

GOVERNMENT OF TAMIL NADU

HIGHER SECONDARY SECOND YEAR

VOCATIONAL EDUCATION

Basic Mechanical Engineering

THEORY & PRACTICAL

A publication under Free Textbook Programme of Government of Tamil Nadu

Department of School Education

Untouchability is Inhuman and a Crime

Government of Tamil Nadu

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PREFACE

This book **"Basic Mechanical Engineering"** has been written entirely based on new syllabus framed by TNSCERT. The subject matter is explained in a simple manner and simple language, lightened by sufficient colourful diagrams, illustrations with learning objectives.

In each chapter, Quotes, Activities, "Do you Know" and web search link have been given to enhance the student knowledge. QR Codes, ICT Corner for the tough area of the subject are marked which helps the students to understand the subject further in detail and quickly. Line diagrams as well as 3-Dimension views are given for easy understanding. Model Question has also been included at the end of the last chapter. Case studies are included at the end of this book which focus the importance of this **Basic Mechanical Engineering** course and also motivate the students to join and learn in the Engineering fields.

We sincerely convey my thanks to the Director, Joint Director and Staff members whose patronage on this book to come out successfully and the committee of experienced Teachers who beard the responsibility of the book to come out in good shape.

In spite of all our efforts, some errors and mistakes might have crept in. Any error or misprint, if pointed out and any suggestion for the improvement of the book will be thankfully acknowledged.

| C Learning Objectives | Learning objectives briefly describe the contents of the unit. It also outlines the knowledge gained by the students. | | | |
|------------------------|---|--|--|--|
| NOU- KNOWP | Interesting facts to motivate students to gain more information regarding the unit. | | | |
| Infographics | Visual representations of the unit for better understanding. | | | |
| Concept Figures | Conceptual diagrams that potrays the technique of drafting and sewing. | | | |
| HOW TO USE THE BOOK | To facilitate reading at anytime, anywhere. | | | |
| Activity | Skill oriented activities based on the units for better understanding. | | | |
| Evaluation | Access students under the category of understanding, reproducing and application oriented. | | | |
| Model Question Paper | A model question paper to help students to face examinations. | | | |
| References | List of related books for further reading. | | | |
| Case Study | Brief note on successful students who have pioneers in the field. | | | |
| Career Guidance | List of job opportunities on successful completion of course | | | |

AFTER COMPLETION OF 12TH VOCATIONAL GROUP

Basic Mechanical Engineering

Higher Education (Vertical Mobility)

- 1. Directly to Join 2nd year Diploma Engineering in Government and Government Aided and private polytechnics.
- 2. 10% of the Seats are allotted to Government and Government Aided and Private Engineering colleges to join first year Bachelor of Engineering (B.E).
- 3. To Distance Education Directly undergo the course AMIE which is equal to Government Engineering Courses.

Arts Group Area

- 1. +2 Vocational Groups Students are eligible to Join Ist year Diploma Teacher Training Course.
- 2. Directly Join B.A. Arts Group Except Physics, Chemistry, Biology major all other Science group.
- 3. Directly Join B.Sc-Maths Group and B.Sc-Computer Science.

Horizontal Mobility

Employments

- 1. Directly Join to Reputed Industries as Apprentice Training/Factory Training like
 - a) Ashok Leyland (Chennai and Hosur)
 - b) TVS Groups (Chennai, Hosur, Madurai, etc.)
 - c) Simpson Engineering Groups (Chennai, Hosur, Redhills, etc.)
 - d) Hyundai Car Company (Sriperumbudur, Irrungattukotttai, Chennai)
 - e) Ford India Ltd. (Maraimalai Nagar, Kanchipuram Dt.)
 - f) All Reputed Service centers like TVS, VST and Hyundai, Ford etc.
 - g) All Automobile leading manufacturing, repairing and servicing centers.

Self-Employment

- 1. Vocational Students after getting Apprentice Training Industry Training are eligible to get small scale Industry Loan from Hudco, TIDCO, SIDCO etc.
- 2. After getting required experience in the field, they are eligible to get minimum loans under the scheme of
 - a) NRY (Nehru Rozhar Yogana)
 - b) PMRY (Prime Minister Rozhar Yogana)
 - c) TRYSEM (Training for Rural Youth and Self Employment)
 - d) PMKVY (Pradhan Mantri Kaushal Vikas Yojana)

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E-book



Assessment

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