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. END SEMESTER EXAMINATIONS NOVEMBER-2022
SEMESTER - III
20UCSAT3003 - Statistical Methods and Its Application – I

Total Duration : 2 Hrs 30 Mins.   Total Marks : 60

Section A

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

1. Explain the Scope and Limitation of Statistics.

2. The following is the age distribution of 100 persons in a street. Calculate the Arithmetic Mean.

Age group	0–10	10–20	20–30	30–40	40–50	50–60
Number of Persons	5	10	25	30	20	10

3. Calculate Mean Deviation about the Mean for the following data.

Value(x)	10	11	12	13	14
Frequency	3	12	18	12	3

4. Explain
   (a) Addition theorem of two events.
   (b) Independence of events.

5. State and Prove Multiplication Theorem for two events.

6. Define and Differentiate Skewness and Kurtosis with types.

7. Derive the MGF of Poisson Distribution.

8. Discuss the Normal Distribution and it's Properties.

Section B

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

9. Explain the various diagram and graph used for representation of statistical data.

10. Draw Ogive Curves for the data given below

Draw sales (Rs.000)	10 –20	20 –30	30 –40	40 –50	50 –60	60–70	70–80
Number of Shops	3	6	10	15	8	4	2

Contd...

11. Elaborate:
    (a) Box and Whisker Plot
    (b) Stem and Leaf Plot with suitable examples.

12. State and Prove Baye's Theorem.

13. Derive the MFG of Binomial Distribution. Hence find Mean and Variance.

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