



Handbook for Mechanical Maintenance Engineers, 1/e

JNYANI R. MAHATO

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About the Book

Maintenance Engineering is the discipline and profession of applying engineering concepts for the optimization of equipment, procedures, and departmental budgets to achieve better maintainability, reliability, and availability of equipment.

Mechanical maintenance engineering is increasing in importance due to rising number of equipment, systems, machineries and infrastructure. Maintenance is to ensure a unit is fit for purpose, with maximum availability at minimum costs.

The personnel for maintenance should possess significant knowledge of statistics, probability and logistics, and additionally in the fundamentals of the operation of the equipment and machinery.

This book provides extensive data, figures, standards and detailed information related to maintenance. Sufficient information and overview enabling the maintenance engineers to take an informed and confident decision is also provided.

Each chapter and topic dealt with in this book has been provided with a brief and crisp overview and synthesis of pertinent information.

Salient Features

The book broadly deals with:

- Optimization of the maintenance organization structure
- Analysis of repetitive equipment failures
- Estimation of maintenance costs and evaluation of alternatives
- Forecasting of spare parts
- Assessing the needs for equipment replacements and establish replacement programs
- Application of scheduling and project management principles to replacement programs
- Assessing required maintenance tools and skills required for efficient maintenance of equipment
- Assessing required skills for maintenance personnel
- Reviewing personnel transfers to and from maintenance organizations
- Assessing and reporting safety hazards associated with maintenance of equipment.

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2. Limits, Fit, Tolerance and Surface Finish
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6. Machine Elements
7. Couplings and Power Transmission Mechanisms
8. Lifting and Handling Tools, Tackles and Equipment
9. Gears, Gear Trains and Gearboxes
10. Bearings
11. Lubrication and Lubricants
12. Welding and Welding Materials
13. Hydraulic Power Systems
14. Basic Electrical Engineering

About the Author

JNYANI R. MAHATO :- was associated with SAIL (1983-2016) in different capacities from Assistant Engineer (Mech. Maintenance) to Deputy General Manager (Mech. Maintenance) for 34 years in Raw Material Division, and Bokaro Steel Plant of SAIL. He superannuated in December 2016.

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