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.(Computer Science) END SEMESTER EXAMINATIONS NOVEMBER -2023
SEMESTER - III
20UCSAT3003 - Statistical Methods and Its Applications - I

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

Section B

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

1. Sketch Primary data. Explain briefly about the methods of collecting it.

2. Classify a diagram of ogive curve and explain how to construct ogive curves.

3. Distinguish between mean deviation and standard deviation.

4. (a) Write down the axiomatic probability.
   (b) State and prove addition theorem for probability.

5. Classify the properties of distribution function.

6. Relate Merits and Demerits of mean.

7. Derive an expression for Mean and Variance of poisson distribution.

8. Discriminate how we interpret Skewness and kurtosis using continuous data.

Section C

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

9. (a) Explain different types of graphical representation with an example.
   (b) Illustrate the Limitations of statistics

10. Classify Various measures of location and also give the merits and demerits of median and mode.

11. (a) Determine the various methods to solve standard deviation for continuous data.
    (b) Examine the Box and Whisker plot.

12. (a) Relate the Multiplication Theorem for two events.
    (b) State and prove Baye's theorem for probability.

Contd...

13. A Random variable X has the following probability function:

Value of X, x	0	1	2	3	4	5	6	7
P(x)	0	K	2k	2k	3k	K^2	$2k^2$	$7k^2 + k$

(i) Find k

(ii) Evaluate $P(X < 6)$, $P(X \geq 6)$ and $P(0 < X < 5)$

(iii) $P(X \leq a) > \frac{1}{2}$, find the, minimum value of a.

(iv) Determine the distribution function of X.

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