

Article Abstract

Title:	Integer goal programming approach for finding a compromise allocation of repairable components
Author(s):	Irfan Ali*, Yashpal Singh Raghav and Abdul Bari
Address(es):	Department of Statistics and Operations Research Aligarh Muslim University, Aligarh, INDIA *Corresponding author email id: irfii.ali@gmail.com
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Abstract:	The selection problem of repairable components for a system is a kind of reliability optimization problem and is often treated as a single objective problem with the goal of maximizing the system reliability (or minimizing either time or cost spent on repairing the component). In the present paper, we formulated the selection problem of repairable components for a parallel-series system as a multi-objective optimization problem and have discussed two different models. In the first model, the reliability of subsystems are considered as different objectives. In second model the cost and time spent on repairing the components are considered as two different objectives. Selective maintenance operation is used to select the repairable components and a multi-objective goal programming algorithm is proposed to obtain compromise selection of repairable components for the two models under some given constraints. A numerical example is given to illustrate the procedure.
Keywords:	Reliability, Goal Programming, Compromise allocation, Multi-objective programming.