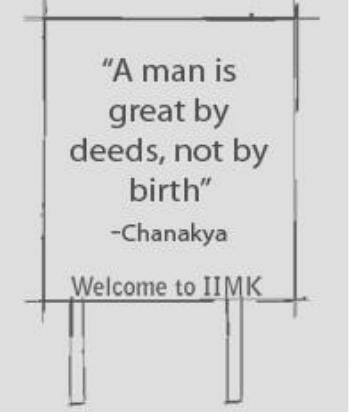

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Reliability and Availability Assessment of a Complex System Using GSPN Methodology

Thangamani Gurunathan [1]

[1]Associate Professor, Quantitative Methods and Operations Management at the Indian Institute of Management Kozhikode, Kozhikode, India. IIMK Campus P.O., Kozhikode, Kerala 673570, India; Email: gtmani@iimk.ac.in; Phone Number (+91) 495 2809255

ABSTRACT

For modelling and analyzing a complex system, Petri Nets have been emerged as one of the most important methodology. This method has the capability to model the system with different abstraction levels and can be used both for qualitative and quantitative analysis. This paper presents an availability modelling and analysis of an onshore Wind Turbine (WT). The various subsystems are modelled using a class of Petri Net called Generalized Stochastic Petri Net (GSPN) and the characteristic parameters such as reliability, availability are assessed using simulation as approach. This modelling and analysis method is superior to many similar methods such as Reliability Block Diagram, Markov analysis and Fault Tree analysis. Any complex system can be modelled and analyzed using this proposed approach.

Research Office
Indian Institute of Management Kozhikode
IIMK Campus P. O.,
Kozhikode, Kerala, India,
PIN - 673 570
Phone: +91-495-2809238
Email: research@iimk.ac.in
Web: https://iimk.ac.in/faculty/publicationmenu.php