QP Code: **D 122899**	**Total Pages: 2**	**Name:**
		Register No.

SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2025

BBA

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 Marginal Probability?
2	Define Business Analytics.
3	What are the characteristics of a Normal Distribution?
4	What do you mean by Population Parameters and Sample Statistics?
5	Define Index Numbers.
6	What is the purpose of the Student's t-Distribution?
7	What is meant by Linear Regression?
8	What is the Central Limit Theorem?
9	What are Parabolic and Logarithmic Trends?
10	What do you mean by the Snowball Sampling Method?

Section B

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

11	Explain Bayes' Theorem and its application in decision-making.
12	Differentiate between Correlation and Regression. Also, explain the relationship between Correlation and Regression.
13	Two unbiased dice are thrown. Find the probability that (a) Both the dice show the same number (b) One die shows 5 (c) First die shows 5 (d) The total of the numbers on the dice is eight (e) The total of the numbers on the dice is greater than 8 (f) A sum of 10

14 Calculate 3 yearly moving averages for the following data:

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000
Value	43	45	50	54	51	49	52	56	60

15 From the following data, obtain the equation of two regression lines:

X	6	2	10	4	8
Y	9	11	5	8	7

| 16 | Construct index number for price for the year 2007 with 2005 as the base year from the following data by taking quantities in the base year as weights: |

Commodity	2005		2007	
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	3

17	On average, every one out of 10 telephones is found busy. Six telephone numbers are selected at random. Find the probability that four of them will be busy.

18 Compute Karl Pearson's Coefficient of Correlation.

Price	11	12	13	14	15	16	17	18	19	20
Demand (Rs)	30	29	25	24	24	24	24	21	18	15

Section C

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

19 Compute 4-year Moving Averages from the following data:

Year	2008	2009	2010	2011	2012	2013	2014	2015
Profit (in Rs. '000)	100	120	150	160	190	210	350	415

20 You are given the following data.

	X	Y
Arithmetic Mean	36	85
Standard Deviation	11	8

The Correlation Coefficient between X and Y = 0.66
Find two regression equations and estimate the value of X when Y = 75.