

Maintenance Strategy

This synthesis will be of interest to maintenance managers, maintenance engineers, and others concerned with the implementation and evaluation of preventive maintenance strategies. Detailed information is presented on the formulation, use, and assessment of this type of maintenance strategy. Preventive maintenance strategies are viewed as a means for improving effectiveness of state highway maintenance programs. This report of the Transportation Research Board describes the preventive maintenance practices of several states, along with the rationale for these practices. It covers the history of preventive maintenance along with funding considerations, strategy development, and cost analysis. Recommendations regarding current practices and future funding schemes are also included.

- Bridge type, behaviour and appearance David Bennett, David Bennett Associates · History of bridge development · Bridge form · Behaviour - Loads and load distribution Mike Ryall, University of Surrey · Brief history of loading specifications · Current code specification · Load distribution concepts · Influence lines - Analysis Professor R Narayanan, Consulting Engineer · Simple beam analysis · Distribution co-efficients · Grillage method · Finite elements · Box girder analysis: steel and concrete · Dynamics - Design of reinforced concrete bridges Dr Paul Jackson, Gifford and Partners · Right slab · Skew slab · Beam and slab · Box - Design of prestressed concrete bridges Nigel Hewson, Hyder Consulting · Pretensioned beams · Beam and slab · Pseudo slab · Post tensioned concrete beams · Box girders - Design of steel bridges Gerry Parke and John Harding, University of Surrey · Plate girders · Box girders · Orthotropic plates · Trusses - Design of composite bridges David Collings, Robert Benaim and Associates · Steel beam and concrete · Steel box and concrete · Timber and concrete - Design of arch bridges Professor Clive Melbourne, University of Salford · Analysis · Masonry · Concrete · Steel · Timber - Seismic analysis of design Professor Elnashai, Imperial College of Science, Technology and Medicine · Modes of failure in previous earthquakes · Conceptual design issues · Brief review of seismic design codes - Cable stayed bridges - Daniel Farquhar, Mott MacDonald · Analysis · Design · Construction - Suspension bridges Vardaman Jones and John Howells, High Point Rendel · Analysis · Design · Construction - Moving bridges Charles Birnstiel, Consulting engineer · History · Types · Special problems - Substructures Peter Lindsell, Peter Lindsell and Associates · Abutments · Piers - Other structural elements Robert Broome et al, WS Atkins · Parapets · Bearings · Expansion joints - Protection Mike Mulheren, University of Surrey · Drainage · Waterproofing · Protective coating/systems for concrete · Painting system for steel · Weathering steel · Scour protection · Impact protection - Management systems and strategies Perrie Vassie, Transport Research Laboratory · Inspection · Assessment · Testing · Rate of deterioration · Optimal maintenance programme · Prioritisation · Whole life costing · Risk analysis - Inspection, monitoring, and assessment Charles Abdunur, Laboratoire Central Des Ponts et Chaussées · Main causes of deterioration · Investigation methods · Structural evaluation tests · Stages of structural assessment · Preparing for recalculation - Repair and Strengthening John Darby, Consulting Engineer · Repair of concrete structures · Metal structures · Masonry structures · Replacement of structures

Explore this comprehensive review of what facility management means to owners, operators, occupiers, facility managers and professional advisors The newly revised Fifth Edition of Total Facility Management delivers an accessible and practical text that shows readers how the concept and principles of facility management can be implemented in practice. The book deals with the most common and intractable challenges facing professionals, academics and students in the field and provides practical solutions with the means to implement them. The new edition of the book includes a greater focus on applicable ISO standards in facility management as well as maintaining an international perspective throughout. The book contains easy-to-access advice on how facilities can be better managed from a range of perspectives. The subjects covered provide a comprehensive treatment of facility management. Readers will also benefit from the inclusion of: A thorough introduction to the fundamentals of facility management, including key roles, responsibilities and accountabilities and the core competences of facility management An exploration of facility planning, facility management strategy, outsourcing, procurement, facility management organization, facility maintenance management and business continuity and recovery planning An examination of human resources management, well-being, workplace productivity, performance management health, safety, security and the environment A review of sustainable practices, change management, facility management systems, information management (including building information models and digital twins) and innovative technology The book is the perfect choice for undergraduate and graduate studies in facility management, construction management, project management, surveying and other AEC disciplines. Total Facility Management will also earn a place in the libraries of academics and researchers whose work requires them to understand the theory and practice of facility management.

