

**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 - VI**

**13USTCT6016 & UST/CT/6016 - Stochastic Processes**

**Total Duration : 3 Hrs.**

**Total Marks : 60**

**Section A**

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

1. Explain about stochastic processes with an example.
2. What do you understand by Markov process? Comment.
3. Discuss about Markov Chain with an example.
4. Describe the Transition Matrix with an example.
5. Elaborate about Markov chains using graphs.
6. Narrate about Poisson process.
7. Discuss about pure birth process.
8. Explain about the queueing system and models.

**Section B**

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

9. Classify stochastic process with suitable example.
10. State and Prove Chapman - Kolmogorov equation.
11. State and prove the properties of Poisson process.
12. Elaborate Yule - Furry Process.
13. Derive the model M/M/s.

**\*\*\*\*\***