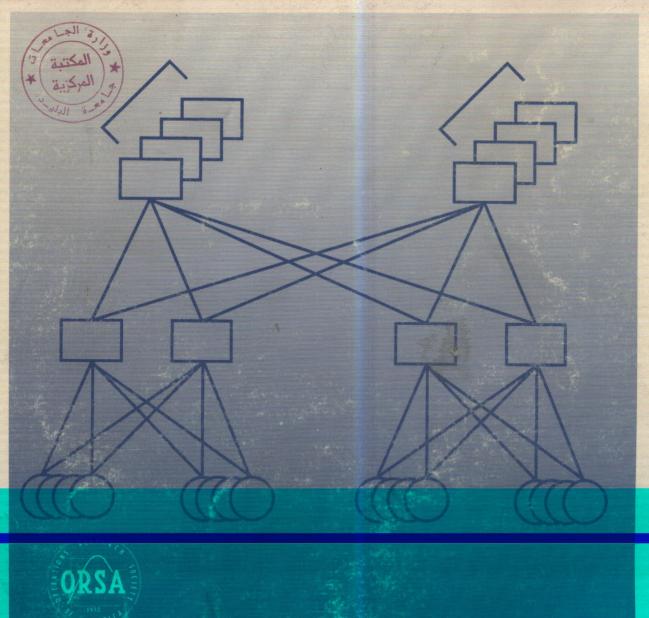
January-February 1994

## OPERATIONS RESEARCH

Volume 42

Number 1





## CONTENTS

Volume 42 Januar	y–Feb	ruary 1994 Numb	oer 1
IN THIS ISSUE  OR FORUM  The Age of Optimization: Solving Large-Scale	2	New Lower and Upper Bounds for Scheduling Around a Small Common Due Date J. A. Hoogeveen, H. Oosterhout and S. L. van de Velde	102
Real-World Problems George L. Nemhauser  OR PRACTICE	5	Production-Inventory Systems With Unreliable Machines M. Berg, M. J. M. Posner and H. Zhao	111
A Procurement Decision Support System in Business Volume Discount Environments Amir A. Sadrian and Yong S. Yoon Optimal Real-Time Data Acquisition and	14	Sequential Bottleneck Decomposition: An Approximation Method for Generalized Jackson Networks J. G. Dai, Viên Nguyen and Martin L. Reiman	119
Processing by a Multiserver Stand-By System Joseph Kreimer and Abraham Mehrez  Ten Years of the OR Practice Section Michael H. Rothkopf	24	Likelihood Ratio Sensitivity Analysis for Markovian Models of Highly Dependable Systems Marvin K. Nakayama, Ambuj Goyal and	is hoving gapa (3) ith second
SURVEY, EXPOSITORY & TUTORIAL  Operations Research in Libraries: A Review of 25 Years of Activity		Peter W. Glynn  Analysis of the $\Sigma/Ph_i/Ph/1$ Queue  Gabriel R. Bitran and Sriram Dasu	137
Arnold Reisman and Xiaomei Xu  ARTICLES	34	Mean-Variance Tradeoffs in an Undiscounted MDP Matthew J. Sobel Mean-Variance Tradeoffs in an	175
A Column Generation Approach to the Multiple-Depot Vehicle Scheduling Problem Celso C. Ribeiro and François Soumis Fenchel Cutting Planes for Integer Programs	41	Undiscounted MDP: The Unichain Case Ken-Jen Chung  TECHNICAL NOTES	184
E. Andrew Boyd  Parallel Simplex for Large Pure Network  Problems: Computational Testing and	53	Scheduling Unit-Time Open Shops With Deadlines Thomas Tautenhahn	189
Sources of Speedup Richard S. Barr and Betty L. Hickman Staging Problem of a Dual Delivery Pick-and- Place Machine in Printed Circuit Card	65	On the Busy Period of an M/G/1/K Queue Hideaki Takagi and Richard O. LaMaire	192
Assembly Reza H. Ahmadi and Panagiotis Kouvelis	81	Cover illustration: From Nakayama, Goyal an	
Economic Lot Scheduling Problem With Raw Material Considerations Guillermo Gallego and Dev Joneja	92	Glynn, "Likelihood Ratio Sensitivity Analysis Markovian Models of Highly Dependable Syst p. 148.	ems,"