



JK LAKSHMIPAT UNIVERSITY, JAIPUR
INSTITUTE OF MANAGEMENT

RETEST END TERM EXAMINATION (FEBRUARY 2022)

BBA-III Semester

Time: 2 Hours
MM: 30 Marks

Course: Statistical Reasoning
Course Code: ID1102

General Instruction:

- Students, wherever required need to present representative diagrams of distribution etc, show clearly the calculations, write down the formulae and steps involved in solving the problem.
- Total marks allotted to a question is shown along with marks-division for sub questions, if any.
- Annexure containing statistical tables, is provided.

Answer all Questions:

1. (Marks – 5)

The performance rating of kilometres of vehicle run per litre of petrol (i.e., mileage rating) for 30 cars models operating in India are determined as follows by Automobile Research Association of India (ARAI): 20, 21, 21, 21, 23, 23, 24, 24, 24, 25, 25, 27, 29, 30, 31, 33, 33, 33, 33, 36, 36, 36, 37, 40, 41, 42, 45, 46, 48, 54

- 1.1 Represent the scores as a frequency distribution table with a frequency-interval of 6 (2)
- 1.2 Calculate and determine the mean, median and mode of the data-set. (1)
- 1.3 What proportion of data points are below the values of a) 30, b) 36 and c) 45 – Present the proportion with 3 digits of decimals. (2)

2. (Marks – 5)

The following table shows a random sample of musicians and how they learned to play their musical instruments.

Gender	Self-taught	Studied in School	Private Instruction	Total
Female	45	38	33	X
Male	50	29	15	Y
Total	A	B	C	Z

- 2.1 Find Probability of a musician is a female i.e. $P(\text{musician is a female})$ (1)
- 2.2 Find the $P(\text{self-taught})$ (1)
- 3.2 Find the $P(\text{Male musician who is not Self-taught})$ (1)
- 3.3 Find the $P(\text{musician is a female AND had private instruction})$ (1)
- 3.4 Find the $P(\text{musician who is not self-taught})$ (1)

3. (Marks – 5)

The probability that a certain kind of component will survive a shock test is $3/4$. Find the probability that exactly 2 of the next 4 components tested survive. (Hint: use binomial distribution formula)