Partnering with other companies or even with competitors, to tackle emerging maintenance challenges, can be a source of sustainable competitive advantage. This is the outcome of two expert interviews based on the derived decision-helping framework proposed by this diploma thesis. Three dimensions making up a maintenance strategy are introduced: maintenance technique, maintenance organisation and maintenance reach. Suggesting that the decision about maintenance strategy is made by applying the Analytical Hierarchy Process, this framework builds upon customer value drivers, industry value drivers, capabilities and stakeholder expectations to ensure sustainable competitive advantage for cooperative alliances.

The Handbook of Reliability, Maintenance, and System Safety through Mathematical Modeling discusses the many factors affect reliability and performance, including engineering design, materials, manufacturing, operations, maintenance, and many more. Reliability is one of the fundamental criteria in engineering systems design, with maintenance serving as a way to support reliability throughout a system's life. Addressing these issues requires information, modeling, analysis and testing. Different techniques are proposed and implemented to help readers analyze various behavior measures (in terms of the functioning and performance) of systems. Enables mathematicians to convert any process or system into a model that can be analyzed through a specific technique Examines reliability and mathematical modeling in a variety of disciplines, unlike competitors which typically examine only one Includes a table of contents with simple to complex examples, starting with basic models and then refining modeling approaches step-by-step

This handbook studies the combination of various methods of designing for reliability, availability, maintainability and safety, as well as the latest techniques in probability and possibility modeling, mathematical algorithmic modeling, evolutionary algorithmic modeling, symbolic logic modeling, artificial intelligence modeling and object-oriented computer modeling.

Maintenance StrategyElsevier

Maintenance plays a significant role in increasing the overall profit of an organization. However, the lack of efficient maintenance strategy selection procedures causes the operating costs to increase thereby decreasing the organizational profit. A review of the commonly used maintenance strategy selection models shows that the cost of maintenance is not considered during maintenance strategy selection. This thesis proposes an empirical approach for selecting maintenance strategies based on the economic impact of the strategy on the organizational profit. The Enterprise Level Maintenance Strategy Selection (ELMSS) model proposed in this thesis calculates the total maintenance lead time (TMLT) and total maintenance cost (TMC) of the equipment by simulating the system under different maintenance strategies and breakdown conditions. The simulated values are then used for calculating the profit associated with different maintenance strategies. The mean profits associated with each strategy are then tested for its statistical significance and the strategy that generates the highest profit is selected as the best strategy. Finally, the selected strategy is validated by simulating the system and comparing the process metrics with the existing metrics. The methodology also gives a crude estimate of the optimal maintenance scheduling time that will aid in maximizing the profit.

This book gathers the proceedings of the 13th International Conference on Management Science and Engineering Management (ICMSEM 2019), which was held at Brock University, Ontario, Canada on August 5–8, 2019. Exploring the latest ideas and pioneering research achievements in management science and engineering management, the respective contributions highlight both theoretical and practical studies on management science and computing methodologies, and present advanced management concepts and computing technologies for decision-making problems involving large, uncertain and unstructured data. Accordingly, the proceedings offer researchers and practitioners in related fields an essential update, as well as a source of new research directions.

Defects generate a great economic problem for suppliers who are faced with increased duties. Customers expect increased efficiency and dependability of technical product of - also growing - complexity. The authors give an introduction to a theory of dependability for engineers. The book may serve as a reference book as well, enhancing the knowledge of the specialists and giving a lot of theoretical background and information, especially on the dependability analysis of whole systems.

The fourth volume in the series will show how CMMS/EAM systems are necessary to support a maintenance and reliability organization in companies today. The text begins with the proper methodologies for selecting and implementing a CMMS/EAM system. The text then discusses how to properly utilize the system to gain a maximum return on investment for the system. Finally, the text examines the organization and methodology to truly achieve Enterprise Asset Management - an elusive goal for most modern organizations.

This evidence-based book serves as a clinical manual as well as a reference guide for the diagnosis and management of common nutritional issues in relation to gastrointestinal disease. Chapters cover nutrition assessment; macro- and micronutrient absorption; malabsorption; food allergies; prebiotics and dietary fiber; probiotics and intestinal microflora; nutrition and GI cancer; nutritional management of reflux; nutrition in IBS and IBD; nutrition in acute and chronic pancreatitis; enteral nutrition; parenteral nutrition; medical and endoscopic therapy of obesity; surgical therapy of obesity; pharmacologic nutrition, and nutritional counseling.

