|  |  |  |  |  |  |  |  |  |  |  |  |  |
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**Presidency University**

**Bengaluru**

 **SCHOOL OF LAW**

**Make-Up Examinations, July 2024**

**Semester**: III

**Course Code**: BBL2003

**Course Name**: Business Statistics

**Program** : BBA LLB

**Date**: 1st July 2024

**Time**: 9:30 am-12:30 pm

**Max Marks**: 100

**Weightage**: 50%

 **Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Question paper consists of three parts.*
3. *Scientific and Non Programable Calculators are Permitted.*
4. *Do not write any information on the question paper other than roll number.*

**Part A**

 **Answer any FOUR Questions. (4 Q x 5 Marks = 20 Marks)**

1. Explain the meaning of statistics (CO1) [Knowledge ]

2. Differentiate between quantitative variables and qualitative variables (CO1) [Knowledge ]

3. Explain the various types of averages? (CO2) [Remember]

4. From the following data calculate Mode (Z)

 12,10,12,7,9,6,12,34,23,12, 16, 10, 12, 49, 54,10 (CO2) [Application]

5. From the following information calculate Range and co-efficient of range

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Class Intervals | 0-10 | 10- 20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| Frequency  | 4 | 13 | 85 | 44 | 33 | 22 | 7 |

 (CO3) [Application]

6. Differentiate between correlation and regression analysis (CO4) [ Knowledge]

**Part B**

 **Answer any FOUR Questions. (4 Q x 10 Marks = 40 Marks)**

7. Statistics play a crucial role in various aspects of life, science, and industry. Explain the

 characteristics statistics. (CO1) [Knowledge]

8. In statistics, diagrams are graphical representations of data. They help to visualize and

 understand the distribution, trends, and patterns within the data. Explain the various

 types diagrams with an example. (CO 1) [Understand]

9. Calculate Arithmetic mean for the following data.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Class Intervals | 0-5 | 5- 10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
| Frequency  | 10 | 13 | 55 | 24 | 8 | 20 | 7 |

 (CO 2) [Application]

10. Find out Standard Deviation from the following data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Age in years: | 0-100 | 100--200 | 200-300 | 300-400 | 400-500 |
| No of persons: | 15 | 48 | 20 | 10 | 6 |

 (CO3) [Application]

11. Calculate the Karl Pearsons co-efficient of Correlation between sales and advertisement exp

 and comment the on the results.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sales  | 45 | 60 | 40 | 23 | 30 | 60 | 70 |
| Advertisement exp | 29 | 25 | 36 | 49 | 54 | 45 | 55 |

 (CO4) [Application]

12. What is correlation? Explain several types of correlation. (CO4) [Knowledge]

**Part C**

 **Answer any TWO Questions. (2 Q x 20 Marks = 40 Marks)**

13. (a) What is Histogram? How it is useful?

 (b) Draw a Histogram from the following information:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CI | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 |
| MARKS | 5 | 10 | 13 | 15 | 20 | 14 | 12 | 9 | 3 |

 (CO1) [Application]

 14. From the following information:

1. Find the two regression equations
2. The Revenue for Expenses of Rs. 300 Crores

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Revenue (in Lakhs): | 60 | 52 | 55 | 60 | 63 | 65 | 61 |
| Expenses (in Crores): | 10 | 11 | 13 | 15 | 16 | 19 | 14 |

 (CO4) [Application]

15. Calculate the Skewness of Bowley’s (SKB) from the following data set.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Profits: | 0-100 | 100-200 | 200-300 | 300-400 | 400-500 | 500-600 |
| No. of Companies  | 12 | 18 | 40 | 22 | 15 | 10 |

 (CO3) [Application]