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D1BBA2502

Name: .....

Reg. No.: .....

FIRST SEMESTER FYUGP EXAMINATION NOVEMBER 2025

(Regular/Improvement/Supplementary)

MINOR

BBA1MN105: ESSENTIAL STATISTICS FOR BUSINESS ANALYTICS

Time: 2 Hrs. **Maximum Marks: 70**

M: Mark BL: Bloom's Taxonomy Level (1 to 6) CO: Course Outcome

Section A: Answer all questions. Each carries 3 marks. Ceiling: 24 Marks				
No.	**Question**	**M**	**BL**	**CO**
1.	Differentiate between Random sampling and Non-Random sampling.	3	2	CO2
2.	Distinguish between Census and Sampling.	3	3	CO2
3.	What is meant by the Power of the test.	3	2	CO1
4.	What are the properties of the correlation coefficient?	3	2	CO1
5.	Enumerate the different types of correlation.	3	3	CO2
6.	What are regression equations?	3	2	CO1
7.	Explain the relation between correlation and regression.	3	3	CO2
8.	What are the uses of time series analysis?	3	3	CO2
9.	List any three merits of the method of moving averages.	3	2	CO1
10.	What is the principle of least squares?	3	2	CO1
Section B: Answer all questions. Each carries 6 marks. Ceiling: 36 Marks				
No.	**Question**	**M**	**BL**	**CO**
11.	"Data collected in the census are automatically error-free." Discuss the validity of the statement.	6	2	CO2
12.	Explain the concepts of sampling distribution and standard error. Give examples.	6	2	CO2
13.	Discuss the Stratified random sampling with an example.	6	2	CO2
14.	A teacher claims that the average score of students in a Maths test is 75. A sample of 10 students is selected, and their scores are as follows: 70, 78, 72, 74, 68, 80, 76, 73, 77,71. At a 5% significance level, test if the average Maths test score significantly differs from 75.	6	3	CO2 CO3
15.	A researcher believes that a new teaching method improves student performance. The average score of students on a standardized test is known to be 70. A sample of 12 students who used the new teaching method achieved the following scores: 72, 75, 78, 70, 68, 74, 77, 73, 71, 69, 76, 80. Test at a 5% significance level whether the new teaching method has significantly changed the average score from 70.	6	3	CO2 CO3
16.	Define correlation and explain the various types of correlation.	6	4	CO2
17.	What do you understand by the term 'regression line"? Write down the formula for the regression coefficient of X on Y	6	4	CO2
18.	Distinguish between the “method of moving average" and "Least squares" as methods of measuring trends in a given time series.	6	4	CO2

(PTO)

Section C: Answer any one question. Each carries 10 marks. (1 x 10 = 10 Marks)

<table>
<tr><th>No.</th><th>Question</th><th>M</th><th>BL</th><th>CO</th></tr>
<tr><td>19.</td><td>A marketing team wants to evaluate the effectiveness of two different advertising campaigns. They found that 70 out of 200 people responded positively to Campaign A, while 50 out of 180 responded positively to Campaign B. Conduct a hypothesis test to determine if there was a significant difference in the effectiveness of the two campaigns.</td><td>10</td><td>3</td><td>CO3</td></tr>
<tr><td>20.</td><td>Using the three-year moving average, determine the trend and plot the original and trend values on the Graph.
<table>
<tr><td>Year</td><td>1968</td><td>1969</td><td>1970</td><td>1971</td><td>1972</td><td>1973</td><td>1974</td><td>1975</td><td>1976</td><td>1977</td></tr>
<tr><td>Sales</td><td>1230</td><td>1060</td><td>1240</td><td>1300</td><td>1450</td><td>1160</td><td>1430</td><td>1320</td><td>1260</td><td>1120</td></tr>
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</td><td>10</td><td>3</td><td>CO2
CO3</td></tr>
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