

Maintenance Engineering Management Book By S Chand

Recent advancements in information systems and computer technology have led to developments in equipment and robotic technology that have permanently changed the characteristics of manufacturing equipment. Equipment Management in the Post-Maintenance Era: A New Alternative to Total Productive Maintenance (TPM) introduces a new way of thinking to help high-tech organizations manage an increasingly complex equipment base. It also facilitates the fundamental understanding of equipment management those in traditional industries will need to prepare for the emerging microchip era in equipment. Kern Peng shares insights gained through decades of managing equipment performance. Using a systems model to analyze equipment management, he introduces alternatives in equipment management that are currently gaining momentum in high-tech industries. The book highlights the fundamental internal flaw in maintenance organizational setup, presents new approaches to replace maintenance functional setup, and illustrates a time-tested transformation and implementation process to help transition your organization from the maintenance era to the new post-maintenance era. Breaks down the history of equipment into five phases Provides a clear understanding of equipment management fundamentals Introduces alternatives in equipment management beyond the mainstream principles of maintenance management The book examines maintenance management logistics, including planning and budgeting, training and people development, customer services and management, vendor management, and inventory management. Supplying a comprehensive look at the history of equipment management, it analyzes current maintenance practice and details approaches that can significantly improve the effectiveness and efficiency of your equipment management well into the future.

A prevalent system in large corporations for quite some time, Computerized Maintenance Management System (CMMS) is now penetrating moderate to small corporations on an international level. These corporations need an efficient method to implement this effective but complicated system. However, most of the texts currently available are written by theorists and involve complex approaches. In CMMS: A Timesaving Implementation Process, a practitioner-turned-consultant presents his field-proven, practical approach that can dramatically reduce the amount of time and cost needed to implement and maintain CMMS in any corporation. The book presents a comprehensive template process that can be used in order to implement and maintain CMMS in any business, industry, or facility, thus dramatically reducing the amount of time and the cost needed to implement the process. The text sets up a solid foundation, then moves into the nuts and bolts of the development of the program itself in a smooth, logical format. It provides guidelines for installing quality checkpoints and outlines best practices for common maintenance management functions. The time saved by implementing the procedures and processes outlined here will make the

investment in an enterprise level system a safer investment and will guarantee the achievement of benefits that would otherwise be missed.

To be able to compete successfully both at national and international levels, production systems and equipment must perform at levels not even thinkable a decade ago. Requirements for increased product quality, reduced throughput time and enhanced operating effectiveness within a rapidly changing customer demand environment continue to demand a high maintenance performance. In some cases, maintenance is required to increase operational effectiveness and revenues and customer satisfaction while reducing capital, operating and support costs. This may be the largest challenge facing production enterprises these days. For this, maintenance strategy is required to be aligned with the production logistics and also to keep updated with the current best practices. Maintenance has become a multidisciplinary activity and one may come across situations in which maintenance is the responsibility of people whose training is not engineering. This handbook aims to assist at different levels of understanding whether the manager is an engineer, a production manager, an experienced maintenance practitioner or a beginner. Topics selected to be included in this handbook cover a wide range of issues in the area of maintenance management and engineering to cater for all those interested in maintenance whether practitioners or researchers. This handbook is divided into 6 parts and contains 26 chapters covering a wide range of topics related to maintenance management and engineering.

"Updated, modernized, digitized, and streamlined edition of this classic handbook which has been educating plant and facility professionals in every aspect of maintenance engineering for more than half a century"--

This comprehensive reference explains and demonstrates successful management techniques for all aspects of maintenance, repair and improvements for buildings, machinery, equipment and grounds. It gives you guidance for organizing and staffing your department, estimating and budgeting, scheduling and controlling work, improving productivity, and bolstering the importance of your role in the organization.

