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 AI - END SEMESTER EXAMINATIONS APRIL - 2024
SEMESTER -IV
22UAIAT4004 -Allied Statistics II

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

Section B

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

1. State and prove addition theorem of probability.
2. Define distribution function and state its properties.
3. Explain the characteristics of normal distribution.
4. Derive the mean of student's t distribution.
5. The mean weekly sales of soap bars in departmental stores was 146.3 bars per store. After an advertising campaign the mean weekly sales in 22 stores for a typical week increased to 153.7 and showed a S.D of 17.2 . Was the advertising campaign successful.
6. Explain the test procedure of testing of hypothesis.
7. Explain axiomatic approach on probability.
8. Derive the Maximum likelihood estimation of Binomial distribution.

Section C

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

9. State and prove multiplication theorem of probability.
10. Derive the mean and variance of binomial distribution.
11. Explain (i) Continuous random variable (ii) Probability density function
12. Derive the mean and variance of Chi-Square distribution.
13. Three process A,B and C are tested to see whether their outputs area equivalent. The following observations of out put are made. Find one – way classification of ANOVA.

A :	10	12	13	11	10	14	15	13
B :	9	11	10	12	13			
C :	11	10	15	14	12	13		

*****