Maintenance, Safety, Risk, Management and Life-Cycle Performance of Bridges contains lectures and papers presented at the Ninth International Conference on Bridge Maintenance, Safety and Management (IABMAS 2018), held in Melbourne, Australia, 9-13 July 2018. This volume consists of a book of extended abstracts and a USB card containing the full papers of 393 contributions presented at IABMAS 2018, including the T.Y. Lin Lecture, 10 Keynote Lectures, and 382 technical papers from 40 countries. The contributions presented at IABMAS 2018 deal with the state of the art as well as emerging concepts and innovative applications related to the main aspects of bridge maintenance, safety, risk, management and life-cycle performance. Major topics include: new design methods, bridge codes, heavy vehicle and load models, bridge management systems, prediction of future traffic models, service life prediction, residual service life, sustainability and life-cycle assessments, maintenance strategies, bridge diagnostics, health monitoring, non-destructive testing, field testing, safety and serviceability, assessment and evaluation, damage identification, deterioration modelling, repair and retrofitting strategies, bridge reliability, fatigue and corrosion, extreme loads, advanced experimental simulations, and advanced computer simulations, among others. This volume provides both an up-to-date overview of the field of bridge engineering and significant contributions to the process of more rational decision-making on bridge maintenance, safety, risk, management and life-cycle performance 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 students, researchers and engineers from all areas of bridge engineering.

Relational maintenance provides a rallying point for those seeking to discover the behaviors that individuals utilize to sustain their personal relationships. Theoretical models, research programs, and specific studies have examined how people in a variety of close relationships choose to define and maintain those relationships. In addition, relational maintenance turns our attention to communicative processes that help people sustain their close relationships. In this collection, editors Daniel J. Canary and Marianne Dainton focus on the communicative processes critical to the maintenance and enhancement of personal relationships. The volume considers variations in maintaining different types of personal relationships; structural constraints on relationship maintenance; and cultural variations in relational maintenance. Contributions to the volume cover a broad range of relational types, including romantic relationships, family relationships, long-distance relationships, workplace relationships, and Gay and Lesbian relationships, among others. *Maintaining Relationships Through Communication: Relational, Contextual, and Cultural Variations* synthesizes current research in relationship maintenance, emphasizes the ways that behaviors vary in their maintenance functions across relational contexts, discusses alternative explanations for maintaining relationships, and presents avenues for future research. As such, it is intended for students and scholars studying interpersonal communication and personal relationships.

This book demonstrates the use of a wide range of strategic engineering concepts, theories and applied case studies to improve the safety, security and sustainability of complex and large-scale engineering and computer systems. It first details the concepts of system design, life cycle, impact assessment and security to show how these ideas can be brought to bear on the modeling, analysis and design of information systems with a focused view on cloud-computing systems and big data analytics. This informative book is a valuable resource for graduate

students, researchers and industry-based practitioners working in engineering, information and business systems as well as strategy.

Facility Integrity Management: Effective Principles and Practices for the Oil, Gas and Petrochemical Industries presents the information needed to completely understand common failures in the facility integrity management process. By understanding this more comprehensive approach, companies will be able to better identify shortcomings within their respective system that they did not realize existed. To introduce this method, the book provides managers and engineers with a model that ensures major process incidents are avoided, aging facilities are kept in a safe and reliable state and are operating at maximum levels, and any gaps within the integrity management system are identified and addressed, such as the all too common fragmented reliability programs. The book approaches oil and gas facility management from a universal perspective, effectively charting out existing oil and gas facilities and their associated work processes, including maintenance, operations, and reliability, and then reconstructs them in order to optimize the way integrity is managed, creating a synergy across the various elements. Easy to read, packed with practical applications applied to real process plant scenarios such as key concepts, process flow charts, handy checklists, real-world case studies and a dictionary, provides a high quality guide for a breakdown free facility, maximizing productivity and return to shareholders. Helps readers gain a practical and industry specific approach to facility integrity management supported with real-world case studies from oil, gas, and petrochemical facility locations Presents a facility integrity excellence model, a holistic approach for oil and gas companies to drive towards integrity assurance unit monitoring, creating a failure-free environment Identifies and addresses failure of facility processes and equipment before the onset of performance degradation, keeping equipment maintenance costs low and reliability high

The profitability of any industry depends on the reliability and performance of the plant that it uses. This study identifies the business objectives, which are then translated into maintenance objectives and underpin the strategy formation. A systematic approach to devising optimal strategy for maintaining industrial plant. It contains a framework of guidelines for deciding maintenance objectives, formulating equipment life plans and plant maintenance schedules, and setting up appropriate systems of documentation.