This text addresses in great detail the requirements for designing, implementing, and managing programs and procedures for the maintenance of major building elements from the foundation to the roof, including interior and exterior support systems and sitework elements. Topics include facilities as assets, major renovations, preventative maintenance, special maintenance considerations, and designing for building maintenance.

This text is an accessible and comprehensive guide to the principles, practices, functions and challenges of maintenance engineering and management. With a strong emphasis on basic concepts and practical techniques throughout, the book demonstrates in detail how effective technical competencies in maintenance management can be built in engineering organizations. The book thus provides students and practising engineers alike with the methodologies and

tools needed to understand and implement the systems approach to maintenance management. The major goals for the text include : To provide a good understanding of different types of maintenance management systems such as breakdown, preventive, predictive, proactive. To explain benefits of planned maintenance. To explain condition-based monitoring techniques with focus on vibration monitoring, thermography, and motor condition monitoring. To stress the role of reliability engineering in maintenance with tools like Failure Mode and Effect Analysis, Root Cause Analysis, and Criticality Matrix. To explain activities of maintenance planning with focus on shutdown planning, human resources development, and tools employed for monitoring. To emphasize management functions such as procurement of spares, measurement of maintenance effectiveness, etc. To give an overview of project management tools such as PERT etc. To introduce computerized maintenance management systems. To explain the basics of hazard analysis and fault tree analysis. Review questions in each chapter, worked-out examples wherever applicable, case studies and an exclusive appendix on "Selected Questions and Answers" are all designed to provoke critical thinking. This text is suitable for undergraduate and postgraduate courses in Maintenance Engineering taught in the department of mechanical engineering in almost all universities.

Edited by an expert in the maintenance field, and with in-depth contributions from professionals in asset maintenance management, as well as consultants, university instructors, and experts in specific maintenance techniques, Asset Maintenance Management contains a wealth of information never before gathered in one package! Providing companies with the methods, strategies, and practices that will help efficiently and effectively direct and shape their asset management operations, this comprehensive reference is sure to be found useful by supervisors, plant managers, and directors who own, manage, or service physical plants.

The field of maintenance is hard to approach because the language is strange. This book introduces the fundamentals of maintenance and will allow the outsider to understand the jargon. The book offers a complete survey of the field, a review of maintenance management, a manual for cost reduction, a primer for the stock room, and a training regime for new supervisors, managers and planners.

Supervision is a leveraged activity. When we develop the supervisor's skills, we enhance the productivity of the whole workgroup. This book provides valuable skill training for supervisors, team leaders, and managers. It offers techniques to improve reliability that can be accomplished at the supervisor level. It teaches both the science and the art of the supervision of maintenance workers, discusses managing meetings and time, the elements of technical issues, and presents management and people skills, offering maximum productivity and high-quality provision of services and at the same time, improving morale throughout the workforce. This book is suitable for all types of maintenance for organizations with supervisors and managers from plant operations, storeroom, construction, and related areas including industrial organizations, construction companies, mines, fleets, building maintenance, janitorial maintenance contractors, and vocational tech schools teaching maintenance short courses. To plan, build, monitor, maintain, and dispose of products and assets properly, maintenance

and safety requirements must be implemented and followed. A lack of maintenance and safety protocols leads to accidents and environmental disasters as well as unexpected downtime that costs businesses money and time. With the arrival of the Fourth Industrial Revolution and evolving technological tools, it is imperative that safety and maintenance practices be reexamined. Applications and Challenges of Maintenance and Safety Engineering in Industry 4.0 is a collection of innovative research that addresses safety and design for maintenance and reducing the factors that influence and degrade human performance and that provides technological advancements and emergent technologies that reduce the dependence on operator capabilities. Highlighting a wide range of topics including management analytics, internet of things (IoT), and maintenance, this book is ideally designed for engineers, software designers, technology developers, managers, safety officials, researchers, academicians, and students.

