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Nota di contenuto	Cover; Title Page; Copyright Page; Preface; Content; List of Symbols; Chapter 1. Kinematics Of Vibration; 1.1. Definitions; 1.2. The Vector Method of Representing Vibrations; 1.3. Beats; 1.4. A Case of Hydraulic-turbine Penstock Vibration; 1.5. Representation by Complex Numbers; 1.6. Work Done on Harmonic Motions; 1.7. Non-harmonic Periodic Motions; Chapter 2. The Single-Degree-Of-Freedom System; 2.1. Degrees of Freedom; 2.2. Derivation of the Differential Equation; 2.3. Other Cases; 2.4. Free Vibrations without Damping; 2.5. Examples;

2.6. Free Vibrations with Viscous Damping  
 2.7. Forced Vibrations without Damping  
 2.8. Forced Vibrations with Viscous Damping; 2.9. Frequency-measuring Instruments; 2.10. Seismic Instruments; 2.11. Electrical Measuring Instruments; 2.12. Theory of Vibration Isolation; 2.13. Application to Single-phase Electrical Machinery; 2.14. Application to Automobiles; Floating Power; Chapter 3. Two Degrees Of Freedom; 3.1. Free Vibrations; Natural Modes; 3.2. The Undamped Dynamic Vibration Absorber; 3.3. The Damped Vibration Absorber; 3.4. Ship Stabilization; 3.5. Automobile Shock Absorbers; 3.6. Isolation of Non-rigid Foundations  
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 5.4. Natural Frequencies of Torsional Vibration; 5.5. Numerical Example; 5.6. Torque Analysis; 5.7. Work Done by Torque on Crank-shaft Oscillation; 5.8. Damping of Torsional Vibration; Propeller Damping; 5.9. Dampers and Other Means of Mitigating Torsional Vibration; 6.1. Critical Speeds; 6.2. Holzer's Method for Flexural Critical Speeds; 6.3. Balancing of Solid Rotors; 6.4. Simultaneous Balancing in Two Planes; 6.5. Balancing of Flexible Rotors; Field Balancing; 6.6. Secondary Critical Speeds; 6.7. Critical Speeds of Helicopter Rotors  
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 7.9. Vibrations of Turbines Caused by Leakage of Steam or Water.

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Sommario/riassunto

This classic textbook by J. P. Den Hartog, retired professor of mechanical engineering at MIT, reflects the author's unique ability to combine the scholarly insight of a distinguished scientist with the practical, problem-solving orientation of an experienced industrial engineer. Although mathematics plays a role in the subject, Den Hartog employs the simplest possible mathematical approaches. His lucid explanations of complex problems are presented in a direct style and supported by illustrative models. Numerous figures in the text enhance its value as a basic foundation in a field which De

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