## CONTENT

|            |   | Page       |
|------------|---|------------|
|            | UNIT ONE : THE MOTOR VEHICLE  |            |
| 1.         | History and Operation   | 2          |
|            | · · · · · · · · · · · · · · · · · · ·   |            |
| 2.         | UNIT TWO: THE POWER UNIT  | 12         |
| 2.<br>3.   | Principles of Engine Operation Engine Parts and Their Functions                           | 23         |
| <i>4</i> . | Multiple-Cylinder Engines   | 42         |
| 5.         | Engine Troubles and Repairs   | 56         |
|            | UNIT THREE: BEARING AND LUBRICATION   |            |
| 6.         | Bearings and Lubrication  | 74         |
|            | UNIT FOUR : THE FUEL SYSTEM   |            |
| 7.         | Combustion and Engine Fuels   | 102        |
| 8.         | The Carburetor  | 112        |
| 9.         | Fuel –Feed, Intake, and Enhaust Systems   | 141        |
|            | UNIT FIVE: THE COOLING SYSTEM   |            |
| 10.        | The Cooling System  | 166        |
|            | UNIT SIX: THE ELECTRICAL SYSTEM   |            |
| 11.        | Fundamentals of Magnetism and Electricity   | 184        |
| 12.        | Battery, Starting, and Generating Systems   | 210        |
| 13.        | Ignition, Lighting and Electrical Instruments   | 252        |
|            | UNIT SEVEN: THE POWER TRAIN   |            |
| 14.        | The Clutch  | 287        |
| 15.        | Fundamentals of Gear Operation  | 299        |
| 16.<br>17. | Manually Operated Selective Transmission  | 311<br>329 |
| 17.        | Overdrive, Fluid Drive, Chrysler Semi-Automatic Transmission The Hydra-Matic Transmission | 353        |
| 19.        | Torque-Converter Transmissions  | 389        |
| 20.        | Propeller Shafts, Final Drives, and Differentials   | 423        |
|            | UNIT EIGHT : THE RUNNING SYSTEM   |            |
| 21.        | Brakes, Wheels, and Tires   | 442        |
| 22.        | Frame, Suspension, and Steering Systems   | 469        |
| Inde       | x   | 495        |