A practical, step-by-step guide to total systems management Systems Engineering Management, Fifth Edition is a practical guide to the tools and methodologies used in the field. Using a "total systems management" approach, this book covers everything from initial establishment to system retirement, including design and development, testing, production, operations, maintenance, and support. This new edition has been fully updated to reflect the latest tools and best practices, and includes rich discussion on computer-based modeling and hardware and software systems integration. New case studies illustrate real-world application on both large- and small-scale systems in a variety of industries, and the companion website provides access to bonus case studies and helpful review checklists. The provided instructor's manual eases classroom integration, and updated end-of-chapter questions help reinforce the material. The challenges faced by system engineers are candidly addressed, with full guidance toward the tools they use daily to reduce costs and increase efficiency. System Engineering Management integrates industrial engineering, project management, and leadership skills into a unique emerging field. This book unifies these different skill sets into a single step-by-step approach that produces a well-rounded systems engineering management framework. Learn the total systems lifecycle with real-world applications Explore cutting edge design methods and technology Integrate software and hardware systems for total SEM Learn the critical IT principles that lead to robust systems Successful systems engineering managers must be capable of leading teams to produce systems that are robust, high-quality, supportable, cost effective, and responsive. Skilled, knowledgeable professionals are in demand across engineering fields, but also in industries as diverse as healthcare and communications. Systems Engineering Management, Fifth Edition provides practical, invaluable guidance for a nuanced field.

The book aims to be reading for asset maintenance management in a perspective of whole life cycle of any type of physical asset. It deals with acquisition management, including econometric models to evaluate its life cycle, and the maintenance policies to adopt during its life until withdrawal. It also covers vital areas such as EAM/CMMS systems and its integration with the many technologies that are used to aid condition monitoring and the internet of things to improve maintenance management and to increase equipment availability. This will equip readers with new management methodologies, their requisites, and its importance to the improvement of corporate competitiveness. Key Features • Presents life cycle analysis in asset management • Attribution of tools to improve the life cycle of equipment • Provides assistance on the diagnosis of the maintenance state • Presentation of the state-of-the-art of technology to aid maintenance • Explores integration of EAM/CMMS systems with internet of things

This book provides the guidelines and fundamental methods of estimation and calculation needed by maintainability engineers. It also covers the management of maintainability efforts, including issues of organizational structure, cost, and planning processes. Questions and

problems conclude each chapter.

This new edition of an informative and accessible book guides building surveyors and facilities managers through the key aspects of property maintenance and continues to be of value to both students and practitioners. With the increasing cost of new-build, effective maintenance of existing building stock is becoming ever more important and building maintenance work now represents nearly half of total construction output in the UK. Building Maintenance Management provides a comprehensive profile of the many aspects of property maintenance. This second edition has been updated throughout, with sections on outsourcing; maintenance planning; benchmarking and KPIs; and current trends in procurement routes (including partnering and the growth of PFI) integrated into the text. There is also a new chapter on the changing context within which maintenance is carried out, largely concerned with its relationship to facilities management. More coverage is given of maintenance organisations and there are major updates to relevant aspects of health and safety and to contract forms. A systematic approach to improving production and quality systems, total productive maintenance (TPM) involves all employees through a moderate investment in maintenance. Therefore, a successful TPM implementation requires support of all employees from C-level on down. Total Productive Maintenance: Strategies and Implementation Guide highlights the In this book the authors provide a fresh look at basic reliability and maintainability engineering techniques and management tools for application to the system maintenance planning and implementation process. The essential life-cycle reliability centered maintenance (ReM) activities are focused on maintenance planning and the prevention of failure. The premise is that more efficient, and therefore effective, life-cycle maintenance programs can be established using a well disciplined decision logic analysis process that addresses individual part failure modes, their consequences, and the actual preventive maintenance tasks. This premise and the techniques and tools described emphasize preventive, not corrective, maintenance. The authors also describe the techniques and tools fundamental to maintenance engineering. They provide an understanding of the inter relationships of the elements of a complete ReM program (which are applicable to any complex system or component and are not limited only to the aircraft industry). They describe special methodologies for improving the maintenance process. These include an on-condition maintenance (OeM) methodology to identify defects and potential deterioration which can determine what is needed as a maintenance action in order to prevent failure during use.

