

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:		
<p>CO1: To carry out method of scoring and to fit the truncated distributions</p> <p>CO2: To compute the benefits of insurance, reserves, premiums.</p> <p>CO3: To generate the random observations from different distributions.</p> <p>CO4: Perform Bayesian computation using methods in R</p>		
Practical Based on STH452: DISTRIBUTION THEORY & STH 453: THEORY OF POINT ESTIMATION.		
<ol style="list-style-type: none"> 1. Generating observations from mixture distributions. 2. Fitting truncated distributions by method of moments (Newton-Rapson method)-1 3. Fitting truncated distributions by method of mle (Newton-Rapson method)-2 4. Maximum likelihood estimator (when closed form solution does not exist) 5. Method of scoring-1 6. Method of scoring-2 		
Practical Based on STS455:a) ACTUARIAL STATISTICS		
<ol style="list-style-type: none"> 1. Future lifetime random variable and related measures. 2. Computation of various measures using Gompertz and Makeham's Model. 3. Life Tables under UDD assumption and constant force of mortality. Construction of Select Life Tables. 4. Calculation of Premiums and Annuities. 5. Actuarial present values of insurance schemes. 6. Calculation of Benefit Reserves. 		
Practicals on ST 455 b) Bayesian Inference		
<ol style="list-style-type: none"> 1) Bayes estimation under conjugate family, hyperparameters of the conjugate family and mixtures of conjugate families. 2) Bayesian credible interval, HPD credible interval from exponential family. 3) Estimation of posterior density, HPD credible intervals using importance sampling from exponential family. 4) Posterior density estimation, HPD credible intervals using Gibbs sampler. 		