

Syllabus Of Marine Engineer

Developed to complement Reeds Vol 12 (Motor Engineering for Marine Engineers), this textbook is key for all marine engineering officer cadets. Accessibly written and clearly illustrated, General Engineering Knowledge for Marine Engineers takes into account the varying needs of students studying general marine engineering, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career. It includes the latest equipment, practices and trends in marine engineering, as well as incorporating the 2010 Manila Amendments, particularly relating to management. It is an essential buy for any marine engineering student. This new edition reflects all developments within the discipline and includes updates and additions on, amongst other things: * Corrosion, water treatments and tests * Refrigeration and air conditioning * Fuels, such as LNG and LPG * Insulation * Low sulphur fuels * Fire and safety Plus updates to many of the technical engineering drawings. This indispensable guide to ship stability covers topics such as flotation and buoyancy, small angle, large angle and longitudinal stability, water density effects, bilging, ship resistance, and advanced hydrostatics. Each chapter has a comprehensive list of aims and objectives at the start of the topic, followed by a check-list at the end of the topic for students to ensure that they have developed all the relevant skills before moving onto the next topic area. The book features over 170 worked examples with fully explained solutions, enabling students to work through the examples to build up their knowledge and develop the necessary key skills. The worked examples, which range in difficulty from very simple one-step solutions to SQA standard exam questions and above, are predominantly based on a hypothetical ship, with the reader supplied with extracts from a typical data book for the ship which replicates those found on real ships, enabling the reader to develop and practise real-life skills.

Introduction to Marine Engineering explains the operation of all the ship's machinery, with emphasis on correct, safe operating procedures and practices at all times. Organized into 17 chapters, this book begins with an overall look at the ship. Subsequent chapters describe the various ship machineries, including diesel engines, steam turbines, boilers, feed systems, pumps, auxiliaries, deck machinery, hull equipment, shafting, propellers, steering gear, and electrical equipment. Other aspects of marine engineering, particularly, fuel oils, lubricating oils, refrigeration, air conditioning, ventilation, firefighting and safety, watchkeeping, and equipment operation, are also described. This book will be useful to anyone with an interest in ships' machinery or a professional involvement in the shipping business.

Marine Engineering is a simple e-Book for Marine Diploma & Engineering Course, Revised Syllabus in 2020, It contains objective questions with underlined & bold correct answers MCQ covering all topics including all about the latest & Important about General Physiology with Alcohol and Drug Prevention, Spherical Trigonometry, Analytical Geometry with Solid Geometry, Aptitude for the Service, Engine Watch keeping, Engine Officers, Ship and Ships Routine, Ship Construction and Ship Stability, Engineering Drawing, Marine Pollution and Prevention Auxiliary Machinery, Mechanics and Hydrinechanics, Marine Power Plant, Marine Vocabulary and Terms, Plane Trigonometry, Marine Power Plant and Diesel, Engineering Physics, Fuel Oils and Lubricants, Electro Technology, Machine Shop, Integral Calculus.

Divided into three sections, the book covers the complete syllabus for Electrotechnology Officers as specified by the Association of Marine Electronic and Radio Colleges (AMERC), with a series of worked examples and self-study questions to assist in student understanding. The book introduces basic electronics, the theory of how a range of navigational aids works, and radio communications including GMDSS. Fault find to component and sub system level is also included. Importantly, this is the first textbook to be aimed primarily at ETOs, covering the changes to the STCW 2010. An essential buy.

Developed to complement Reeds Vol 12 (Motor Engineering for Marine Engineers), this textbook is key for all marine engineering officer cadets. Accessibly written and clearly illustrated, General Engineering Knowledge for Marine Engineers takes into account the varying needs of students studying 'general' marine engineering, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career. It includes the latest equipment, practices and trends in marine engineering, as well as incorporating the 2010 Manila Amendments, particularly relating to management. It is an essential buy for any marine engineering student. This new edition reflects all developments within the discipline and includes updates and additions on, amongst other things: · Corrosion, water treatments and tests · Refrigeration and air conditioning · Fuels, such as LNG and LPG · Insulation · Low sulphur fuels · Fire and safety Plus updates to many of the technical engineering drawings. The Book has been thoroughly revised, keeping in mind the rapid technological advances in this mammoth industry and also the feedback received from various quarters. Relevant extracts from current SOLAS. IACS, Lloyd's Register, DNV and ABS Rules, have been included with permission. However, these must be used only for academic purposes. Relevant current documents onboard ships must be referred to, for the purpose of complying with Classification Societies' and other Statutory Requirements.