“The Maintenance Management Framework” describes and reviews the concept, process and framework of modern maintenance management of complex systems; concentrating specifically on modern modelling tools (deterministic and empirical) for maintenance planning and scheduling. It will be bought by engineers and professionals involved in maintenance management, maintenance engineering, operations management, quality, etc. as well as graduate students and researchers in this field. This work sets out to furnish all levels of engineering management with the material necessary to provide cost-effective maintenance, discussing the functional design of products as well as the identification of failure systems that permit scheduled maintenance procedures. This second edition presents information on ISO 9000 requirements, utilities management, the use of bar-coding in maintenance efforts, plant re-arrangement and minor construction, and more.

The Best On-the-Job Guide to Industrial Plant Equipment and Systems This practical, one-of-a-kind field manual explains how equipment in industrial facilities operates and

covers all aspects of commissioning relevant to engineers and project managers. Plant Equipment and Maintenance Engineering Handbook contains a data log of all major industrial and power plant components, describes how they function, and includes rules of thumb for operation. Hundreds of handy reference materials, such as calculations and tables, plus a comprehensive listing of electrical parts with common supplier nomenclature are also included in this time-saving resource. FEATURES DETAILED COVERAGE OF: Compressors * Air conditioning * Ash handling * Bearings and lubrication * Boilers * Chemical cleaning and Flushing * Condensers and circulating water systems * Controls * Conveyor systems * Cooling towers * Corrosion Deaerators * Diesel and gas turbines * Electrical * Fans * Fire protection * Fuels and combustion * Piping * Pumps Turbines * Vibration * Water treatment

This unique resource covers aircraft maintenance program development and operations from a managerial as well as technical perspective. Readers will learn how to save money by minimizing aircraft downtime and slashing maintenance and repair costs. * Plan and control maintenance * Coordinate activities of the various work centers * Establish an initial maintenance program * Develop a systems concept of maintenance * Identify and monitor maintenance problems and trends

MAINTENANCE ENGINEERING AND MANAGEMENT PHI Learning Pvt. Ltd.

This book introduces readers to essential strategies, practices, and benchmarking for asset maintenance in operations intensive industries. Drawing on a case study from the oil and gas sector, it offers a methodology and practical solutions to help maintenance practitioners select and formulate an asset maintenance strategy, and to establish best maintenance practices at an organizational level using the frameworks developed here. It is intended for industry practitioners, young maintenance professionals, and students of engineering management who aspire to a career in operations intensive industries. This book explores the domain of software maintenance management and provides road maps for improving software maintenance organizations. It describes full maintenance maturity models organized by levels 1, 2, and 3, which allow for benchmarking and continuous improvement paths. Goals for each key practice area are also provided, and the model presented is fully aligned with the architecture and framework of software development maturity models of CMMI and ISO 15504. It is complete with case studies, figures, tables, and graphs.

With its easy-to-read writing style, Productivity and Reliability-Based Maintenance Management provides a strong yet practical foundation on Total Productive Maintenance (TPM). This comprehensive practical guide departs from the wait-failure-emergency repair cycle that plagues many industries today. Instead, this text takes a proactive and productive maintenance approach, focusing on how to avoid failure in the first place. By using real-world case studies in every chapter, the author reinforces the importance of sound and proactive maintenance practices. The use of end-of-chapter problems and discussion questions helps to solidify concepts presented. Productivity and Reliability-Based Maintenance Management is a powerful educational tool for students as well as maintenance professionals and managers. This volume was previously published under the same title in 2004 by Pearson Education, and has been reprinted with permission through an arrangement with the author.

