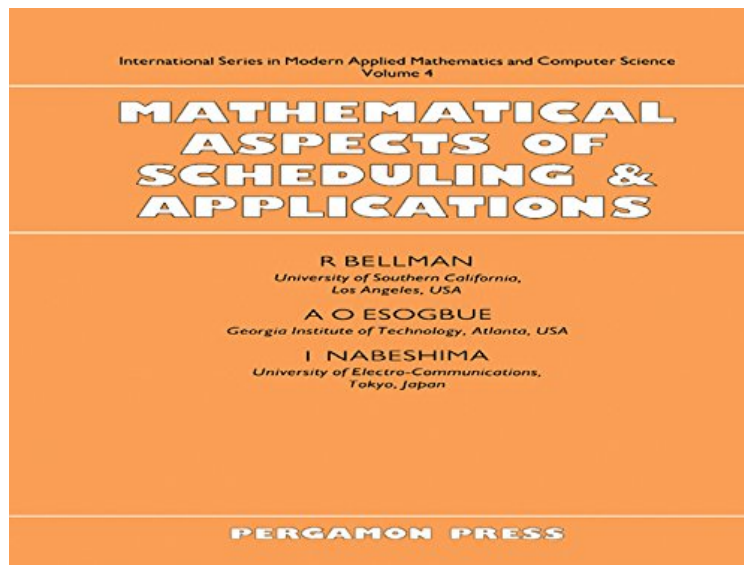


Mathematical Aspects of Scheduling and Applications: Modern Applied Mathematics and Computer Science

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R. Bellman, A. O. Esogbue, I. Nabeshima : Mathematical Aspects of Scheduling and Applications: Modern Applied Mathematics and Computer Science before purchasing it in order to gauge whether or not it would be worth my time, and all praised Mathematical Aspects of Scheduling and Applications: Modern Applied Mathematics and Computer Science:

Mathematical Aspects of Scheduling and Applications addresses the perennial problem of optimal utilization of finite resources in the accomplishment of an assortment of tasks or objectives. The book provides ways to uncover the core of these problems, presents them in mathematical terms, and devises mathematical solutions for them. The book consists of 12 chapters. Chapter 1 deals with network problems, the shortest path problem, and applications to control theory. Chapter 2 stresses the role and use of computers based on the decision-making problems outlined in the preceding chapter. Chapter 3 classifies scheduling problems and their solution approaches. Chapters 4 to 6 discuss machine sequencing problems and techniques. Chapter 5 tackles capacity expansion problems and introduces the technique of embedded state space dynamic programming for reducing dimensionality so that larger problems can be solved. Chapter 6 then examines an important class of network problems with non-serial phase structures and exploits dimensionality reduction techniques, such as the pseudo-stage concept, branch compression, and optimal order elimination methods to solve large-scale, nonlinear network scheduling problems. Chapters 7 to 11 consider the flow-shop scheduling problem under different objectives and constraints. Chapter 12 discusses the job-shop-scheduling problem. The book will be useful to economists, planners, and graduate students in the fields of mathematics,

operations research, management science, computer science, and engineering.