

Mathematics – I : Discrete Structures – I

Unit – I

Sets – Set operations – Union Intersection – Complementation – Symmetric Difference – Power sets -Cartesian Product – Relations – Functions – Inverse functions and composition of functions – Matrices – Types of Matrices – Addition, Multiplication of Matrices – Inverse of Matrix – Solving system of equations in three Unknowns by CRAMERS RULE.

Unit – II

Groups – Types – simple properties of groups – cyclic Groups and subgroups.

Unit – III

Measures of central tendency of a set of observations – Purpose of statistical investigations – The arithmetic mean – The mean of grouped data – The median – The mode – The measurement of Variability, range, mean deviation, Variance and Standard deviation.

Unit – IV

Correlation and Regression – Scatter diagram – Correlation between two random variables – Rank Correlation – Linear regression – Principles of least squares.

Unit – V

Basic concepts of Probability – sample space and events – The use of counting methods in Probability Addition law – Conditional Probability – Simple problems involving the estimation of probabilities – Normal distribution and Binomial distribution with their application and biology.

Text Books :

1. For Unit I :“ Discrete Maths”, by B.S.Vatssa; Wishwa Prakashan (A Division of Wilcy Eastern Limited) 1993.
2. For Unit II :“Algebra”, by Arugam Issac. New Gamma Publishing – House – Palayamkkottai 1997
3. For Unit III, IV, V :Relevant portion in Gupta S.P. Statistical Methods, Sultan Chand and sons guarantee 1996

Reference Books :

1. “Theory of computing” by John C- martin MC – Graw – Hill – International Editions – 1993.
2. “Modern Algebra”, by K.S.Narayanan – Manicka Vachagam Pillai (S.Viswanathan – Printers and Publishers (Pvt) Ltd., Madras – 1993.
3. Pillai R.S.N.& Bagavathi P. 1999, Statistics, S.Chand & Co., Ltd.