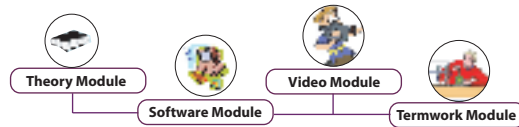


# Automobile Engineering



System Requirement:- IBM-PC Compatible with Window-OS, 128 MB RAM/Multimedia Kit

## Theory module

**Features :** Theory, Figures, Photographs, Animations with controller, Highlighter tool, Note creation facility, Systematic page navigation, Printing facility.

## List of Topics

### Automobile Engines

#### Engine Principles and Fundamentals



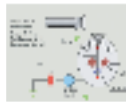
Introduction, Basic Engine Components, Terminology used in I. C. Engines, Otto Cycle, Diesel Cycle, Dual Cycle, Four Stroke Spark Ignition Engine, Four Stroke Compression Ignition Engine, Two Stroke Cycle Engine, Reasons for Using Two & Four Stroke Engines.

#### Constructional Features of Automobile and Engine Components

Component Parts of Automobile Engine, Piston, Piston Ring, Piston Pin, Crankshaft, Camshaft, Connecting Rod, Valve, Valve Mechanism, Types of Camshaft Drives, Rotary Valve, Reed Valve.



#### Engine Cooling System Theory



Introduction, Purpose of Cooling, Types of Cooling System, Comparison of Air & Water Cooling System, Parts of Cooling System, Use of Thermostat, Water Expansion Tank, Temperature Indicator, Pressure cap, Water Pump, Fan & Fan Belt, Trouble Shooting of Cooling System.

#### Lubrication Systems

Purpose of Lubrication, Properties of Engine Lubricating Oil, Classification of Lubricating Oil, Service Rating of Oil, Types of Lubricating System.

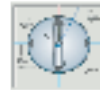


#### Fuel Systems



Fuel Feed System in Petrol Engine, Mechanical Fuel Pump, Electrical Fuel Pump, Principles of Carburetion, Simple Carburetor, Choke System, Accelerating system S. U. Carburetor, Solex Carburetor, Requirements of Fuel Injection System, Fuel Injection Pump, Fuel Injector.

### Ignition Systems

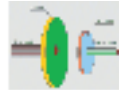


Ignition Limits, Battery Ignition System, Ignition Coil, Distributor, Spark Plug, Contact Breaker point, Magneto Ignition System, Types of Magneto System, Ignition Time, Spark Advance Mechanism.

### Automobile Chassis

#### Transmission Systems

Arrangement of Power Transmission System, Arrangement of Front Engine Drive, Rear Engine Rear Drive, Four Wheel Drive, Clutch and its Functions, Types of Clutches, Clutch Troubles and their Causes, Gear Box, Types of Gear Boxes, Propeller Shaft, Final Drive, Types of Gear type Final Drives, Differential Gear Box, Rear Axle, Types of Live Axle.



#### Automotive Chassis



Front Axle, Types of Front Axles, Stub Axle, Steering System, Ackermann's Principle of Steering, Wheel Alignment, Factors on which Wheel Alignment Depends, Steering Troubles and Causes, Power Steering

#### Suspension Systems

Introduction to Suspension, Functions of Suspension, types of Suspension, Springs, Leaf Spring, Types of Leaf Spring, Coil Spring, Torsion Bar, Shock Absorber, Independent Suspension System, Types of Front Wheel Independent, Suspension, Rear Wheel Independent Suspension System, Air Suspension System.



#### Wheels and Brake Systems



Introduction to Wheels and types, Introduction to tyre and their functions, Tyre Properties and types, Comparison of Radial Tyre and Bias Ply Tyres, Wheel and Tyre Trouble Shooting, Introduction to Brakes, Braking requirements or functions, Classification of Brakes, Comparison of Disc and Drum Brakes, Hydraulic Brakes, Bleeding of Hydraulic Brakes, Air Brakes, Main Components of Air Brakes, Brake System Trouble Shooting.