

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 NOVEMBER -2023

SEMESTER - III

**20USTCT3005 - Distribution Theory – II**

Total Duration : 2 Hrs 30 Mins.

Total Marks : 60

**Section B**

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

1. Find mean and variance of exponential distribution.
2. Discuss about Distribution of sample mean and variance from normal population.
3. Find the mean and variance of  $F$  distribution.
4. Describe the distribution of range of order statistics.
5. Find moment generating function of Weibull distribution.
6. Compute probability density function of the sampling distribution of chi square.
7. Explain about the Inter relationship between  $t$ ,  $F$  and Chi-square.
8. Determine distribution of  $n^{th}$  order statistics.

**Section C**

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

9. Compute mean and variance for gamma distribution.
10. Find mean and variance of log normal distribution.
11. Determine the moment generating function of sampling distribution of chi square.
12. Find the first four moments of  $t$  distribution.
13. Determine joint distribution of  $r^{th}$  and  $s^{th}$  order statistics.

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