

Syllabus

Statistics : Notions of Sample Space and Probability, Conditional Probability, Bayes Theorem and Independence, Random Variable and Expectation, Moments, Standard Univariate Discrete and Continuous Distributions, Sampling Distribution of Statistics Based on Normal Samples, Central Limit Theorem, Approximation of Binomial to Normal, Poisson Law, Multinomial, Bivariate Normal and Multivariate Normal Distributions, Descriptive Statistical Measures, Graduation, Regression (Simple and Multiple), Elementary Theory and Methods of Estimation (unbiasedness, minimum variance, sufficiency, maximum likelihood method, method of moments, least squares method), Tests of Hypotheses (basic concepts and simple applications of Neyman-Pearson Lemma), Confidence Intervals, Tests in Regression Analysis, Elements of Non-parametric Inference, Contingency Chi-square, ANOVA, Conventional Sampling Techniques, Ratio and Regression Methods of Estimation, Markov Processes.

Demography : Mortality Analysis, Life Table Construction and Its Application, Measures of Fertility and Reproduction, Population Estimation and Projections, Stable Population, Measures of Migration.