

Department of Statistics

STP457: Practicals IV: Based on Theory papers (STH452, STH453 & STS455)		
Hours/Week:6		I.A.Marks:30
Credits : 3		Exam. Marks: 70
Course Outcomes: CO1: To carry out method of scoring and to fit the truncated distributions CO2: To compute the benefits of insurance, reserves, premiums. CO3: To generate the random observations from different distributions. CO4: Perform Bayesian computation using methods in R		
Practical Based on STH452: DISTRIBUTION THEORY & STH 453: THEORY OF POINT ESTIMATION. - Generating observations from mixture distributions. - Fitting truncated distributions by method of moments (Newton-Rapson method)-1 - Fitting truncated distributions by method of mle (Newton-Rapson method)-2 - Maximum likelihood estimator (when closed form solution does not exist) - Method of scoring-1 - Method of scoring-2		
Practical Based on STS455:a) ACTUARIAL STATISTICS - Future lifetime random variable and related measures. - Computation of various measures using Gompertz and Makeham's Model. - Life Tables under UDD assumption and constant force of mortality. Construction of Select Life Tables. - Calculation of Premiums and Annuities. - Actuarial present values of insurance schemes. - Calculation of Benefit Reserves.		
Practicals on ST 455 b) Bayesian Inference - Bayes estimation under conjugate family, hyperparameters of the conjugate family and mixtures of conjugate families. - Bayesian credible interval, HPD credible interval from exponential family. - Estimation of posterior density, HPD credible intervals using importance sampling from exponential family. - Posterior density estimation, HPD credible intervals using Gibbs sampler.		