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**Presidency University**

**Bengaluru**

 **SCHOOL OF COMMERCE**

**Summer Term End Term Examinations, August 2024**

**Winter Semester**: 2023 - 24

**Course Code**: SOC2003

**Course Name**: Business Statistics

**Date**: 07/ August / 2024

**Time**: 01:00PM-04:00PM

**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 FIVE Questions. (5 Q x 2 M = 10 M)**

1. Given a distribution with arithmetic mean of 50, mode value of 49 and standard deviation,

 identify nature of symmetry of the distribution (C.O.No.3) [Knowledge]

2. Define word statistics in singular and plural sense (C.O.No.1) [Knowledge]

3. Outline measure of central tendency (C.O.No.2) [Knowledge]

4. Outline measure of dispersion (C.O.No.3) [Knowledge]

5. Recognize measure of association between two variables (C.O.No.4) [Knowledge]

6.Compare bar diagram and histogram (C.O.No.1) [Knowledge]

7. Define geometric mean (C.O.No.2) [Knowledge]

**Part B**

**Answer any FIVE Questions. (5 Q x 10 M = 50 M)**

8. Present the data given below through bar chart and discuss your observations.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Program** | **BBA** | **B.Com.** | **BAV** | **BBB** | **BBD** | **B.Tech.** |
| **Frequency** | **15** | **25** | **30** | **20** | **25** | **10** |

 (C.O.No.1) [comprehension]

9. Compute harmonic mean of GDP growth rates based on observations given below

 (C.O.No.2) [comprehension]

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **GDP Growth rate** | **3** | **6** | **2** | **3** | **4** | **5** | **6** | **2** |

10. Discuss about different methods of measuring central tendency and dispersion of statistical

 Data set (C.O.No.2) [comprehension]

11. Discuss about the measure of skewness with help of diagram (C.O.No.3) [Comprehension]

12. Compute Mean Deviation about A.M. and Coefficient of Mean Deviation for the data given below (C.O.No.3) [Comprehension]

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable X** | **85** | **30** | **64** | **28** | **55** | **105** | **70** | **40** |
| **Frequency** | **5** | **9** | **15** | **10** | **5** | **6** | **4** | **7** |

13. Compute Spearman’s co-efficient of correlation for the data given below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **IQ Status** | **80** | **70** | **120** | **140** | **100** | **110** | **90** |
| **Performance** | **320** | **280** | **300** | **325** | **250** | **280** | **315** |

(C.O.No.4) [Comprehension]

14. Elaborate on the different methods of primary statistical data collection

(C.O.No.4) [Comprehension]

**Part C**

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

15. Given below is the daily sales report of three stores A, B, C. Compute average sales of each

 store and identify the store with most inconsistent daily sales by computing range and coefficient

 of range.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Daily sales (Rs. 000)** | **A** | 50 | 60 | 20 | 30 | 90 | 50 | 20 | 10 |
| **B** | 30 | 40 | 25 | 45 | 20 | 15 | 35 | 30 |
| **C** | 100 | 115 | 80 | 90 | 70 | 65 | 95 | 105 |

 (C.O.No.2,3) [Comprehension]

16. Given below is the observation of the students’ attendance and performance scores. Plot the

 data in scatter diagram and identify the nature of association of the variables and also

 compute Karl Pearson’s coefficient of correlation.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Attendance** | **55** | **60** | **70** | **40** | **60** | **80** | **20** |
| **Score** | **42** | **45** | **48** | **30** | **30** | **20** | **30** |

(C.O.No.2,3) [Comprehension]

17. Given below is the observations on Net profit and sales. Regress the net profit on sales with

 simple linear equation and estimate of net profit when sales is 300.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  **Net Profit** | **60** | **80** | **20** | **90** | **40** | **90** | **60** |
| **Sales** | **200** | **150** | **100** | **160** | **125** | **180** | **190** |