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SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2025

BBA

BBA2CJ103 / BBA2MN102 - FOUNDATIONS FOR BUSINESS ANALYTICS

2024 Admission onwards

Maximum Time: 2 Hours | **Maximum Marks: 70**

Section A

All Questions can be answered. Each Question carries 3 marks (Ceiling: 24 Marks)

1. What is a Sample Space?
2. Define Business Analytics.
3. Define a Random Experiment.
4. What is the purpose of Index Numbers?
5. What is the meaning of Regression Analysis?
6. What are Mutually Exclusive and Exhaustive Events?
7. What are Parabolic and Logarithmic Trends?
8. What is a Chi-Square Distribution?
9. What is Sampling and what is meant by a Sample?
10. What are Independent Events?

Section B

All Questions can be answered. Each Question carries 6 marks (Ceiling: 36 Marks)

11. Briefly explain the various Probabilistic Sampling and Non-Probability Sampling Methods or Techniques.
12. What do you mean by a Time Series? What are the Components of Time Series?
13. Three unbiased coins are tossed. What is the probability of obtaining:
    (a) All heads
    (b) 2 heads
    (c) One head
    (d) At least one head
    (e) At least two head
    (f) At the most one head
14. Compute a Price Index for the following by Simple Aggregate Method:

Commodity	A	B	C	D	E	F
Price in 1986 (₹)	20	30	10	25	40	50
Price in 1991 (₹)	25	30	15	35	45	55

15. The Standard Deviation of two samples of sizes 10 and 14 from two normal populations are 3.5 and 3.0 respectively. Examine whether the Standard Deviation of the Population are equal.
16. In a cafe, the customer arrives at a mean rate of 2 per minute. Find the probability of arrival of 5 customers in 1 minute using the Poisson distribution formula.
17. Construct 3 yearly moving averages from the following data:

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annual sales in lakhs	43	45	50	54	51	49	52	56	60

18	Calculate the Correlation Coefficient for the following data: X = 21, 31, 25, 40, 47, 38 and Y = 70, 55, 60, 78, 66, 80

Section C

Answer any ONE. Each Question carries 10 marks (1x10=10 Marks)

19 Calculate the Rank Correlation Coefficient between marks assigned to 10 students by Judges X and Y.

Sl. No:	1	2	3	4	5	6	7	8	9	10
Mark by Judge X	52	53	42	16	45	41	37	38	25	27
Mark by Judge Y	65	68	43	38	77	48	35	30	25	50

20 Calculate the Regression Coefficient and obtain the Lines of Regression for the following data:

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