PAPER V : MODERN PROBABILITY THEORY AND STOCHASTIC PROCESSES:

Text Book: Treatment and Scope as in Modern Probability Theory by B.R.Bhat (Wiley Eastern Ltd.)

UNIT I : Sets and classes of Events — Chapter 1
Random Variables — Chapter 2
Probability Space — Chapter 3

UNIT II : Distribution Functions — Chapter 4
Expectation and Moments — Chapter 5

UNIT III : Convergence of Random Variables—Chapter 6 omitting Sections 6.6 only.
Convergence of Distribution Functions—Chapter 8 omitting Section 8.2 only).

Text Book: Treatment and Scope as in Stochastic Process by J.Methi (Wiley Eastern Ltd.)

UNIT IV : Stochastic Processes — Chapter 2
Markov chains — Chapter 3 (omitting sections 3.6, 3.7 & 3.8).

UNIT V : Markov Processes with Discrete State Space—Poisson process— Chapter 4 (omitting sections 4.4, 4.5 & 4.6).
Renewal Process and Theory (omitting sections 6.5., 6.6, 6.7 and 6.8).
Stationary Processes and Time Series — Chapter 8 (omitting sections 8.1 & 8.4).

REFERENCES:

1. Modern Probability Theory and Its applications by E.Parzen (Wiley Eastern Ltd.)

2. Probability Theory by Leave (Van Nostrand, Princeton)

3. First Course in Stochastic Processes by Samuel Karlin

4. Stochastic Processes by Srinivasan and Mentha.