Major Infrastructure links across water represent large investments. The structures and systems must be optimised to keep costs in control. Optimisation needs and the tendency to more slender and light structures imply that engineering disciplines like Bridge Aerodynamics and Ship Collision Analysis have an increasing impact on the overall design of links. Also the attention to life cycle costs implies Operation and Maintenance must be investigated and planned in parallel to the design and construction of the links. The 1998 International Symposium aims at presenting state-of-the-art and future development within the three mentioned engineering disciplines. Exploring the many facets of major infrastructure projects, this symposium concentrated on developments within organisational, strategic and policy areas and both traffic and o & m management. Contributors to the papers include operators, consultants and international, experienced owners.

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.

For over three decades, Terry Wireman has specialized in the improvement of maintenance and reliability. As an international expert in maintenance management, he has assisted hundreds of clients in North America, Europe and the Pacific Rim to improve their maintenance effectiveness. Through a new 10-volume Maintenance Strategy series, the author makes his expertise in the field accessible to industrial and facility organizations everywhere. The fifth volume in the series will highlight the need for increased skills proficiency in maintenance and reliability organizations today. It begins with a discussion of the skills shortage, then progresses into how to develop cost-effective and efficient skills training programs. It focuses on modern tools for duty, task, needs analysis and how to convert that data into a complete skills development initiative. The reader will be able to use the information in this to develop or enhance a skills training program in their company.

Devising optimal strategy for maintaining industrial plant can be a difficult task of daunting complexity. This book aims to provide the plant engineer with a comprehensive and systematic approach, a framework of guidelines, for tackling this problem, i.e. for deciding maintenance objectives, formulating equipment life plans and plant maintenance schedules, designing the maintenance organisation and setting up appropriate systems of documentation and control. The author, Anthony Kelly, an experienced international consultant and lecturer on this subject, calls his approach BUSINESS-CENTRED MAINTENANCE (BCM) because it springs from, and is driven by, the identification of business objectives, which are then translated into maintenance objectives and which underpin the maintenance strategy formulation. For the first time maintenance management is analysed from the perspective of the whole company and thus makes sense not only technologically but also in economic and business terms.

Complete guide to maintenance from a whole-company perspective Best-selling and world-renowned author Complementary to RCM (Moubray) and TPM (Wilmott)

Strategic Maintenance Planning deals with the concepts, principles and techniques of preventive maintenance, and shows how the complexity of maintenance strategic planning can be resolved by a systematic 'Top-Down-Bottom-Up' approach. It explains how to establish objectives for physical assets and maintenance resources, and how to formulate an appropriate life plan for plant. It then shows how to use the life plans to formulate a preventive maintenance schedule for the plant as a whole, along with a maintenance organization and a budget to ensure that maintenance work can be resourced. This is one of three stand-alone volumes designed to provide maintenance professionals in any sector with a better understanding of maintenance management, enabling the identification of problems and the delivery of effective solutions. * The first of three stand-alone companion books, focusing on the formulation of strategy and the planning aspects of maintenance management * Learn how to establish objectives - for physical assets and maintenance resources; Formulate a life plan for each unit and a preventive maintenance schedule for the plant as a whole; Design a maintenance organization and budget to ensure that the maintenance work can be resourced * With numerous review questions, exercises and case studies - selected to ensure coverage across a wide range of industries including processing, mining, food, power generation and transmission

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.

