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. Statistics END SEMESTER EXAMINATIONS APRIL -2024
SEMESTER - II
20USTCT2003 - Distribution Theory - I

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 discrete Uniform distribution.
2. State and prove the additive property of Binomial distribution.
3. Compute Poisson distribution as the approximation of Binomial distribution.
4. Describe briefly about Geometric distribution and show that the Geometric distribution has memoryless property.
5. Sketch the reproductive property of Negative Binomial distribution.
6. Find the m.g.f of multinomial distribution.
7. Explain about continuous Uniform distribution and its m.g.f
8. Examine the Characteristic function of Normal distribution.

Section C

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

9. Derive the recurrence formula for moments of Binomial distribution. Hence find the mean and variance of Binomial distribution.
10. Derive the recurrence formula for moments of poisson distribution. Hence find its mean and variance.
11. Determine m.g.f of Negative Binomial distribution and also its mean and variance.
12. Relate the hypergeometric distribution and Binomial distribution. Also find the mean of hypergeometric distribution.
13. Evaluate the first four central moments of Normal distribution and also its variance.

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