

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 - NOV'2024

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. State the functions of statistics.
2. Define arithmetic mean and write its merits and demerits.
3. Distinguish between dispersion and skewness.
4. State and prove addition theorem of probability.
5. Define Poisson distribution and write its moment generating function.
6. Explain different types of classification.
7. The marks of 9 students are as follows: 41, 57, 38, 61, 36, 35, 71, 50, 40. Calculate the median marks.
8. Explain (i) Random variable and (ii) Mathematical Expectation

### **Section C**

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

9. Describe the limitations of statistics.
10. Compute the mean and mode for the following frequency distribution:

| <b>Marks</b>     | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 |
|------------------|------|-------|-------|-------|--------|
| <b>Frequency</b> | 3    | 17    | 27    | 20    | 9      |

11. Define kurtosis. If  $\beta_1 = 1$ ,  $\beta_2 = 4$  and variance = 9, Evaluate the values of  $\mu_3$  and  $\mu_4$  and comment on the nature of the distribution.
12. State and prove Bayes' theorem.
13. Define normal distribution and mention its properties.

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