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International Journal of Computer Applications  
© 2012 by IJCA Journal

Volume 50 - Number 22

Year of Publication: 2012

Authors:

Ibrahim Yusuf

Saminu I. Bala

10.5120/7936-1264

{bibtex}pxc3881264.bib{/bibtex}

## Abstract

Many authors have studied repairable redundant system operating in different condition under the assumption that the system received corrective maintenance at failure and preventive maintenance before failure. However, little or no attention is paid on whether the system can receive minor and major maintenance when it is operating in a reduced capacity state. In this study we consider a redundant air condition cooling system consisting of main unit and a warm standby reserved unit operating in different weather condition (High and low temperature). Using Kolmogorov's forward equations method, various measures of system performance such as Mean time to system failure (MTSF), availability, busy period and frequency of preventive, minor and major maintenance, profit function are obtained. Mean time to system failure, availability and profit function are studied graphically.

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Computer Science

## Index Terms

Applied Sciences

## Keywords

Profit analysis MTSF minor maintenance major maintenance preventive maintenance availability