From the beginning of chemistry as an exact (natural) science - almost 200 years ago - there was a more or less distinct differentiation between its various branches such as organic, inorganic, physical, analytical, or biochemistry. With the increasing insight into the connections and governing laws it soon became obvious, however, that such a clear separation could be regarded as more or less obsolete; within almost any field of chemical research one has to deal with most of the branches mentioned. Especially organic and inorganic chemistry are significant examples for this statement, overlapping considerably within the important field of organometallic chemistry. This regime of chemistry started its advance with the discovery of dimethylzinc 150 years ago, had a highlight with the introduction of Grignard reagents around 1900, developed further with the start of lithium organyls in 1925 and literally exploded after the discovery of the first transition metal cyclopenta dienyl complex ferrocene half a century ago. The chronological sequence of the important steps, i. e. 1850 (Zn) - 1900 (Mg) - 1925 (Li) - 1950 (Fe), seems rather remarkable. The increasing group of metallocenes is not only of high theoretical and, due to the potential chirality of its members, stereochemical interest, but offers also a wide variety of extremely useful catalysts, especially for stereoselective reactions. The Austrian Chemical Society took this development into account by organizing the Twelfth International Conference on Organometallic Chemistry held in Vienna in 1985.

This textbook covers the theoretical, fundamental aspects of naval architecture for students preparing for the Class 2 and Class 1 Marine Engineer Officer exams. It introduces the basic foundation themes within naval architecture,

(hydrostatics, stability, resistance and powering), using worked examples to show how solutions should be presented for an exam. The topics are ordered in a manner of a typical taught module, to aid the use of the book by lecturers as a compliment to a course. Importantly, this updated edition contains updated text and figures in line with modern practice, including an update of many of the figures to three-dimensional diagrams, and a new section on computer software for naval architecture. The book also includes sample examination questions with worked examples answers to aid students in their learning.

This book is a companion to Reeds Vol. 6: Basic Electrotechnology for Marine Engineers and covers aspects of theory beyond the scope of Volume 6. The book will cover the more advanced topics in electrotechnology for professional trainees studying Merchant Navy Marine Engineering Certificates of Competency (CoC) as well as the syllabi in electrotechnology for undergraduates studying for BSc, BEng and MEng degrees in marine engineering and electrical engineering. The new edition will provide worked examples and test exam questions, corresponding to current Merchant Navy Qualifications. Other revisions will include new material on emerging technology areas such as image intensifiers (photoelectric effect, secondary emission), thermal imaging cameras, radar, increased maritime use of LEDs, various semiconductor physics devices including the laser, as well as discussions of binary or digital theory.

Developed to compliment Volume 8 (General Engineering Knowledge) and work as an examination guide for the requirements of the IMO's Engineering Knowledge under regulation III/2, covering the syllabuses followed by Chief Engineers and 2nd Engineers, this book helps officer cadets working toward the STCW Officer of the Watch qualification or equivalent academic award. Starting with the theoretical and practical thermodynamic operating cycles, the book is structured to give a description of the engines and components used to extract energy from fossil fuels and achieve high levels of productivity. The book covers areas that have the potential to affect engine efficiency and emissions including new electronic control systems, fuel injection and efficient turbocharging. It also looks at waste heat recovery, an important development area for improving the environmental impact of ocean going vessels. It also considers new technology and individual components within the engine which means that more energy, left over from the combustion process, can be extracted and used to improve the total thermal efficiency. The book evaluates issues of safety and environment, highlighting why the new technology must work correctly at all times and why it is necessary that engineering staff onboard understand its operation as well the consequences of any malfunction. This key textbook takes into account the varying needs of students studying motor engineering, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career, including National diplomas, Higher National Diploma and degree courses.

This book covers the syllabus in Mathematics for the Marine Engineer Officer Certificates of Competency in the Merchant Navy. Each chapter has fully worked examples woven into the text. Test examples are set at the end of each chapter, and some typical exam questions are included. The author has provided fully worked step by step solutions to the final answers.

