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**MMPC–005**

**MANAGEMENT PROGRAMME**

**(MP)**

**Term-End Examination**

**December, 2023**

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

*Time : 3 Hours*

*Maximum Marks : 100*

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

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

(iii) *Calculators are allowed.*

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1. What do you understand by sampling ? What are the various reasons that make sampling so attractive in drawing conclusions about the population ?

**P. T. O.**

2. Calculate the median from the following data :

Age	No. of Persons
55—60	7
50—55	13
45—50	15
40—45	20
35—40	30
30—35	33
25—30	28
20—25	14

3. Past experience says that average life of a bulb (assumed to be continuous random variable following exponential distribution) is 110 hours, calculate the probability that the bulb will work for atmost 25 hours. (Given that  $\rightarrow e^{-0.23} = 0.7945$ .)
4. Explain the various criteria that are helpful in taking decisions, when the probability of occurrence of outcomes are not known.

5. The following observations constitute a random sample from an unknown population :

14, 19, 17, 20, 25

Estimate the mean and standard deviation of the population.

6. Seven methods of imparting business education were ranked by the MBA students of two universities as follows :

<b>Methods of Teaching</b>	<b>Rank by Students of University A</b>	<b>Rank by Students of University B</b>
I	2	1
II	1	3
III	5	2
IV	3	4
V	4	7
VI	7	5
VII	6	6

Calculate rank correlation coefficient.

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

- (a) Histogram
- (b) Pascal Distribution
- (c) Central Limit Theorem
- (d) Variety of regression models
- (e) Box-Jenkins model for time series