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.
M.Sc.(Bio-Statistics) END SEMESTER EXAMINATIONS NOVEMBER - 2023
SEMESTER - I
20PBSCT1001 - Probability and Distribution Theory

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

Section B

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

1. Explain specificity and sensitivity with suitable examples.

2. Derive the mean and variance for exponential distribution.

3. Obtain the mean of bivariate Poisson distribution.

4. Describe multivariate normal distribution.

5. Define conditional expectation, correlation and covariance.

6. Compute mean and variance of Weibull distribution.

7. Write a note on multinomial distribution.

8. Determine the MGF of Bivariate Normal Distribution.

Section C

I - Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

9. Explain Baye's Theorem and state its applications.

10. Compute $E[h(x)]$ with the assumption that $h(x)$ exists using conditional expectation.

11. Determine mean and variance of Hyper geometric distribution.

12. Derive mean and variance of Bivariate Binomial distribution.

II - Compulsory question $(1 \times 10 = 10$ Marks)

13. Describe the procedure of Obtaining MGF of multivariate Normal Distribution.

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