The International Conference on Energy and Mechanical Engineering brought together scientists and engineers from energy and engineering sectors to share and compare notes on the latest development in energy science, automation, control and mechanical engineering. This proceedings compiled and selected 156 articles organized into Energy Science and Technology; Mechanical Engineering; Automation and Control Engineering. Amongst them, are the results and development of Government sponsored research projects undertaken both in universities, research institutes, and across industry, reflecting the state-of-art technological know-how of Chinese scientists. Contents: Energy Science and Technology Mechanical Engineering Automation and Control Engineering Readership: Graduate students and researcher interested in the topics of energy studies and mechanical engineering. Key Features: This book contains a large range of topics, from Energy Science and Technology, Mechanical Engineering to Automation and Control Engineering. It is an invaluable source for other researchers, engineers, and academicians, as well as industrial professionals. It welcomes authors from universities, institutions, labs, etc., which means that it provides different information according to different readers and different needs. This book will not only serve as a reference to the readers, but also an important tool for the authors to re-examine their researches by comparing them to other similar ones shown in other papers.

Scientists from four countries cooperated in a research effort aimed at the improvement of operational reliability via innovations in design and testing and systematic maintenance. The scientists had varied backgrounds ranging from mathematic to applied mechanical engineering, and the results for this effort are documented in this book.

The present book is based on the research papers presented in the International Conference on Emerging Trends in Science, Engineering and Technology 2012, held at Tiruchirapalli, India. The papers presented bridge the gap between science, engineering and technology. This book covers a variety of topics, including mechanical, production, aeronautical, material science, energy, civil and environmental energy, scientific management, etc. The prime objective of the book is to fully integrate the scientific contributions from academicians, industrialists and research scholars.

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.

In today's business environment, reliability and maintenance drastically affect the three key elements of competitiveness - quality, cost, and product lead time. Well-maintained machines hold tolerances better, help reduce scrap and rework, and raise consistency and quality of the part in addition to cutting total production costs. Today, many factories are still performing maintenance on equipment in a reactive manner due to a lack of understanding about machine performance behaviour. To improve production efficiency, computer-aided maintenance and diagnostic methodology must be applied effectively in manufacturing. This book focuses on the fundamental principles of predictive maintenance and diagnostic engineering. In addition to covering the relevant theory, techniques and methodologies in maintenance engineering, the book also provides numerous case studies and examples illustrating the successful application of the principles and techniques outlined.

Failure of components or systems must be prevented by both designers and operators of systems, but knowledge of the underlying mechanisms is often lacking. Since the relation between the expected usage of a system and its failure behavior is unknown, unexpected failures often occur, with possibly serious financial and safety consequences. Principles of Loads and Failure Mechanisms. Applications in Maintenance, Reliability and Design provides a complete overview of all relevant failure mechanisms, ranging from mechanical failures like fatigue and creep to corrosion and electric failures. Both qualitative and quantitative descriptions of the mechanisms and their governing loads enable a solid assessment of a system's reliability in a given or assumed operational context. Moreover, a unique range of applications of this knowledge in the fields of maintenance, reliability and design are presented. The benefits of understanding the physics of failure are demonstrated for subjects like condition monitoring, predictive maintenance, prognostics and health management, failure analysis and reliability engineering. Finally, the role of these mechanisms in design processes and design for maintenance are illustrated.

Given that for centuries, the standard tool to understand diseases in tissues was the microscope and that its major limitation was that only excised tissue could be used, recent technology now permits the examination of diseased tissue in vivo. Optical coherence tomography (OCT) has promising potential when applied to coronary artery disease. OCT has the capability to identify coronary plaque and to distinguish between plaques that are stable and unstable. If the plaques are stable then OCT can direct percutaneous intervention (angioplasty or stenting). Optical coherence tomography is a light-based imaging technology that allows for very high resolution imaging in biological tissues. It has been first applied in ophthalmology, where it soon became the golden standard for the assessment of (epi-) retinal processes. The unique imaging capabilities have raised the