Bridge Maintenance, Safety, Management, Life-Cycle Sustainability and Innovations contains lectures and papers presented at the Tenth International Conference on

Bridge Maintenance, Safety and Management (IABMAS 2020), held in Sapporo, Hokkaido, Japan, April 11–15, 2021. This volume consists of a book of extended abstracts and a USB card containing the full papers of 571 contributions presented at IABMAS 2020, including the T.Y. Lin Lecture, 9 Keynote Lectures, and 561 technical papers from 40 countries. The contributions presented at IABMAS 2020 deal with the state of the art as well as emerging concepts and innovative applications related to the main aspects of maintenance, safety, management, life-cycle sustainability and technological innovations of bridges. Major topics include: advanced bridge design, construction and maintenance approaches, safety, reliability and risk evaluation, life-cycle management, life-cycle sustainability, standardization, analytical models, bridge management systems, service life prediction, maintenance and management strategies, structural health monitoring, non-destructive testing and field testing, safety, resilience, robustness and redundancy, durability enhancement, repair and rehabilitation, fatigue and corrosion, extreme loads, and application of information and computer technology and artificial intelligence for bridges, among others. This volume provides both an up-to-date overview of the field of bridge engineering and significant contributions to the process of making more rational decisions on maintenance, safety, management, life-cycle sustainability and technological innovations of bridges for the purpose of enhancing the welfare of society. The Editors hope that these Proceedings will serve as a valuable reference to all concerned with bridge structure and infrastructure systems, including engineers, researchers, academics and students from all areas of bridge engineering.

This introductory textbook links theory with practice using real illustrative cases involving products, plants and infrastructures and exposes the student to the evolutionary trends in maintenance. Provides an interdisciplinary approach which links, engineering, science, technology, mathematical modelling, data collection and analysis, economics and management Blends theory with practice illustrated through examples relating to products, plants and infrastructures Focuses on concepts, tools and techniques Identifies the special management requirements of various engineered objects (products, plants, and infrastructures)

Rules of Thumb for Maintenance and Reliability Engineers will give the engineer the “have to have” information. It will help instill knowledge on a daily basis, to do his or her job and to maintain and assure reliable equipment to help reduce costs. This book will be an easy reference for engineers and managers needing immediate solutions to everyday problems. Most civil, mechanical, and electrical engineers will face issues relating to maintenance and reliability, at some point in their jobs. This will become their “go to” book. Not an oversized handbook or a theoretical treatise, but a handy collection of graphs, charts, calculations, tables, curves, and explanations, basic “rules of thumb” that any engineer working with equipment will need for basic maintenance and reliability of that equipment. • Access to quick information which will help in day to day and long term engineering solutions in reliability and maintenance • Listing of short articles to help assist engineers in resolving problems they face • Written by two of the top experts in the country

This book promotes and describes the application of objective and effective decision making in asset management based on mathematical models and practical techniques that can be easily implemented in organizations. This comprehensive and timely

publication will be an essential reference source, building on available literature in the field of asset management while laying the groundwork for further research breakthroughs in this field. The text provides the resources necessary for managers, technology developers, scientists and engineers to adopt and implement better decision making based on models and techniques that contribute to recognizing risks and uncertainties and, in general terms, to the important role of asset management to increase competitiveness in organizations.

Uptime describes the combination of activities that deliver fewer breakdowns, improved productive capacity, lower costs, and better environmental performance. The bestselling second edition of Uptime has been used as a textbook on maintenance management in several postsecondary institutions and by many companies as the model framework for their maintenance management programs. Following in the tradition of its bestselling predecessors, Uptime: Strategies for Excellence in Maintenance Management, Third Edition explains how to deal with increasingly complex technologies, such as mobile and cloud computing, to support maintenance departments and set the stage for compliance with international standards for asset management. This updated edition reflects a far broader and deeper wealth of experience and knowledge. In addition, it restructures its previous model of excellence slightly to align what must be done more closely with how to do it. The book provides a strategy for developing and executing improvement plans that work well with the new values prevalent in today's workforce. It also explains how you can use seemingly competing improvement tools to complement and enhance each other. This edition also highlights action you can take to compensate for the gradual loss of skills in the current workforce as "baby boomers" retire.

