Abstract

This paper study the reliability and availability characteristics of the system with PM and CCF. The failure times, replacement times, PM times and CCF times of a components are assumed to be exponentially distributed. We derive the mean time to failure (MTTF) and the steady state availability (A) in this system. Some Special cases have been studied theoretically and graphically to observe the effect of the preventive maintenance (PM) and Common Cause Failure (CCF) on system performance. Certain important results have been derived as special cases.

References

Stochastic Analysis of a System with Preventive Maintenance and Common Cause Failure


Index Terms

Computer Science

Applied Mathematics

Keywords

Mean Time to System Failure (MTSF)  
Steady-state availability  
Preventive Maintenance (PM) and the Kolmogorov’s forward equations method

Common Cause Failure (CCF)