FMCC 203 PROBABILITY (3-1-0)

Module-I : (14 Hours)

Random experiment, trial, sample point and sample space, events, operations of events, concepts of equally likely, mutually exclusive and exhaustive events. Definition of probability: Classical, relative frequency and axiomatic approaches. Discrete probability space, properties of probability under set theoretic approach. Independence of events, Conditional probability, total and compound probability theorems, Bayes theorem and its applications.

Module-II : (14 Hours)

Random variables – discrete and continuous, probability function and probability density function (pdf), Cumulative distribution function (cdf). Joint distribution of two random variables, marginal and conditional distributions. Independence of random variables. Expectation of a random variable (rv) and its properties., expectation of sum of random variables and product of independent random variables, conditional expectation and related problems. Generating functions and their applications

Module-III: (12 Hours)

Moments, moment generating function (m.g.f.) & their properties, continuity theorem for m.g.f..Probability distributions: Binomial, Poisson, Hyper geometric, Geometric and Negative Binomial. Uniform (discrete & continuous), Normal, Exponential, Gamma, Beta distributions. Cauchy. Normal and Poisson distributions as limiting case of binomial distribution.

REFERENCE:
1. Parzen, E.S. : Modern Probability Theory and its Applications.
2. Meyer, P. : Introductory Probability and Statistical Applications.
3. StirzekarDavid :ElementryProbabilityu, Cambridge University Press.
4. Mood A.M., Graybill F.A. and BoesD.C. : Introduction to the theory of Statistics, McGraw Hill.
5. Mukhopadhyay, P :Mathmatical Statistics, new central book agency.