Written primarily for serving and trainee deck officers, those studying for certificates of competency in merchant shipping and fishermen, Reeds Maritime Meteorology analyses the elements and forces which contribute to maritime meteorology and the principles which govern them. Updated to include the latest developments in the use of satellite technology in forecasting, Navtext and the ramifications of GMDSS, the book examines:

- cloud formation and development
- precipitation and thunderstorms
- atmospheric pressure and wind
- ocean currents and swell
- tropical revolving storms
- the development and distribution of sea ice
- weather routing
- passage planning
- the management and care of cargo in heavy weather

This revised edition covers significant developments in the variety of forecasts available for the seafarer, coverage of global warming and weather routing options, as well as updates throughout in line with technological advancements and research discoveries, and updates to the exam questions at the end of each chapter.

Reed's Mathematics for Engineers Adlard Coles Nautical

Developed to complement Reeds Vol. 12 (Motor Engineering for Marine Engineers), this textbook is key for all marine engineering officer cadets. This new edition has been extensively updated to include the latest equipment, practices and trends in marine engineering, as well as incorporating the 2010 Manila Amendments, particularly relating to Management. Accessibly written and clearly illustrated, this book is the core guide focusing on the knowledge needed for passing the engineering certificate of Competency (CoC) examinations. This key textbook takes into account the varying needs of students studying motor engineering, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career, including National diplomas, Higher National Diploma and degree courses. An essential buy for any marine engineering student.

Reeds Marine Surveying is aimed at students of marine surveying, professional marine surveyors, boatyard operators and technically-minded boat owners, and covers the latest marine surveying technology, including analysis of the mechanical behaviour of materials, failure analysis, stress concentration, fatigue and fracture, corrosion, wood-damaging organisms, polymer chemistry, and the composition and characteristics of common plastics, metal, alloys and composite materials. This new edition expands its scope to include coverage of surveying topics relevant to ships and class surveying and includes more examples of common problems and the practical elements of surveying, as well as be updated throughout in line with technological developments, guidelines and best practice. Reeds Marine Surveying has been in print for nearly twenty years and excellently serves the community of marine surveyors by providing technically robust presentations of this discipline. It extends the inquiry of inspection and safety beyond anecdote and into foundation principles and technologies.

This exciting new edition covers the core subject areas of arithmetic, algebra, mensuration in 2D and 3D, trigonometry and geometry, graphs, calculus and statistics and probability for Marine Engineering students. Initial examples have been designed purely to practise mathematical technique and, once these skills have been mastered, further examples focus on engineering situations where the appropriate skills may be utilised. The practical questions are primarily from a marine engineering background but questions from other disciplines, such as electrical engineering, will also be covered, and reference made to the use of advanced calculators where relevant.

An authoritative guide to modern equipment found in merchant ships focusing on 'motor' propulsion for marine engineers.

This book covers the general engineering knowledge required by candidates for the Department of Transport's Certificates of Competency in Marine Engineering, Class One and Class Two. The text is updated throughout in this third edition, and new chapters have been added on production of fresh water and on noise and vibration. Reference is also provided to up-to-date papers and official publications on specialized topics. These updates ensure that this little volume

will continue to be a useful pre-examination and revision text. - Marine Engineers Review, January 1992

Marine Engineering Series: Marine Control Practice deals with the instrumentation and its associated control systems that are found onboard ships. The book covers topics such as the measuring instruments and control signals for different parameters; system analysis; process and kinetic control systems; and commercially available equipment. Also covered in the book are correcting units such as actuators and valves; the control systems for boilers, turbines, auxiliary equipment; and control involving computers. The text is recommended for those who need to complete the Certificates of Competency for Marine Engineers, including Extra First Class. The book will also be beneficial to offshore engineers. The book covers the principal topics in applied mechanics for professional trainees studying Merchant Navy Marine Engineering Certificates of Competency (CoC) as well as the core syllabi in applied mechanics for undergraduates studying for BSc, BEng and MEng degrees in marine engineering, naval architecture and other marine technology related programmes. The revised version takes into account the need of these students, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career, including National diplomas, Higher National Diploma and degree courses. Basic principles are dealt with, beginning at a fairly elemental stage, with this new edition applying the underlying principles to a shipping environment. Each chapter has fully worked examples interwoven into the text, with test examples set at the end of each chapter. Other revisions include examples reflecting modern machines and practice, current legislation and current syllabi.

