Reg. No. | | | | | | | | |

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.

(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.B.A.

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
IV	PART - III	CORE	U21BB408	BUSINESS STATISTICS AND MATHEMATICS

Date & Session: 23.04.2025/FN **Time : 3 hours** **Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer ALL Questions.
CO1	K1	1.	What is the measure of central tendency that represents the middle value when data is arranged in ascending order? a) Mean b) Median c) Mode d) Range
CO1	K2	2.	Which of the following is NOT a measure of dispersion? a) Variance b) Standard deviation c) Median d) Range
CO2	K1	3.	A company wants to forecast sales for the next quarter. Which statistical method would be most appropriate? a) Regression analysis b) Probability distribution c) Mode calculation d) Hypothesis testing
CO2	K2	4.	In a normal distribution, approximately what percentage of data falls within one standard deviation of the mean? a) 50% b) 68% c) 95% d) 99%
CO3	K1	5.	The probability of an event occurring is 0.4. What is the probability of the event NOT occurring? a) 0.4 b) 0.6 c) 1.4 d) 0.04
CO3	K2	6.	If a product is sold for 500 after a 20% discount, what was its original price? a) 600 b) 625 c) 700 d) 750
CO4	K1	7.	A company's revenue function is given by **$R(x) = 50x - x^2$**. At what value of x is the revenue maximized? a) 25 b) 50 c) 75 d) 100
CO4	K2	8.	The break-even point occurs when: a) Total cost = Total revenue b) Fixed cost = Variable cost c) Marginal cost = Marginal revenue d) Total revenue = Profit
CO5	K1	9.	If a sum of money doubles in 6 years under compound interest, what is the approximate annual interest rate? a) 8% b) 10% c) 12% d) 15%
CO5	K2	10.	If the simple interest on 5,000 for 3 years at 4% per annum is calculated, what is the total interest earned? a) 200 b) 400 c) 600 d) 800
Course Outcome	**Bloom's K-level**	**Q. No.**	**SECTION – B (5 X 5 = 25 Marks) Answer ALL Questions choosing either (a) or (b)**
CO1	K3	11a.	Explain the characteristics of statistics. **(OR)**
CO1	K3	11b.	Summarise the sources of data collection.

CO2	K3	12a.	Calculate the mean 4487, 4493, 4503, 4446, 4475,4575, 4516, 4492, 4572, 4516, 4468,4489. **(OR)**
CO2	K3	12b.	Difference between mean deviation vs standard deviation.
CO3	K4	13a.	Write a short note about types of correlation. **(OR)**
CO3	K4	13b.	Explain the concurrent deviation method.
CO4	K4	14a.	Elucidate the concept transpose of matrix. **(OR)**
CO4	K4	14b.	Demonstrate the inverse of matrix.
CO5	K5	15a.	Explain the concept simple interest and compound interest. **(OR)**
CO5	K5	15b.	Difference between product rule vs quotient rule.

Course Outcome	**Bloom's K-level**	**Q. No.**	**SECTION – C (5 X 8 = 40 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	16a.	Describe the scope of statistics. **(OR)**
CO1	K3	16b.	Summarise the types of tabulation.
CO2	K4	17a.	Calculate the median **(OR)**
CO2	K4	17b.	Find the Mode.
CO3	K4	18a.	Difference between correlation vs regression. **(OR)**
CO3	K4	18b.	Find the karl's pearson co-efficient correlation from the following data
CO4	K5	19a.	Illustrate the types of matrix. **(OR)**
CO4	K5	19b.	Given
CO5	K5	20a.	If the total cost function is $C+X^3+9X^2-18X+25$. Find the average cost and marginal cost. **(OR)**
CO5	K5	20b.	Difference between average cost and marginal cost.

Income	500	600	700	800	900	1000
No. of families	4	6	5	7	15	20

Size	0-10	10-20	20-30	30-40	40-50	50-60	60-70
frequency	5	7	12	18	16	10	5

X	12	9	8	10	11	13	7
Y	14	8	6	9	11	12	3

A= 2 0 4 6 2 8 2 4 6	**B=** 8 4 -2 0 -2 0 2 2 6	**C=** 8 2 0 0 2 -6 -8 4 -10
FIND A+B+C		