 66 inches ?

   (Assume : At $\alpha_{0.05}$, the table cut off value of Z is $-1.96$.

6. Find the coefficient of correlation between the following given data :

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

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

   (a) Mathematical properties of Arithmetic Mean

   (b) Bernoulli's process

   (c) Decision Tree Approach

   (d) Non-probability sampling

   (e) Least square criterion