Reliability Analysis of Computer Centre at Yobe State University Nigeria under Different Repair Policies

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Abstract : In this paper, we focus on the reliability and performance analysis of Computer Centre (CC) at Yobe State University, Damaturu, Nigeria. The CC consists of three servers: one database mail server, one redundant and one for sharing with the client computers in the CC (called as local server). Observing the different possibilities of functioning of the CC, analysis has been done to evaluate the various reliability characteristics of the system. The system can completely fail due to failure of router, redundant server before repairing the mail server, and switch failure. The system can also partially fail when local server fails. The system can also fail completely due to a cooling failure, electricity failure or some natural calamity like earthquake, fire etc. All the failure rates are assumed to be constant while repair follows two types of distributions: general and Gumbel-Hougaard family copula.