PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF COMMERCE
MAKE UP EXAMINATION – JAN 2023

Course Code: COM203

Course Name: Business Mathematics and Statistics

Program &Sem: Bcom and Bcom. Hons

Date: 20 -JAN-2023

Time: 09.30 AM to 12.30 PM

Max Marks: 100

Weightage: 50%

Instructions:
(i) Read the question properly and answer accordingly.
(ii) Complete the test within the time given.

Part A (Memory Recall Questions)

Answer all the questions. Each question carries TWO mark.   (10Qx2M=20M)

1. Give an example of Interval Scale.   (C.O. No.1)[Knowledge]

2. What are the statistical techniques applicable in the field of marketing?
                                                              (C.O. No.1)[Knowledge]

3. Define population and census by example.

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

4. What do you mean by Cross-sectional data?   (C.O. No.1)[Knowledge]

5. Depict two uses of Regression Analysis.   (C.O. No.4)[Comprehension]

6. Identify that how Regression Analysis is different from Correlation Analysis
                                                          (C.O. No.4)[Comprehension]
7. What is Frequency Polygon?   (C.O. No.1)[Knowledge]

8. Mention two utilities of Arithmetic Mean.   (C.O. No.1)[Knowledge]

9. Give an example of Negative Correlation between variables?   (C.O. No.4)[Comprehension]

10.What is Dependent and Independent variable?   (C.O. No.4)[Comprehension]

Answer all the questions. Each question carries TEN marks.   (4Qx10M=40M)

11. Distinguish between qualitative and quantitative data with example.

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

12.Flash Wash Detergent is Number one detergent in India. However, the MD Surendra Sehgal is Feeling that Flash Wash is fast losing their market to Easy Wash, their biggest competitor. So, Surendra decided to involve a group of loyal customers in the problem. However, he decided to change the group of selected customers based on their Flash Wash Detergent buying pattern. Suggest MD Surendra what type of data survey is needed in the above scenario.

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

13. The public is continually affected by changes in petrol prices. For reference, weekly petrol prices are provided. Please mention what other variables might be affected by a change in the price of petrol.(try to incorporate the changes in the given Table below).

Days	Petrol price (Rs)
Monday	98
Tuesday	98
Wednesday	100
Thursday	101
Friday	101
Saturday	101.5
Sunday	103

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

14. In the final year of campus recruitment different salary are offered to the students based on their performance in the recruitment drive and previous academic performance. The information are furnished in the following Table.

Salary Classes (000 Rs)	Number of students
40-50	10
50-60	15
60-70	30
70-80	28
80-90	15
90-100	14
100-110	12

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 TWENTY marks.   (2Qx20M=40M)

15. Ace Builders has 30 workers. The information of ages and wages(in Rupees) is given in the following table:

Worker	Age	Wage	Worker	Age	Wage
1	26	785	16	23	680
2	39	1480	17	23	790
3	37	1390	18	27	1080
4	24	825	19	28	1240
5	24	680	20	32	1250
6	21	625	21	36	1460
7	27	1050	22	33	1270
8	32	1225	23	34	1430
9	30	1300	24	30	1260
10	33	1420	25	27	1020
11	26	890	26	22	880
12	28	1020	27	23	640
13	22	630	28	24	680
14	28	1040	29	32	1200
15	29	1240	30	31	1150

Question:
Put the data in the form of a bivariate frequency table, taking the age-groups as 20-24,25-29, 30-34, 35-39 years and wage group as 500-700, 700-900 etc.

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

16. It is always a debate between the Top level and Lower Level Mangement of Phelix Marketing Incorporation, on sales and sales expenses. The Top level management always emphasized on the fact that sales is less dependent on sales expenses, rather other factors influence the sales. However, Lower Level Management differs on it. So, they asked the Top Level, to find the Degree of relation between the sales and sales expenses. The Top level agreed on the suggestion and they are ready to check the data from 2010-2019.

The data is as follows.

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sales(Crores)	50	50	55	60	65	65	65	60	60	50
Sales Expenses(Crores)	11	13	14	16	16	15	15	14	13	13

Based on the degree of relation between sales and sales expenses, interpret whether the Top Level of Management will take the argument of the lower level.

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