| Roll No | | | | | | | | | | | | |
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# PRESIDENCY UNIVERSITY

**SCHOOL OF COMMERCE**

**END TERM MAKE UP EXAMINATION – JAN. 2023**

**Course Code:** SOC2003
**Course Name:** Business Statistics
**Program:** BBA, BBB, BBD, BBF, BBE, BCM, BCH, BCP

**Date:** 24-01-2023
**Time:** 09:30 AM – 12:30 PM
**Max. Marks:** 100
**Weightage:** 50%

**Instruction:**

*i) Read all questions carefully and answer accordingly*
*ii) Question paper consists of 3 parts*
*iii) Basic calculator is permitted*

## PART A

*Answer all the ten questions*                                        **10x2 =20**

1. Which of the following statistical measure is used to estimate the relationship between two variables

a. coefficient of variation     b. correlation coefficient     c. Regression  d. Median

**(C.O. No. 4) [Knowledge]**

2. Which of the following measure is generally used to identify the central tendency of growth rates

a. Mode          b. Median          c. Geometric mean     d. Arithmetic mean

**(C.O. No. 3) [Knowledge]**

3. Graphical tool used to identify correlation between two variable is

a. pie chart     b. ogives          c. scatter plot  d. histogram

**(C.O. No. 2) [Knowledge]**

4. Given two data sets A and B, the arithmetic mean of A = 30 and that of B = 20, Data set A and B have 10 and 15 observations respectively. Identify their combined mean.

a. 30   b. 20   c. 24   d. 28                                        **(C.O. No. 3) [Comprehension]**

5. Identify the median value of the given data set

| 10 | 45 | 30 | 20 | 56 | 70 | 15 |
|---|---|---|---|---|---|---|

a. 20          b. 30          c.56          d. 45

**(C.O. No. 3) [Comprehension]**

6.  Which of the diagrams is the most suited to present a data set of natural classification

a. Bar diagram                    b. Pie Chart     c. Histogram     d. Ogives

**(C.O. No. 3) [Knowledge]**

7. If the Karl Pearson's coefficient of correlation between two variables is 0. 3, what type of association does it indicate

a. No correlation        b. Positively correlated          c. Negatively correlated     d. Highly negatively correlated                              **(C.O. No. 4) [Knowledge]**

8. Given three data sets A, B, and C, the coefficient of variation of data set A is 20 and that of B is 45 and that of D is 60, which among them is the most consistent data set.

a. C               b. B               c. A               d. A=B=C          **(C.O. No. 3) [Knowledge]**

9. Theoretically, the sum of the deviation of observations from their arithmetic mean will be equal to

a. -1               b. 1               c. 0<x<100      d. 0               **(C.O. No. 3) [comprehension]**

10. A researcher wants to identify the degree of association between trade volume and stock prices, which statistical measure would you suggest.

a. Regression  b. Geometric Mean     c. Harmonic mean       d. Correlation

**(C.O. No. 3) [Knowledge]**

## PART B

***Answer all the five questions***                                                        **4x10 =40**

11. Characteristics of different phenomena are quantified differently in statistics, discuss in details about different types of data and data measurement scales in statistics.

**(C.O. No. 1) [Comprehension]**

12. Present the data given below in a pie diagram, and discuss the steps of constructing the diagram.

| States | Maharashtra | Tamil Nadu | UP | Gujarat | Karnataka | W Bengal | Rajasthan |
|---|---|---|---|---|---|---|---|
| **GSDP (Rs. Million)** | 32.2 | 22.4 | 17 | 16.4 | 16.2 | 13.5 | 10.2 |

**(C.O. No. 2) [Comprehension]**

13. Differentiate Census survey and Sample survey and discuss different methods of collecting primary data                    **(C.O. No. 1) [Comprehension]**

14. Discuss in detail about various absolute and relative measures of dispersion of statistical data.                                **(C.O. No. 3) [Comprehension]**

**PART C**

*Answer all the five questions*                                                          **2x20 =40**

15. Discuss briefly about measures of central tendency and measures of dispersion and Calculate Arithmetic Mean, Median, Mode and standard deviation of the frequency distribution given below

| Consumption Expenditure (Rs. 0000) | 10 | 60 | 45 | 84 | 33 | 25 | 18 | 10 |
|---|---|---|---|---|---|---|---|---|
| Frequency | 6 | 7 | 13 | 22 | 15 | 11 | 8 | 7 |

**(C.O. No. 3) [Application]**

16. Discuss briefly about the correlation and regression analysis. Compute the Karl Pearson Coefficient of correlation between hours of training and performance score and also estimate the linear regression equation of performance score on hours of training.

| Hours of Training | 10 | 20 | 8 | 18 | 11 | 5 | 10 |
|---|---|---|---|---|---|---|---|
| Performance Score | 15 | 40 | 17 | 22 | 20 | 12 | 18 |

**(C.O. No. 4) [Application]**