

PROBABILITY AND STATISTICS

UNIT I

Theory of Probability –Definition of probability sample space – Probability of an event - Independence of events – Theorems on Probability – Conditional Probability – Baye’s Theorem.

UNIT II

Random variables – Distribution functions – Descrete & continuous random variables – Probability mass & density functions – Joint probability distribution functions.

UNIT III

Expectation –Variance –Covariance-Moment generating functions – Theorems on Moment generating functions – moments – various measures.

UNIT IV

Correlation & Regression –Properties of Correlation & regression coefficients – Numerical Problems for finding the correlation & regression coefficients.

UNIT V

Theoretical Discrete & Continuous distributions – Binomial, Poisson, Normal distributions-Moment generating functions of these distributions –additive properties of these distributions - Recurrence relations for the moments about origin and mean for the Binomial. Poisson and Normal distributions –Properties of normal distributions – relation between Binomial, Poisson, Normal distributions

TEXT BOOK(S)

- [1] Gupta.S.C & Kapoor,V.K , Fundamentals of Mathematical Statistics, Sultan Chand & sons, New Delhi -1994 Edition
UNIT – I - Chapter 3 Sections 3.9 & Chapter 4 (except sec 4.8)
UNIT – II- Chapter 5 (except sections 5.6 & 5.7)
UNIT – III - Chapter 6 (Omit all the inequalities & related problems)
UNIT – IV - Chapter 7 (except Sections 7. 2.8 to 7.2.11 & 7.3.9)
UNIT – V- Chapter 8 (Topics relevant to Normal Distributions)

REFERENCE(S)

- [1] Thambidurai .P, Practical Statistics, Rainbow publishers – CBE (1991)