REVIEW OF LITERATURE

In order to enhance the suitability or efficiency of the product, machine or system to the user, it is very important to analyse the product, machine or system in all respect. So in view of this, reliability has engaged the attention of a large number of researchers from various disciplines due to its importance in day to day life. Particularly, the authors Epstein and Sobel (1954) published a fundamental paper of life testing which laid down the foundation of classical reliability analysis. The subsequent researchers, besides finding the reliability of the system also evaluated other measures. The concept of availability is widely discussed by the main contributors are Barlow and Hunter (1960), Graver (1963), Sandler (1963), Myers et al. (1964). Barlow and Proschan (1965) widely discussed the concept of availability. Nakagawa and Osaki (1974) considered a two-unit standby redundant system with repair and preventive maintenance. Nakagawa (1976) considered the replacement of the unit at a certain level of damage while Arora (1977), Mine and Kaiwal (1979) enhanced the system reliability by assigning priority repair discipline. Nakagawa (1980) studied an inspection policy for a standby electric generator as an example.

worked on redundant system subject to random, preventive and corrective maintenance. Gopalan and Bhanu (1995) studied the cost analysis of a two unit repairable subject to on-line preventive maintenance and /or repair. Kumar, et al. (1996) carried out a comparative study of the profit of a two server system including patience time and instructions. Gupta, et al. (1997) studied a system having super-priority, priority and ordinary units.


Many other authors also studied the stochastic models of reparable redundant system under different sets of assumptions such as delay in repair, imperfect and slow switching devices, random shocks, repair machine failure, mixture of different standby’s, regular or random inspection of the system, replacement of the unit, failure due to common cause and critical human error.