Roll No.												

PRESIDENCY UNIVERSITY
BENGALURU

School of Management

Mid - Term Examinations – November 2024

Semester: I
Date: 04-11-24

Course Code: MBA1007
Time: 02:00pm – 03:30pm

Course Name: Business Statistics
Max Marks: 50

Program: MBA
Weightage: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.
(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 3 marks. **3Mx5Q=15M**

1.	Mention any three merits of median.	3 Marks	L	CO1
2.	Write the formula for computing first quartile for ungrouped data.	3 Marks	L	CO1
3.	Define Range and coefficient of range.	3 Marks	L	CO1
4.	What is a random experiment? Give an example.	3 Marks	L	CO2
5.	Define sample space. Give an example	3 Marks	L	CO2

Part B

Answer ALL the Questions. Each question carries 10 marks. **10Mx2Q=20M**

6. A research agency administers a demographic survey to 90 telemarketing companies to determine the size of their operations. The agency's analyst organizes the figures into a frequency distribution. Compute mean and mode — 10 Marks | L | CO1

Number of Employees Working in Telemarketing	Number of Companies
0–under 20	16
20–under 40	19
40–under 60	32
60–under 80	13
80–under 100	10

OR

7. The following data represent the cost of electricity during July 2006 for a random sample of 12 one-bedroom apartments in a large city: Raw Data on Utility Charges ($) 96 171 202 178 147 102 153 197 127 82 157 185. Compute P28 and P65 — 10 Marks | L | CO1

8. Over a period of a few months, is there a strong correlation between the value of the U.S. dollar and the prime interest rate? The following data represent a sample of these quantities over a period. Compute a Spearman's rank correlation to determine the strength of the relationship between prime interest rates and the value of the dollar. — 10 Marks — L — CO2

Dollar Value	Prime Rate
92	9.3
88	8.4
96	9.0
84	8.1
91	8.5
81	7.9
89	8.0
83	7.2
93	8.3

OR

9. Suppose that a company launches 3 products A, B and C. Probability that the products A, B and C are successful are 0.3, 0.4 and 0.5 respectfully. What is the probability (i) that all the products are successful (ii) only product A is successful? — 10 Marks — L — CO2

Part C

Answer the Question. Question carries 15 marks. **15Mx1Q=15M**

10 Management of a soft-drink bottling company has the business objective of developing a method for allocating delivery costs to customers. Although one cost clearly relates to travel time within a particular route, another variable cost reflects the time required to unload the cases of soft drink at the delivery point. To begin, management decided to develop a regression model to predict delivery time based on the number of cases delivered. A sample of 20 deliveries within a territory was selected. The delivery times and the number of cases delivered were organized in the following table — 15 Marks — L — CO2

Customer	Number of Cases (X)	Delivery Time(Minutes)(Y)
1	52	32.1
2	64	34.8
3	73	36.2
4	85	37.8
5	95	37.8
6	103	39.7
7	116	38.5
8	121	41.9
9	143	44.2
10	157	47.1
11	161	43.0
12	184	49.4

Develop a regression equation to predict delivery time based on the number of cases delivered