Stay Up to Date on the Latest Issues in Maintenance Engineering The most comprehensive resource of its kind, Maintenance Engineering Handbook has long been a staple for engineers, managers, and technicians seeking current advice on everything from tools and techniques to planning and scheduling. This brand-new edition brings you up to date on the most pertinent aspects of identifying and repairing faulty equipment; such dated subjects as sanitation and housekeeping have been removed. Maintenance Engineering Handbook has been advising plant and facility professionals for more than 50 years. Whether you're new to the profession or a practiced veteran, this updated edition is an absolute necessity. New and updated sections include: Belt Drives, provided by the Gates Corporation Repair and Maintenance Cost Estimation Ventilation Fans and Exhaust Systems 10 New Chapters on Maintenance of Mechanical Equipment Inside: • Organization and Management of the Maintenance Function • Maintenance Practices • Engineering and Analysis Tools • Maintenance of Facilities and Equipment • Maintenance of Mechanical Equipment • Maintenance of Electrical Equipment • Instrumentation and Reliability Tools • Lubrication • Maintenance Welding • Chemical Corrosion Control and Cleaning

Written specifically for the oil and gas industry, Reliable Maintenance Planning, Estimating, and Scheduling provides maintenance managers and engineers with the tools and techniques to create a manageable maintenance program that will save money and prevent costly facility shutdowns. The ABCs of work identification, planning, prioritization, scheduling, and execution are explained. The objective is to provide the capacity to identify, select and apply maintenance interventions that assure an effective

maintenance management, while maximizing equipment performance, value creation and opportune and effective decision making. The book provides a pre- and post- self-assessment that will allow for measure competency improvement. Maintenance Managers and Engineers receive an expert guide for developing detailed actions including repairs, alterations, and preventative maintenance. The nuts and bolts of the planning, estimating, and scheduling process for oil and gas facilities Step-by-step maintenance guide will provide long-term, results-based operational services Case studies based on the oil and gas industry

A Practical Guide to Maintenance Engineering presents a critical review of the physical make-up of the equipment. It discusses the equipment register, equipment codes, instrument function terminology, and loop function terminology. It also addresses planned preventive and running maintenance as well as the objectives and guidelines of running maintenance. Some of the topics covered in the book are the preparations of completed planned maintenance service sheet, task sheet, service sheet, and equipment failure sheet; maintenance defect monitoring; maintenance stores spare part monitoring; statutory inspection monitoring; maintenance vibration analysis; and maintenance management. The preparation of safety relief valve schedule is also discussed. An in-depth analysis of the work order input/output flow diagram is provided. The planned and preventive maintenance flow diagram is presented. A chapter is devoted to creation of test running and maintenance record. The book can provide useful information to iron mechanics, engineers, students, and researchers.

Maintenance of equipment, machinery systems and allied infrastructure comprises the ways and means of optimizing the available resources of manpower, materials, tools and test equipment, within a set of constraints, to help achieve the targets of an organization by minimizing the downtimes. Whether the goal is to produce and sell a product at a profit or is simply to perform a mission in a cost-effective manner, the maintenance principles discussed in this text apply equally to all such types of organizations. In consonance with the growth of the industry and its modernization and the need to minimize the downtimes of machinery and equipment, the engineering education system has included maintenance engineering as a part of its curriculum. This second edition of the book continues to focus on the basics of this expanding subject, with a broad discussion of management aspects as well, for the benefit of the engineering students. It explains the concept of a maintenance system, the evaluation of its maintenance functions, maintenance planning and scheduling, the importance of motivation in maintenance, the use of computers in maintenance and the economic aspects of maintenance. This book also discusses the manpower planning and energy conservation in maintenance management. Presented in a readable style, the book brings together the numerous aspects of maintenance functions emphasizing the importance of this discipline in the engineering education. In this edition a new chapter titled, Advances in Maintenance (Chapter 21), has been included to widen the coverage of the book. Besides the students of engineering, especially those in streams of mechanical engineering and its related disciplines such as mining, industrial and production, this book will be useful to the practising engineers as well.

