



Roll No.

**PRESIDENCY UNIVERSITY  
BENGALURU  
SCHOOL OF COMMERCE**

**MIDTERM EXAMINATION**

**Sem & AY:** Even Sem 2021-22

**Date:** 14MAY/2022

**Course Code:** SOC 2003

**Time:** 10:00AM – 11:30AM

**Course Name:** Business Statistics

**Max Marks:** 50

**Program & Sem:** BBA & BCom/ 2<sup>nd</sup> Sem

**Weightage:** 25%

**Instructions:**

*(i) Read the question properly and answer accordingly.*

**Part A (Memory Recall Questions)**

**Answer all the questions. Each question carries ONE mark. (10Qx1M=10M)**

1. Define variables with an example. (C.O.No.1)[Knowledge]
2. State categorical variable with example. (C.O.No.1)[Knowledge]
3. \_\_\_\_\_ may be defined as systematic arrangement of data in column and rows. (C.O.No.2)[Comprehension]  
A. Classification      B. Analyzation      C. Tabulation      D. Segmentation
4. \_\_\_\_\_ is a data that can be labeled or classified but cannot be ordered in a meaningful way. (C.O. No.1)[ Knowledge]  
A. Nominal      B. Ordinal      C. Interval      D. Ratio
5. Number of shares held by a person could be 5,10,or 15 but not 15.555, 20.05 etc. The example indicates towards which data? (C.O. No.1)[Knowledge]  
A. Continuous      B. Discrete      C. Nominal      D. Ordinal
6. \_\_\_\_\_ is a term commonly used in statistics to describe a type of data which consists of observations on only a single characteristic or attribute. (C.O. No.1)[Knowledge]  
A. Univariate      B. Bi-variate      C. Tri-variate      D. Multi-variate
7. \_\_\_\_\_ data, also referred to as time-stamped data, is a sequence of data points indexed in time order. (C.O. No.1)[Knowledge]  
A. Nominal      B. Continuous      C. Time-Series      D. Cross-Sectional

8. By which transport you come to your university:

1. Bus 2. Car 3. Scooty 4. Motor-Bike 5. Cycle- The example indicates towards which scale. (C.O.No.1)[Knowledge]

A. Nominal B. Ordinal C. Interval D. Ratio

9. Any positive linear transformation of the form  $y = a + bx$  will preserve the properties of the scale. (C.O.No.1)[ Knowledge]

A. A. Nominal B. Ordinal C. Interval D. Ratio

10. Which is not a primary source for data collection. (C.O.No.1)[Knowledge]

A. Observation Method

B. In-depth Interview

C. Statistical Database

D. Consumer Panel

### Part B (Thought Provoking Questions)

**Answer all the questions. Each question carries FIVE mark. (5Qx5M=25M)**

11. Distinguish between Tabulation and Classification with examples.

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

12. Indian cricketers are given alternate jersey numbers during their tour to Australia. Cricketers on this tour scored runs and were ranked as a result. Based on their performance, BCCI awarded them points on a scale.

Construct an example of several measuring scales using the information provided.

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

13. METROTAXI must examine their preferences for various vehicles (taxi, auto, bike) in various areas of Bengaluru. For that they wanted to know what type of UBER and OLA vehicle passes through different areas. Explain what type of data survey is needed in the above case to increase the taxi, auto, and bikes of METROTAXI.

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

14. The public is continually affected by the rainfall. For reference, weekly rainfall data are provided. Please mention what other variables might be affected by a change in the rainfall in the city.(try to incorporate the changes in the given Table below).

<b>Days</b>	<b>Rainfall (units)</b>
Monday	120
Tuesday	90
Wednesday	85
Thursday	105
Friday	40
Saturday	35
Sunday	45

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

15. Different salaries are offered to students in the last year of campus recruiting based on their achievement in the recruitment drive and past academic performance. The information is presented in the table below.

<b>Salary Classes (000 Rs)</b>	<b>Number of students</b>
40-50	8
50-60	19
60-70	32
70-80	25
80-90	18
90-100	14
100-110	10

- A. Based on the above information find Relative Less than cumulative frequency and Relative More than cumulative frequency. (3)
- B. Interpret the data information obtained through Relative Less than cumulative frequency and Relative More than cumulative frequency.(2)

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

### **Part C.(Problem Solving Questions)**

**Answer the question. The question carries FIFTEEN mark. (1Qx15M=15M)**

16. Data Sure Company gathered information on how many interviews each of its 40 salespeople needed to close their most recent transaction. The following are the figures: 102, 95, 90, 101, 60, 80, 113, 102, 110, 126, 66, 121, 116, 139, 72, 101, 93, 114, 99, 112, 105, 97, 100, 99, 115, 129, 111, 119, 81, 91, 93, 119, 113, 128, 110, 75, 87, 107, 108.

Question:

Construct a frequency distribution and ogive with six class intervals.

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



**PRESIDENCY UNIVERSITY  
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**END TERM EXAMINATION**

**Winter Semester:** 2021 - 22

**Course Code:** SOC2003

**Course Name:** Business Statistics

**Program & Sem:** B.COM (Prof. & Hons.) & II SEM

**Date:** 1<sup>st</sup> July 2022

**Time:** 9:30 AM to 12:30 PM

**Max Marks:** 100

**Weightage:** 50%

**Instructions:**

(ii) Read the all questions carefully and answer accordingly.

