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. END SEMESTER EXAMINATIONS APRIL-2022
SEMESTER - II
20USTCT2003 - Distribution Theory-I

Total Duration : 3 Hrs. **Total Marks : 60**

Section A

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

1. Find Binomial distribution mean and variance.
2. State and prove the additive property of the Poisson distribution.
3. Find (i) The probability generating function and
   (ii) The moment generating function.
4. Derive that the Hyper-geometric distribution approximation to Binomial distribution.
5. Find the continuous uniform distribution variance.
6. Derive M.G.F and Characteristic function of the Poisson distribution.
7. Find the memory less property M.G.F.
8. Derive the characteristic function of Uniform distribution.

Section B

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

9. Derive Uniform distribution first four moment.
10. Find Poisson distribution mean, variance and mode.
11. Derive the moment generating function of Geometric distribution.
12. Derive mean and variance of Hyper-geometric distribution
13. Find the first four moments of Normal distribution.

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