## **Industrial Engineering and Management**

## Sharif

2.1 Winter 2021

Editor-in-Chief: Seyed Taghi Akhavan Niaki

This Journal is published under the auspices of Sharif University of technology, Office of the Vice-Chancellor-in-Charge of Research.

The Journal is published Semiannually in Farsi language, aiqms at establishing a relationship between scientists active in different branches of science and technology and, in particular, at providing a forum for exchange of knowledge between scientists and technologists related to scientific problems prevailing in contemporary society. The journal also strives to present practical and theoretical analyses of these issues and facilitates the circulation of modern scientific findings by scientists and researchers for practical application. In addition, "Sharif" publishes original papers focusing on issues of specific concern to universities, including research, technological advancements, and topics related to matters of higher education.

P.O.BOX 11155-8639 AZADI AVENUE, TEHRAN, I.R. IRAN
Phone: (98-21) 66005419 - 66164093 Fax: (98-21) 66012983
Web: http://journal.sharif.ir/ http:// www. globalsciencejournals.com

E-mail: pajouhesh@sharif.edu

## CONTENTS

- 3 RELIABILITY IMPORTANCE MEASURES IN MARKOV CHAINS
  A. Noroozian, R. Baradaran Kazemzadeh and S.T. Akhavan Niaki
- 13 BAYESIAN CUSTOMER RISK MODEL BASED ON THEIR OPERATIONAL CHARACTERISTICS IN ORDER TO FORMULATE A SUCCESSFUL STRATEGY FOR KEEPING CUSTOMERS

  A Bazdar and N Taberi
- 23 RESILIENT-GREEN SUPPLY CHAIN REDESIGN TO WATER SUPPLY SYSTEM: A CASE STUDY OF SHAHR-E-KORD'S WATER SUPPLY SYSTEM
  - M. Yavari, R. Naderi and E. Sajadpour
- 33 MULTI-HOP CLUSTERING BASED ROUTING FOR WIRELESS SENSOR NETWORKS: A HYBRID SWARM INTELLIGENCE BASED APPROACH A.H. Barzin, A. Sadeghieh, H. Khademi Zare, M. Honarvar
- 53 MODELING AND SOLVING MULTI-OBJECTIVE DUAL-RESOURCE CONSTRAINED OPEN SHOP SCHEDULING PROBLEM
  F. Moradi and M. Yazdani
- 65 MONITORING LEFT-CENSORED DATA IN MULTISTAGE PROCESSES ON THE BASIS OF SURVIVAL ANALYSIS REGRESSION MODELS
  Sh. Asadzadeh
- 73 SIMULTANEOUS SELECTION OF SUPPLIERS AND DETERMINING INVENTORY POLICY OF MULTI-PRODUCT UNCERTAIN SUPPLY CHAINS WITH SIMULATION-BASED OPTIMIZATION APPROACH E. Tavan and S.M. Sajadi
- 83 SEQUENTIAL COMPETITIVE LOCATION WITH CONSIDERING RELIABILITY AND GRAVITY

  M. Esmaeili and N. Bahram-Pour

## APPENDIX

104 ABSTRACTS OF PAPERS IN ENGLISH