

Automobile

VOC-131: Automobile Technology

Learning Objectives:

1. To introduce students basics of automobile and related terms.
2. To introduce students with various automobile components and working principles of them

Learning Outcomes:

1. Students will gain knowledge of automobile components, engine components.

Module I: Introduction to automobile

History of automobile, Indian and worlds leading automobile Industries, Introduction to the Components of automobile, Classification of automobile, (Two wheeler and four wheeler) engine, Clutch, gear box, differential, axle, wheel, brake, suspension, steering, electrical components, frame, body etc.

Module II: Engine and its components

Construction and working principle of I.C engine, classification of I.C engine, Construction and working of two stroke petrol engine, Construction and working of four stroke petrol engine; Difference between two stroke and four stroke engine; Petrol and diesel engine, Various rule and road signs for safety driving.

Module III: Driving Technique Technical details and vehicle

Driving hints, Driving technique Technical details and vehicle specification, engine specifications and driving safety Technical details included in owners and service manual. Work, power, energy, efficiency, bore, stroke, displacement, compression ratio, IHP, BHP.

Module IV: Basic Concept of Electricity

Current, Ampere, Volt, Resistance, Ohm law, potential difference, parallel circuit, series circuits Introduction of material. Classification, properties & uses of materials. Basic concept of electricity.

Module V: Tutorials, assignments and presentation based on Module I to IV

References:

- 1) Automotive Mechanics: William H. Crouse. Donald L. Anglin: Tata McGraw Hill 10th edition.
- 2) Automotive Electrical Equipment: P L Kolhi: Tata McGraw Hill.
- 3) Basic Automobile Engineering: C P Nakara: Dhanpatrai publication.
- 4) Automotive Mechanics: S Shrinivasan: Tata McGraw Hill Second edition
- 5) Automobile engineering Vol-I: Dr. Kripal Singh: Standard Publisher distributors.
- 6) Automobile engineering Vol-II: Dr. Kripal Singh: Standard Publisher distributors.
- 7) Internal Combustion Engine: V. Ganesan: Tata McGraw Hill Third edition.
- 8) Automobile engineering: R. B. Gupta: SatyaPrakashan
- 9) Automobile Engineering Vol-I: K. M. Gupta: Umesh Publication
- 10) Automobile Engineering Vol-II: K. M. Gupta: Umesh Publication