This is a collection of soundings into various aspects of the history of maritime labor from the close of the Middle Ages to the present. The spatial emphasis of the essays is north European and Atlantic since they deal with the countries around the North Sea and Baltic with some coverage of North America. Indeed, from time to time the authors leave the sea behind in order to examine broader issues such as labor markets, the regulation and institutions of seafaring, and industrial relations on the waterfront. But at all points there is a common theme of sea-related labor, and a common objective of better understanding what have often been perceived as difficult and elusive groups of people.

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Developed to complement Reeds Vol 8 (General Engineering for Marine Engineers), this indispensable textbook comprehensively covers the motor engineering syllabus for marine engineering officer cadets. Starting with the theoretical and practical thermodynamic operating cycles, the book is structured to give a description of the engines and components used to extract energy from fossil fuels and achieve high levels of efficiency. Accessibly written and clearly illustrated, this book is the only guide available for marine engineering students focusing on the knowledge needed for passing the motor engineering certificate of Competency (CoC) examinations. This new edition reflects all developments within the discipline and includes updates and additions on, amongst other things: · Engine emissions and control engineering · Fuel injection · Starting and reversing · Ancillary supply systems · Safety and the environment Plus updates to many of the technical engineering drawings.

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

A textbook that offers a unified treatment of the applications of hydrodynamics to marine problems. The applications of hydrodynamics to naval architecture and marine engineering expanded dramatically in the 1960s and 1970s. This classic textbook, originally published in 1977, filled the need for a single volume on the applications of hydrodynamics to marine problems. The book is solidly based on fundamentals, but it also guides the student to an understanding of engineering applications through its consideration of realistic configurations. The book takes a balanced approach between theory and empirics, providing the necessary theoretical background for an intelligent evaluation and application of empirical procedures. It also serves as an introduction to more specialized research methods. It unifies the seemingly diverse problems of marine hydrodynamics by examining them not as separate problems but as related applications of the general field of hydrodynamics. The book evolved from a first-year graduate course in MIT's Department of Ocean Engineering. A knowledge of advanced calculus is assumed. Students will find a previous introductory course in fluid dynamics helpful, but the book presents the necessary fundamentals in a self-contained manner. The 40th anniversary of this pioneering book offers a foreword by John Grue. Contents Model Testing • The Motion of a Viscous Fluid • The Motion of an Ideal Fluid • Lifting Surfaces • Waves and Wave Effects • Hydrodynamics of Slender Bodies

Marine Auxiliary Machinery, Seventh Edition is a 16-chapter text that covers the significant advances in marine auxiliary machinery relevant to the certification of competency examinations. The introductory chapters deal with the basic components of marine machineries, such as propulsion system, heat exchanger, valves, and pipelines. The succeeding chapters describe the pumps and pumping system, specifically the tanker and gas carrier cargo pumps. Considerable chapters are devoted to the operation of machinery's major components, including the propeller shaft, steering gear, auxiliary power, bow thrusters, and stabilizers. Other chapters consider the refrigeration, heating, ventilation, and air conditioning systems. The final chapters tackle the safety system of marine auxiliary machinery, particularly the fire protection, safety, instrumentation, and control systems. This book will prove useful to marine and mechanical engineers.

This book covers the principal topics in thermodynamics for officer cadets studying Merchant Navy Marine Engineering Certificates of Competency (CoC) as well as the core syllabi in thermodynamics for undergraduate students in marine engineering, naval architecture and other marine technology related programmes. The book provides a firm foundation in the principals of thermodynamics, decoding the fundamental science and physics applied to marine technology, covering examples of modern machines and practice to reflect current legislation and syllabi. The new edition will provide worked examples and test exam

questions, corresponding to current Merchant Navy Qualifications as well as university-style examinations. Where relevant, reference will be made to self-study computer exercises for undertaking multiple calculations in common software, e.g. MS Excel. This key textbook takes into account the varying needs of marine students, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career, including National Diplomas, Higher National Diploma and degree courses.

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