Utilize your assets effectively, safely, and profitably.

In addition to being essential for safe and effective patient care, medical equipment also has significant impact on the income and, thus, vitality of healthcare organizations. For

this reason, its maintenance and management requires careful supervision by healthcare administrators, many of whom may not have the technical background to understand all of the relevant factors. This book presents the basic elements of medical equipment maintenance and management required of healthcare leaders responsible for managing or overseeing this function. It will enable these individuals to understand their professional responsibilities, as well as what they should expect from their supervised staff and how to measure and benchmark staff performance against equivalent performance levels at similar organizations. The book opens with a foundational summary of the laws, regulations, codes, and standards that are applicable to the maintenance and management of medical equipment in healthcare organizations. Next, the core functions of the team responsible for maintenance and management are described in sufficient detail for managers and overseers. Then the methods and measures for determining the effectiveness and efficiency of equipment maintenance and management are presented to allow performance management and benchmarking comparisons. The challenges and opportunities of managing healthcare organizations of different sizes, acuity levels, and geographical locations are discussed. Extensive bibliographic sources and material for further study are provided to assist students and healthcare leaders interested in acquiring more detailed knowledge. Table of Contents: Introduction / Regulatory Framework / Core Functions of Medical Equipment Maintenance and Management / CE Department Management / Performance Management / Discussion and Conclusions

Of the more than \$300 billion spent on plant maintenance and operations, U.S. industry spends as much as 80 percent of this amount to correct chronic failures of machines, systems, and people. With machines and systems becoming increasingly complex, this problem can only worsen, and there is a clear and pressing need to establish comprehensive equi

This second edition of *An Introduction to Predictive Maintenance* helps plant, process, maintenance and reliability managers and engineers to develop and implement a comprehensive maintenance management program, providing proven strategies for regularly monitoring critical process equipment and systems, predicting machine failures, and scheduling maintenance accordingly. Since the publication of the first edition in 1990, there have been many changes in both technology and methodology, including financial implications, the role of a maintenance organization, predictive maintenance techniques, various analyses, and maintenance of the program itself. This revision includes a complete update of the applicable chapters from the first edition as well as six additional chapters outlining the most recent information available. Having already been implemented and maintained successfully in hundreds of manufacturing and process plants worldwide, the practices detailed in this second edition of *An Introduction to Predictive Maintenance* will save plants and corporations, as well as U.S. industry as a whole, billions of dollars by minimizing unexpected equipment failures and its resultant high maintenance cost while increasing productivity. A comprehensive introduction to a system of monitoring critical industrial equipment Optimize the availability of process machinery and greatly reduce the cost of maintenance Provides the means to improve product quality, productivity and profitability of manufacturing and production plants

Since the publication of the second edition in 2013, there has been an increasing

interest in asset management globally, as evidenced by a series of international standards on asset management systems, to achieve excellence in asset management. This cannot be achieved without high-quality data and the tools for data interpretation. The importance of such requirements is widely recognized by industry. The third edition of this textbook focuses on tools for physical asset management decisions that are data driven. It also uses a theoretical foundation to the tools (mathematical models) that can be used to optimize a variety of key maintenance/replacement/reliability decisions. Problem sets with answers are provided at the end of each chapter. Also available is an extensive set of PowerPoint slides and a solutions manual upon request with qualified textbook adoptions. This new edition can be used in undergraduate or post-graduate courses on physical asset management.

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