

QP CODE: D2BAN2502	(Pages: 2)	Reg. No :
		Name :
SECOND SEMESTER FYUGP EXAMINATION, APRIL 2026 (Regular - 2025 Admissions) Discipline Specific Core (DSC) Courses - Major (Credits: 4) BAN2CJ102 : Statistics for Business Analytics		
Time: 2 Hours	Maximum Marks: 70	
Section A. Answer the following questions. Each carries 3 marks (Ceiling: 24 marks)		
1. Distinguish between qualitative and quantitative variables with examples.	BL1	CO1
2. Define data visualization and list any three data visualization techniques.	BL1	CO1
3. List any three desirable qualities of a good average.	BL1	CO2
4. Define the following terms: (a) Sample space (b) Outcome (c) Trial	BL1	CO3
5. Define the following: (a) Set (b) Finite and infinite sets (c) Singleton set	BL1	CO3
6. State the conditions under which Binomial distribution tends to Poisson distribution.	BL1	CO3
7. What is a probability density function (PDF)?	BL1	CO3
8. Define Standard Normal Distribution.	BL1	CO3
9. State the principles of sampling and explain them briefly.	BL1	CO3
10. What is positive correlation?	BL1	CO4
Section B. Answer the following questions. Each carries 6 marks (Ceiling: 36 Marks)		
11. Explain the different measures of skewness.	BL1	CO2
12. The probability that a customer uses Internet Banking is 0.6 and the probability that the customer uses Mobile Banking is 0.5. If the probability that the customer uses both services is 0.3, find: (a) The probability that the customer uses either service (b) The probability that the customer uses only Internet Banking.	BL2	CO3
13. (a) Define conditional probability. (b) The probability that an employee attends a training program is 0.7 and the probability that the employee both attends training and gets a promotion is 0.28. Find the probability of promotion given that the employee attended training. (PTO)	BL2	CO3

14. A box contains 6 Mathematics books, 5 Statistics books and 4 Economics books. Three books are selected at random. Find the probability that:
(a) All three are Statistics books (b) Exactly two are Mathematics books

BL2 CO3

15. Describe Convenience and Judgmental Sampling.

BL2 CO3

16. The data given below pertain to the price and demand for a commodity over a period of five years.

BL2 CO4

Price (Rs.)	7	8	9	6	5
Demand (tons)	8	6	7	9	10

Calculate Karl Pearson's correlation coefficient between price and the demand.

17. A retail manager wants to check whether a new advertising campaign increased weekly sales (in ₹ thousands) for 5 stores. The sales before and after the campaign are:

BL2 CO4

Before: 45, 52, 48, 50, 55

After: 48, 54, 50, 53, 57

Test at 5% significance level whether the campaign improved sales.

($t_{0.05}(4) = 2.776$).

18. A retail chain wants to test whether average weekly footfall differs across three store layouts. The footfall for 3 weeks in each layout is:

BL2 CO4

Layout A: 450, 460, 455

Layout B: 470, 465, 475

Layout C: 460, 455, 458

Test at 5% significance level whether the layouts result in different average weekly footfall. (Use $F_{0.05}(2, 6) = 5.14$).

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

19. The monthly expenditure (₹ '000) of families is given below:

BL2 CO2

Expenditure (₹ '000)	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
Number of Families	7	13	20	12	8

Find:

(a) the coefficient of mean deviation about mean

(b) the coefficient of mean deviation about median

20. From the following data calculate the two regression equations.

BL2 CO4

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