interest of researchers and clinicians in the field of cardiovascular disease, since OCT offers unique possibilities to study atherosclerosis pathophysiology in vivo. With over 1.1M Americans having a heart attack this year because of unstable plaque rupture, OCT may have an increasingly important role in the early diagnosis of coronary artery disease. This unique publication offers the reader the basic background to OCT and its role in the diagnosis and management of coronary artery disease. The Handbook of Optical Coherence Tomography in Cardiovascular Research introduces the cardiovascular application of this technology. Clinicians, biologists, engineers and physicist are discussing different aspects of cardiovascular OCT application in a multidisciplinary approach. The handbook offers the readership a concise overview on the current state of the art of vascular OCT imaging and sheds light on a variety of exciting new developments. The physics, technical principles of OCT and its application in a broad spectrum of cardiovascular research areas are summarized by highly recognized specialists. The potential of OCT in peripheral and coronary arteries and in developmental cardiology are described. Each research area is introduced by a clinical expert in the field followed by discussion of different aspects from an engineering, biomedical and clinical perspective. Specifically, the current capabilities for plaque characterization, detection of vulnerable plaque, guidance of interventional procedures, Doppler-assessment, and molecular contrast imaging are being described. The Handbook of Optical Coherence Tomography in Cardiovascular Research targets researchers and clinicians involved in the field of atherosclerosis. The summary of basic physics, engineering solutions, pre-clinical and clinical application covers all relevant aspects and will be a valuable reference source. World-renowned author and maintenance expert Terry Wireman has completed a book collection including a valuable maintenance maturity model. The Maintenance Strategy (tm) Series is the first collection of its kind. This bundled set includes the first five books: Volume 1: Preventive Maintenance Volume 2: MRO Inventory and Purchasing Volume 3: Maintenance Work Management Processes Volume 4: Successfully Utilizing CMMS/EAM Systems Volume 5: Training Programs for Maintenance Organizations 6: Operator-Driven Reliability

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.

This book provides a detailed introduction to maintenance policies and the current and future research in these fields, highlighting mathematical formulation and optimization techniques. It comprehensively describes the state of art in maintenance modelling and optimization for single- and multi-unit technical systems, and also investigates the problem of the estimation process of delay-time parameters and how this affects system performance. The book discusses delay-time modelling for multi-unit technical systems in various reliability structures, examining the optimum maintenance policies both analytically and practically, focusing on a delay-time modelling technique that has been employed by researchers in the field of maintenance engineering to model inspection intervals. It organizes the existing work into several fields, based mainly on the classification of single- and multi-unit models and assesses the applicability of the reviewed works and maintenance models. Lastly, it identifies potential future research directions and suggests research agendas. This book is a valuable resource for maintenance engineers, reliability specialists, and researchers, as it demonstrates the latest developments in maintenance, inspection and delay-time-based maintenance modelling issues. It is also of interest to graduate and senior undergraduate students, as it introduces current theory and practice in maintenance modelling issues, especially in the field of delay-time modelling.

Objective of conference is to define knowledge and technologies needed to design and develop project processes and to produce high-quality, competitive, environment- and consumer-friendly structures and constructed facilities. This goal is clearly related to the development and (re)-use of quality materials, to excellence in construction management and to reliable measurement and testing methods.

Life-Cycle and Sustainability of Civil Infrastructure Systems contains the lectures and papers presented at the Third International Symposium on Life-Cycle Civil Engineering (IALCCE 2012) held in one of Vienna's most famous venues, the Hofburg Palace, October 3rd-6th, 2012. This volume consists of a book of extended abstracts (516 pp) and a DVD-ROM

Close Relationships is a comprehensive introduction to and synthesis of contemporary theory, research and practical applications of what is known about close/personal relationships.

Focusing on fundamental principles, Hydro-Environmental Analysis: Freshwater Environments presents in-depth information about freshwater environments and how they are influenced by regulation. It provides a holistic approach, exploring the factors that impact water quality and quantity, and the regulations, policy and management methods that are necessary to maintain this vital resource. It offers a historical viewpoint as well as an overview and foundation of the physical, chemical, and biological characteristics affecting the management of freshwater environments. The book concentrates on broad and general concepts, providing an interdisciplinary foundation. The author covers the methods of measurement and classification; chemical, physical, and biological characteristics; indicators of ecological health; and management and restoration. He also considers common indicators of environmental health; characteristics and operations of regulatory control structures; applicable laws and regulations; and restoration methods. The text delves into rivers and streams in the first half and lakes and reservoirs in the second half. Each section centers on the characteristics of those systems and methods of classification, and then moves on to discuss the physical, chemical, and biological characteristics of each. In the section on lakes and reservoirs, it examines the characteristics and operations of regulatory structures, and presents the methods commonly used to assess the environmental health or integrity of these water bodies. It also introduces considerations for restoration, and presents two unique aquatic environments: wetlands and reservoir tailwaters. Written from an engineering perspective, the book is an ideal introduction to the aquatic and limnological sciences for students of environmental science, as well as students of environmental engineering. It also serves as a reference for engineers and scientists involved in the management, regulation, or restoration of freshwater environments.

