

2.12 30267 AUTOMOBILE ENGINEERING

UNIT-1

1. Introduction Components of an automobile Classification of automobiles Layout of chassis Types of drives-front wheel, rear wheel, four wheel, left hand, right hand
2. Transmission System Clutch Function Constructional details of single plate and multiplate friction clutches Centrifugal and semi centrifugal clutch Gear Box Function Working of slide mesh, constant mesh and synchromesh gear box Torque convertor and overdrive Propeller shaft and rear axle Function Universal joint Differential Rear axle drives and different types of rear axles Wheels and Tyres Types of wheels- disc wheels and wire wheel Types of tyre used in Indian vehicles Causes of tyre wear Toe in, Toe out, Chamber, Caster, Kingpin inclination Tube less tyres

UNIT-2

1. Steering System Function and principle Auckerman and Davis steering gears Types of steering gears- worm and nut, worm and wheel, worm and roller, Rack and pinion type
2. Braking System Constructional detail and working of mechanical, hydraulic and vaccum brake. Details of master cylinder, wheel cylinder Concept of brake drum, brake lining and brake equipment bleeding of brakes
3. Suspension System Function Types Working of coil spring, leaf spring Shock absorber

UNIT-3

1. Battery Constructional details of lead and cell battery Specific gravity of electrolyte Effect of temperatures, charging and discharging on specific gravity Capacity and efficiency of battery charging Maintenance of batteries Checking of batteries for voltage and specific gravity
2. Dynamo and Alternator Dynamo Function and details Regulators-voltage, current and compensated type Cutout-Construction, working and their adjustment Alternator Construction and working Charging of battery from alternator

UNIT-3

1. Diagram of a Typical Wiring system
2. Lighting System and Accessories Lighting system Wining circuit Headlight, aiming of headlights lighting switches Direction indicators Windscreen Wipers Horn Speedometer Heater Air-conditioning

Reference Book:

1. Automobile Engineering by Abhishek Sharma