

Roll.No.

22UDSAT3003

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

B.Sc.Cs with DS - END SEMESTER EXAMINATIONS - NOVEMBER 2025

SEMESTER - III

22UDSAT3003 - Allied Statistics I

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. What is Nominal, Ordinal, and Scale levels of measurement? Give two examples for each.
2. The following table shows the number of malaria cases reported in four villages in 2024:

Village	A	B	C	D
Cases	45	60	30	75

Draw a simple bar diagram to represent the data.

3. Determine Karl Pearson's coefficient of correlation for the data given below, taking 66 and 63 as assumed means of X and Y respectively.

X	60	62	64	66	68	70	72
Y	61	63	63	63	64	65	67

4. The following table shows ages of 40 people grouped into class intervals.

Age class (years)	0-9	10-19	20-29	30-39	40-49
Frequency (f)	5	9	12	8	6

Find the mean age.

5. Distinguish between Complete Enumeration (Census) and Sample Survey. Mention any two merits and demerits of each method.
6. The following data represent the test scores of 15 students:
10, 12, 15, 18, 18, 20, 22, 22, 22, 24, 25, 26, 28, 30, 32
Compute the Arithmetic Mean, Median and Mode.
7. The following data represent the monthly electricity consumption (in units) of 12 households: 180, 195, 210, 220, 205, 190, 230, 240, 225, 215, 200, 235
Calculate Variance, and Standard Deviation.

Contd...

8. The table below shows the preference rankings of seven lipstick brands (A to G) by two customers, Neelu and Neena.

Lipstick	A	B	C	D	E	F	G
Neelu	2	1	4	3	5	7	6
Neena	1	3	2	4	5	6	7

Determine the Spearman's rank correlation coefficient between Neelu and Neena's preferences.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Explain the various methods of presenting data in tabular form. Describe the construction of Univariate, Bivariate, Frequency, and Contingency tables with suitable illustrations.
10. The table below gives the distribution of monthly household expenditure (in ₹):

Expenditure (₹)	Number of Households
1000–2000	6
2000–3000	12
3000–4000	20
4000–5000	18
5000–6000	10
6000–7000	4

- (a) Draw a histogram for the data.
 (b) From the histogram construct a frequency polygon.
 Draw both the less-than ogive and greater-than ogive.

11. The table below shows the weekly working hours of 50 employees in a company.

Working hours (class interval)	Frequency (f)
20–24	6
25–29	10
30–34	14
35–39	12
40–44	8

Determine the median weekly working hours.

Contd...

12. Compute the Quartile deviation from the following data.

Class group	0-5	5-10	10-15	15-20	20-25
Freq.	7	18	25	30	20

13. A survey was conducted to check if gender (Male/Female) is associated with product preference (Yes/No). The data:

Gender	Product Preference		Total
	Yes	No	
Male	30	20	50
Female	25	25	50
Total	55	45	100

At 0.05 significance level, examine and test if gender and product preference are independent. $\chi^2_{critical} = 3.841$
