



**GOVERNMENT OF TAMIL NADU**

**HIGHER SECONDARY FIRST YEAR**

**VOCATIONAL EDUCATION**

# **Basic Automobile 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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**NOT FOR SALE**

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# PREFACE

We take pride in presenting this text book on Basic Automobile Engineering Theory for the students of Higher Secondary and express our deepest gratitude to the learners, teachers and the SCERT for their enthusiastic support and response.

In the preparation of this text book enough care has been taken to introduce the fundamentals concepts to make the students to understand the subject, in addition to dispensing advanced topics to keep the students updated with the modern developments.

The interesting facts related to the subject are highlighted under “Do you Know” box item. Suitable activities have been suggested to the students to familiarise them with various components of the Engine and able to obtain sufficient practical exposure.

Activities are included at the end of each chapter to encourage the students to have an additional exposure in the process of learning. It is mainly to make the students to acquire analytical skills and improve their understanding and also to help them for the purpose of examination. Students are encouraged to learn the new topics from the related know old topics and to practice critical thinking to get innovative idea required for vocational education.

To facilitate further learning, reference books and websites have been suggested for each chapter. Suggestions and constructive criticism are most welcome to be duly considered and incorporated in future.

## HOW TO USE THE BOOK



### Learning Objectives:

Learning objectives are brief statements that describe what students will be expected to learn by the end of school year, course, unit, lesson or class period.

### Chapter Outline

Illustrate the complete overview of chapter



Amazing facts, Rhetorical questions to lead students to Automobile inquiry

### Case Study

To encourage you, the role model students who studied in this group and achieved in various fields such as employment, self-employment and higher studies are mentioned in this case study.

### Activity

Directions are provided to students to conduct activities in order to explore, enrich the concept.

### Infographics

Visual representation of the lesson to enrich learning .

### Evaluation

Assess students to pause, think and check their understanding



To motivate the students to further explore the content digitally and take them in to virtual world

### Concept Map

Conceptual diagram that depicts relationships between concepts to enable students to learn the content schematically

### Career corner

List of professions related to the subject

### References

List of related books for further details of the topic

### Web links

List of digital resources

### Glossary

Explanation of scientific terms

### Competitive Exam questions

Model questions to face various competitive exams



## Career Guidance

Vertical Mobility		Horizontal Mobility	
Engineering	Arts	Employments	Self-Employment
<p>1. Directly to Join 2nd year Diploma Engineering in Government Aided and private polytechnics and select any other major Engineering course.</p> <p>2. 10% of the Seats are allotted to Government and Government Aided and Private Engineering colleges to Join Ist year graduate engineering.</p> <p>3. Distance Education Directly under go the course AMIE which is equal to Government Engineering Courses. Maximum Duration Six years.</p>	<p>1. +2 Vocational Groups Student are eligible to Join Ist year Diploma Teacher Training Course.</p> <p>2. Directly Join B.A. Arts Group Except – Physics Chemistry, Biology major all other science group.</p> <p>3. Directly Join B.Sc Math's group.</p>	<p>1. Directly Join to Reputed Industries as Apprentice Training/Factory Training like</p> <p>a) Ashok Leyland. (Chennai and Hosur)</p> <p>b) TVS Groups. (Chennai, Hosur, Madurai, etc.)</p> <p>c) Simpson Engineering Groups. (Chennai, Hosur, Redhills, etc.)</p> <p>d) Hyundai Car Company. (Sriperumbudur, Irungalur, Chennai)</p> <p>e) Ford India Ltd. (Maraimalai Nagar)</p> <p>f) All Reputed Service centers like TVS, VST and Hyundai, Ford etc.</p> <p>g) All Automobile leading manufacturing, repairing and servicing centers.</p>	<p>1. Vocational Students after getting Apprentice Training Industry Training are eligible to get small scale Industry Loan from Hudco, TIDCO, SIDCO etc.</p> <p>2. After Adequate required experience in the field getting they are eligible to minimum loans under the scheme of</p> <p>a) NRY (Nehru Rozhar Yogana)</p> <p>b) PMRY (Prime Minister Rozhar Yogana)</p> <p>c) TRYSEM (Training for Rural Youth and Self Employment)</p> <p>d) PMKVY (Pradhan Mantri Kaushal Vikas Yojana)</p>

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E-book



Assessment