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 - NOV’2024
SEMESTER - V
20USTCT5012 - Stochastic Processes

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

Section B

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

1. Explain the concept of stationary and independent increment process.
2. Describe the poisson process postulates.
3. Examine Linear growth process.
4. Describe the model - M/M/1 : ∞/FIFO.
5. Prepare the Chapman - Kolmogorov equations.
6. State and prove additive property of poisson process.
7. Compute Birth Process.
8. Classify the queuing models.

Section C

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

9. Illustrate the classification of stochastic processes.
10. Classify the states of Markov Chains.
11. If the intervals between successive occurrence of an event E are independently distributed with a common exponential distribution with mean $1/\lambda$, then the events E form a Poisson process with mean λt show that.
12. Prepare Pure birth process and Yule - Fury process.
13. Examine the elements of a queuing system.

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