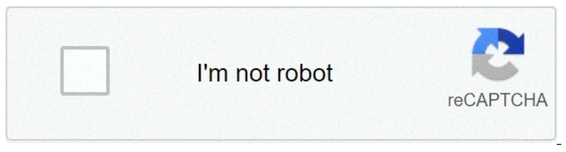

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Theory of mechanisms and machines pdf

Skip to Main Content Skip Nav Destination Uicker, , J. J., Author, Pennock, , G. R., Author and , Shigley , , J. E., Author, and McCarthy, , J. M., Reviewer (September 4, 2003). "Theory of Machines and Mechanisms." ASME. J. Mech. Des. September 2003; 125(3): 650. Download citation file: AboutActing Head of the Department: Petr P. Antsiparovich Date of Foundation: 1945 Teaching Staff: 1 Professor; 4 Associate Professors, PhDs in Engineering; 3 Senior Lecturers. Main Courses: Theory of Mechanisms and Machines Theory of Mechanisms, Machines and Manipulators Vibrations in Machines Informatics Information Technology The course "Theory of Mechanisms and Machines" has been taught since 1934 at the Belarusian National Technical University. In 1934 - 1941, this discipline was taught by the Department of Machine Parts. The lectures were given by Moisei M. Mostkov, Head of the Department, Associate Professor, PhD in Engineering, Moscow Higher Technical School graduate. The Department resumed its work after the Second World War in 1945. The Department of the Theory of Mechanisms and Machines split from the Department of Theoretical Mechanics and Theory of Mechanisms and Machines. Till 1952, the Department was headed by Fedor K. Okolkovsky, Associate Professor, PhD in Engineering. Professor Petr P. Antsiparovich has headed the Department since 1992. The Department provides training in the following subjects: Information Technologies (1st year); The Theory of Mechanisms and Machines (2nd and 3rd year); Mechanics of Machines (2nd year); Vibrations in Machines (4th year). Currently, the Department supervises course projects in Theory of Mechanisms, Machines and Manipulators and Theory of Mechanisms and Machines at 10 faculties. The Department runs 3 laboratories, a computer class, and a course project class. All employees were trained in the Republican Institute of Innovative Technologies (BNTU RIIT). The Department seeks to improve teaching methods in Theory of Mechanisms and Machines, Theory of Mechanisms, Machines and Manipulators, and Informatics with regard to specific specialities. The Department's employees improve and upgrade lecture courses, topics of course projects, and laboratory work. The Department keeps improving interdisciplinary connections as well. All lecturers of the Department participated in the National Scientific and Methodological Seminar on Theoretical Mechanics and the Theory of Mechanisms and Machines. Staff PETR P. ANTSIPAROVICH Professor, PhD in Engineering Contacts: Tel. +375 17 293-93-81, 292-77-87 office 350a, BNTU building 1 1975 -1985 - Deputy Dean of the Faculty of Mining and Mechanics; since April, 1992 - Acting Head of the Department of Theory of Mechanisms and Machines; January 1993 - April 2013 - Head of the Department; April 2013 - present time - Acting Head of the Department, Professor. Petr P. Antsiparovich works on improving the structure and contents of the course Theory of Mechanisms, Machines, and Manipulators and Informatics. He also develops the curricula for these courses. He supervises research work on the development and implementation of information technologies in educational process. He developed training (1), controlling (1), and course project software (3), which allows the students to perform 75% of the course projects with the use of computers. The developed learning and methodical complexes and software were presented at international exhibitions in Hanover and Moscow. 2 computer classes have been established at the Department under his leadership. Fields of research: Development of methods for numerical study of dynamic response of mechanisms, machines and manipulators of industrial robots with the help of computers Development of computer technologies for teaching technical disciplines Affiliations: Member of the BNTU Scientific and Methodical (section "Informatization and New Educational Methods") Member of the Council of the BNTU Mechanical Engineering Faculty Co-Chairman of the Federation of Theory of Machines and Mechanisms of the Republic of Belarus Member of the Attestation Commission of the BNTU Mechanical Engineering Faculty Refresher Courses: Modern Technologies in the field of Technology and Engineering Education, BNTU RIIT, 2013. He supervised the work of trainees from other technical universities Publication activity: 235 publications, including a manual (in co-authorship) translated into Serbian and recommended as a basic textbook in the Serbian Technical University VALERY K. AKULICH Associate Professor, PhD in Engineering Speciality: Mechanical Engineering Technology Qualification: Mechanical engineer Research: Kinematics and dynamics of mechanisms and machines Application of information technologies in the educational process Affiliations: Chairman of the Methodical Commission of the Department Refresher courses: Modern Technologies in the field of Technology and Engineering Education, BNTU RIIT, 2013 Publication activity: over 160 publications ANDREI M. AUSIYEVICH Associate Professor, PhD Engineering Contacts: e-mail: ausi@bntu.by Speciality: Mechanical Engineering Technology Qualification: Mechanical engineer Fields of research: Study of the causes and ways of reducing vibration Improving the reliability and security of machinery and equipment Affiliations: Student Research Supervisor Head of the Student Research Bureau at the