**Part A [Memory Recall Questions]**

**Answer all the Questions. Each question carries THREE marks. (10Qx 3M= 30M)**

1. \_\_\_\_\_ data, also referred to as time-stamped data, is a sequence of data points indexed in time order.  
(CO1)[Knowledge]

A. Nominal B. Continuous C. Time-Series D. Cross-Sectional

2. Which is a secondary source for data collection.  
(CO1)[Knowledge]

A. Observation Method B. In-depth Interview C. Statistical Database D. Consumer Panel

3. From the following data, calculate range for the class  
Application] (CO3)[

Class Interval	20-30	30-40	40-50	50-60	60-70
Frequency	18	14	18	10	5

A. 10 B. 50 C. 20 D. 70

4. Consider the linear equation  $y = a + bx$ , what is  $a$ ?  
(CO4)[Application]

A. Intercept B. Slope C. Dependent Variable D. Independent Variable

5. From the following Data of a cricket player, calculate the value of Mode  
Application] (CO3)[

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
No. of Hundred	4	2	2	3	2	4	4	3	1	0

A. 4 B. 2 C. Both A & B D. 3

6. From the following data, calculate the median (CO3)[  
Application]

X	6	7	7	8	9	10	10	10	11
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- A. 6      B. 7                      C. 8                      D. 9

7. Choose the *incorrect* statement (CO3)[  
Application]

- A. Variance is the square of standard deviation  
 B. Standard Deviation is the square of variance  
 C. Both A & B  
 D. None of the above

8. What is Correlation? Explain the different types of correlation. (CO4)[  
Application]

9. Define the term regression. (CO4)[  
Application]

10. Choose the *incorrect* formula of coefficient of variation (CO3)[  
Application]

- A.  $\frac{\text{Standard Deviation}}{\text{Mean}}$       B.  $\frac{\text{Mean Deviation}}{\text{Mean}} \times 100$       C.  $\frac{\text{Mean}}{\text{Standard Deviation}} \times 100$       D. All of the above

### Part B [Thought Provoking Questions]

**Answer all the Questions. Each question carries FIVE marks.**  
**(8Qx5M=40M)**

11. The mean marks in statistics of 100 students of a class was 72. The mean of marks of boys was 75, while their number was 70. Find the mean marks of girls in the class.

(CO3)[Comprehension]

12. Different salaries are offered to students in the last year of campus recruiting based on their achievement in the recruitment drive and past academic performance. The information is presented in the table below.

(CO2)[Comprehension]

Salary Classes (000 Rs)	Number of students
40-50	8
50-60	19
60-70	32
70-80	25
80-90	18
90-100	14
100-110	10

Based on the above information find Relative Less than cumulative frequency and Relative More than cumulative frequency.

13. (a) Calculate the mode for the following data attaining to the marks in English out of 140 marks for 80 students in a class.

(CO3)[ Application]

Marks	0-20	20-40	40-60	60-80	80-100	100-120	120-140
No. of Students (f)	4	26	22	10	9	6	3

(b) For a layperson, classification and tabulation are same, but the fact is they are different, as the former is a means to sort data, for further analysis while the latter is used to present data. For explaining to a layperson in detail, differentiate between Tabulation and Classification with the help of suitable examples.  
(CO2)[Comprehension]

14. The following table summarises the times,  $t$  minutes to the nearest minute, for a group of a students to complete an exam.

(CO3)[ Application]

Time (minutes) $t$	10-20	20-30	30-40	40-50	50-60	60-70
No. of students (f)	62	88	16	13	11	10

Estimate the mean, standard deviation, variance and coefficient of variation of these data.

15. Data Sure Company gathered information on how many interviews each of its 40 salespeople needed to close their most recent transaction. The following are the figures: 102, 95, 90, 101, 60, 80, 113, 102, 110, 126, 66, 121, 116, 139, 72, 101, 93, 114, 99, 112, 105, 97, 100, 99, 115, 129, 111, 119, 81, 91, 93, 119, 113, 128, 110, 75, 87, 107, 108.

Question:

(CO2)[Comprehension]

Construct a frequency distribution and ogive with six class intervals.

### Part C [Problem Solving Questions]

**Answer all the Questions. Each question carries FIFTEEN marks.**

**(2Qx15M=30M)**

16. Regression is a statistical method used in finance, investing, and other disciplines that attempts to determine the strength and character of the relationship between one dependent variable (usually denoted by  $Y$ ) and a series of other variables (known as independent variables)

In the above context you have to calculate the regression coefficient and interpret the results for the following data (CO4)[Application]

X	1	2	3	4	5	6	7
Y	9	8	10	12	11	13	14

17. Mr. Sabarbal is importing Mushrooms from Ghana. Next he processes the same in his Okha's factory. The processed mushroom is sent to UAE, where it is having high demand. However, he wants to find a relation between the quality of the mushroom imported and the demand of it in UAE. For that he found a correlation between the data. Interpret the output and find the degree of relation between them. What is your opinion. (CO4)[Application]

18.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Imports (in Rs. Crores)	18	19	20	21	22	23	24	25	26	27
Exports (in Rs. Crores)	14	16	16	18	18	19	20	20	21	21