PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 12 – 12- 2025   **Time:** 09:30am – 12:30pm

School: SOC	**Program:** B.Com. Business Analytics
Course Code: CBS1017	**Course Name:** Business Statistics
Semester: I	**Max Marks**:100 **Weightage**:50%

CO - Levels	CO1	CO2	CO3	CO4
Marks	35	49	47	34

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 2marks.   **10Q x 2M=20M**

1.	Recognize primary and secondary data.	2 Marks	L1	CO1
2.	Recall observation method of primary data collection.	2 Marks	L1	CO1
3.	Outline measures of central tendency.	2 Marks	L1	CO2
4.	Recall relative measures of dispersion.	2 Marks	L1	CO2
5.	List out different degree of association between two variables.	2 Marks	L1	CO3
6.	Outline regression analysis.	2 Marks	L1	CO3
7.	Define index numbers and types.	2 Marks	L1	CO4
8.	State the formula to compute simple aggregate index number.	2 Marks	L1	CO4
9.	State the formula to compute geometric mean for raw series.	2 Marks	L1	CO2
10.	Outline nominal and ordinal scale of measurement of statistical data.	2 Marks	L1	CO1

Part B

Answer ALL the Questions. Each question carries 7 marks.   **5Q x 7M = 35M**

11	Discuss the methods of collecting primary data for statistical analysis.	07 Marks	L2	CO1
	Or			
12	Given below the observations of types of vehicles passed a traffic junction in an hour time. Construct a simple bar diagram for the data given below and discuss the observations. 	Vehicle Type	Number
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Two-wheeler	15
Three-Wheeler	10
Passenger Car	20
Trucks	5
Bus	3		07 Marks	L3	CO1
13	It always necessary to summarize a large data set to get an idea of its basic average nature. Compute arithmetic-mean and mode for the data given below. 	Marks Scored by Students in Physics
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35
18
42
33
20
33
24		07 Marks	L3	CO2
	Or			
14	Growth rates and variables assuming very low magnitude of values are averaged through geometric mean and harmonic mean. Compute harmonic mean for the data given below. 	Speed of chemical reaction in a matter
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0.009
0.025
0.006
0.065
0.049		07 Marks	L3	CO2
15	Consistency or risk associated with a movement of a variable is calculated through measures of dispersion. Compute consistency of the cricket batsman based on range and standard deviation measures. 	Runs scored in different matches
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60
15
33
45
5
22
10		07 Marks	L3	CO2
	Or			

16	Inconsistency or reliability associated with a movement of a variable is calculated through measures of dispersion. Compute mean deviation about median for the data given below.	07 Marks	L3	CO2

Performance score of a manager
18
16
2
13
8
5

17	It is necessary to understand association between variables in any scientific decision making. Present the data given below in scatter diagram and identify the direction of correlation between the variables.	07 Marks	L3	CO3

Attendance	Marks
45	40
35	30
15	25
25	20
30	25
5	15
15	20
35	35
15	30

Or

18	Spearman's rank correlation measure is used to identify association between qualitative variables. Compute Spearman's rank correlation coefficient for the data given below.	07 Marks	L3	CO3

IQ Score	Persistence Score
80	15
120	25
90	10
100	30
110	20
95	40

19	Karl Pearson coefficient of correlation measure is used to identify linear association between quantitative variables. Compute Karl Pearson's co-efficient of correlation for the data given below.	07 Marks	L3	CO3

Sales	Price
40	15
30	25
35	10
45	30
20	20
25	40

Or

20	Simple linear regression analysis helps estimate the magnitude of relationship between two variables. Predict the sales if price is 22 based on the simple linear regression estimated by sales on price.	07 Marks	L3	CO3

Sales	Price
50	5
20	8
30	12
15	15
10	11
20	7

Part C

Answer any three Questions. Each question carries 15marks   **3Q x 15M=45M**

21	Define statistics as a subject and discuss its importance, scope and limitations.	15 Marks	L2	CO1

22	Discuss about measure of Skewness of a variable and its types. Compute Karl Pearson coefficient of Skewness of the income distribution given below.	15 Marks	L3	CO2

Income (Rs.'000')	No. Households
50	15
30	10
10	30
5	8
20	15

23	Discuss briefly about regression analysis. Predict the marks that a student may score if he/she attends 40 hours of training, using simple linear regression equation based on the previous data on training and marks given below.	15 Marks	L3	CO3

Hours of training	Marks
5	14
10	25
20	20
8	15
14	30
25	35
6	10
14	25

24	Discuss about index numbers and construct simple aggregate price index number of food prices for the data given below taking **2021 as base year,** for the years 2022,2023 and 2024.	15 Marks	L3	CO4

Items	2021	2022	2023	2024
Cereals	60	50	40	45
Vegetables	20	30	40	60
Non vegetable	80	50	60	30
Edible Oil	40	60	30	25

| 25 | Discuss about index numbers and explain Laspeyres index number, Paasche's index number and Fisher's index number with a simple numerical example. | 15 Marks | L3 | CO4 |