CHAPTER 33

MATHEMATICAL SCIENCES
STATISTICS

Doctoral Theses

438. DUTTA (Rumi)
Study of Survival Pattern of Myocardial Infarction Patients with Prominent Cardiovascular Risk Factors Using Non-Parametric and Parametric Techniques.
Supervisor : Dr. Gurprit Grover
Th 16785

Abstract

Undertakes exercises on certain problems pertaining to estimation of expected time between first two consecutive MIs along with the estimation of survival function of MI patients data by using non parametric and parametric techniques. Studies the difference in fold-increase of risk factors by considering three groups viz. MI non-MI group and non-CVD group. Also studies the cholesterol, family history of MI, smoking, age, gender, obesity and heart related sickness viz. angina, arrhythmias and CHF on time beteen two MIs for censored data by using semi-parametric procedures. Data has been collected from Dr. Ram Manohar Lohia (RML) Hospital, New Delhi. All programming and data analysis have been done by using SPSS software.

Contents

439. MAKHIJA (Neeta)
On the Estimation of Survival Time of Cardiac Patients Under Various Conditions.
Supervisor : Dr. Gurprit Grover
Th 16784

Abstract

Describes and illustrates the procedures for the analysis of survival data of CVD patients. Estimates the illness and death transition probabilities to multiple states that are of interest in CVD studies, using the stochastic model approach and maximum likehood method. Presents models for the estimation of survial time of CVD patients with respect to the number of MI's. The survial time of CVD patients has been estimated under three different possibilities, by considering only uncensored cases. Cox's proportional Hazard model has been used to assess the influence of two covariates on the survival time of CVD patients. Application of Preventive Maintenance Policy in CVD studies has been shown. It has been shown that as the time between preventive maintenance check-up increased the survival time of the patient decreases.

Contents

440. PANDEY (Aparna) Nee JOSHI
Some Contributions to Record Values and Generalized Order Statistics.
Supervisor : Prof. Jagdish Saran
Th 16786

Abstract

Deals mainly with recurrence relation for marginal and joint moment generating functions of various ordered random variables

from specific continuous distributions. Also exploites the properties of k-th record values to develop some inferential procedures. It also deals with some problems of estimation of parameters of certain specific continuous distributions based on record values. Obtaines the probability density function and moments of the n-th record concomitant and some results for concomitants of k-th lower record values.

Contents

1. Introduction. 2. Recurrence relations for marginal and joint moment generating functions of k-th record values from extreme value distribution. 3. Estimation of parameters of power function and two-parameter exponential distributions by k-th record values. 4. Estimation of parameters and prediction for the burr type x distribution based on k-th lower record values. 5. Concomitants of record values from Marshall and Olkin's bivariate exponential distributions. 6. Recurrence relations for marginal and joint moent generating functions of generalized order statistics from some specific continuous distributions. 7. Recurrence relations for single and product moments of generalized order statistics from linear-exponential and burr distributions. 8. Recurrence relations for marginal and joint moment generation functions of dual generalized order statistics from power function and inverse weibull distributions. Bibliography.

M.Phil Dissertations

441. MITTAL (Juhi)
Study on the Analysis of Epidemiology of Diabetes Using Parametric Non-Parametric Markov and IPRM Models.
Supervisor : Dr. Gurprit Grover

442. SHIKHA
Review of the Inferential Procedures for Some Reliability Models.
Supervisor : Dr. Ajit Chaturvedi