

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.Applicable Mathematics - END SEMESTER EXAMINATIONS - NOV' 2024
SEMESTER - I

24PAMET1A01 - Probability and Distribution

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

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

1. Find the mean and variance of Poisson distribution.
2. Elucidate the Factorial moments of Random variable with Binomial PMF.
3. Compute the MGF of Bivariate Binomial Distribution.
4. Compute the Bivariate Poisson Distribution as a function of Bivariate Binomial Distribution is the limiting case of Bivariate Binomial Distribution.
5. Compute the recurrence formula for moments of Chi-Square Distributions.
6. Derive mean and variance of exponential distribution.
7. Describe convergence almost surely and convergence in r^{th} mean.
8. Elaborate the convergence in r^{th} mean and convergence in probability.

Section C

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

9. Compute the MGF of Normal Distribution.
10. Find the mean and variance of Bivariate Normal Distribution.
11. Conclude the variance of 'F' distribution.
12. State and prove lindberg levy central limit theorem.

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

13. Classify that MGF may exists without the existence of moment's.