Mechanical Engineering Faculty Refresher Courses: Modern Technologies in the field of Technology and Engineering Education, BNTU RIIT, 2013 Publication activity: Over 80 publications, 3 patents, 1 monograph in co-authorship ALENA M. DUBOUSKAYA Associate Professor, PhD Engineering Speciality: Machines and Technology of Material Treatment by Pressure Qualification: Engineer Fiends of research: Principles of teaching technical subjects with the use of information technology Affiliations: Secretary of the Department Member of the Attestation Commission of the BNTU Mechanical Engineering Faculty Refresher courses: Modern Technologies in the field of Technology and Engineering Education, BNTU RIIT, 2013 Publication activity: Over 80 publications VALIANTSIN V. KUDZIN Associate Professor, PhD Engineering Speciality: Peat Machines Qualification: Mechanical engineer Research: Vibrations in machines Vibration diagnostics, monitoring of rotary equipment for mechanical engineering Affiliations: Member of the Methodological Council of the Department Refresher courses: Modern Technologies in the field of Technology and Engineering Education, BNTU RIIT, 2013 Publication activity: Over 145 publications and 17 patents ResearchThe Department works on 2 research projects: Theme 2511-223 "Principles of Teaching Technical Disciplines Using Information Technologies". The Departments develops methodologies for the use of information technologies in training courses, textbooks, and software products (supervised by Professor Petr P. Antsiparovich). Information technologies make a part of the curricula for Theory of Mechanisms and Machines (Structure and Kinematics of Mechanisms) and Computer Science. Theme 2911-227 "Analysis of the Influence of Ambient Vibration on Vibroactivity of Multi-Component Mechanical Systems and Vibration Protection". Modeling of vibration processes in machines was carried out within the framework of this theme (supervised by Associate Professor Valiantsin V. Kudzin). Other fields of research: Determination of qualitative relationship of the parameters and characteristics that affect the vibrating state, the reliability and usability of complex systems and equipment. Development of the principles of dynamic modeling and methods of determining the given power, inertia, stiffness, and dissipative characteristics of components of complex systems and equipment. Development of methods for theoretical prediction and experimental tools for identifying and eliminating resonances in composite systems. Research plan for 2017 comprises the following issues: Development of methods of constructing geometric and finite element models of composite systems. Virtual testing of vibroactivity. Analyzing vibration protection methods and developing the principles for the use of passive and active vibration isolation. Student research Main topics: Kinematics and dynamics of mechanisms and machines; New mechanisms and machines; Vibroactivity of machines and mechanisms and methods of vibration protection of machines; Computer information methods for analysis and synthesis of mechanisms. The research results for 2016 were presented in 73 reports at the 72th BNTU Student Research Conference. InternationalIn 2010, the Department developed a manual, which was translated into Serbian. Now the manual is recommended as the main textbook in the Serbian Technical University. Ihar. P. Filonov, Professor of the Department of Mechanical Engineering Technology, Petr P. Antsiparovich, and Valery K. Akulich, wrote the book in cooperation. The book was highly praised by the professors of several universities of Russia. The book is also used in training specialists, bachelors, masters, and doctoral students in technical universities of Serbia. Fifth Edition John J. Uicker, Jr., Gordon R. Pennock, and Joseph E. Shigley Publication Date - December 2016 ISBN: 9780190264482 976 pages Hardcover 7-1/2 x 9-1/4 inches In Stock Retail Price to Students: $214.99 A classic text on the theory of mechanisms and kinematics Description New to this Edition Book Information ▼ Table of Contents Theory of Machines and Mechanisms, Fifth Edition, is an ideal text for the complete study of displacements, velocities, accelerations, and static and dynamic forces required for the proper design of mechanical linkages, cams, and geared systems. The authors present the background, notation, and nomenclature essential for students to understand the various independent technical approaches that exist in the field of mechanisms, kinematics, and dynamics. The fifth edition features streamlined coverage and substantially revised worked examples. 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Uicker, Jr. is Professor Emeritus of Mechanical Engineering at the University of Wisconsin-Madison.Gordon R. Pennock is Associate Professor of Mechanical Engineering at Purdue University.The late Joseph E. Shigley was Professor Emeritus of Engineering at The University of Michigan. February 2010January 2003 "Theory of Machines and Mechanisms, Fifth Edition, provides a sound and rigorous presentation of analysis theory in a manner that is accessible to students."--Pierre Larochelle, Florida Institute of Technology "The text's greatest strength is how readable it is. Complex concepts are communicated very well in a concise manner."--John Layer, University of Evansville Table of Contents Preface About the Authors PART 1. KINEMATICS AND MECHANISMS 1. 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