

AUTOMOBILE ENGINEERING

THEORY- II

Motor Vehicle Construction and Maintenance- motor mechanics tools. Motor cycle minor trouble shooting and repair, procedure and diagnosis and different types of faults.

CLUTCH :

Different types – single plate clutch, multiplate clutch – fluid flywheel – centrifugal clutches – cone clutch – functions of clutch – clutch adjustment and recondition method. Advantages and limitations – fluid coupling – principles of operation of fluid coupling – Torque converter.

GEAR BOX :

Gear Box construction – Synchronising gears - freewheel – gear box lubrication – Automatic Gear box. Transfer gearbox. Propeller shaft – differential and final drive – adjustment method slip joint – constant velocity universal joint – types of rear axle – Full floating – semi floating – three quarters floating – Hotch kiss drive – Torque tube drive – Torsion bar – coil spring – leaf spring – Tube, tyres, tubeless maintenance – wheel alignment – king pin inclination, camber, caster, toe-in, toe-out, Independent suspension – types of shock absorber & spring.

EPICYCLIC GEAR BOX :

Advantages of epicyclic gear – simple epicyclic gear – Automatic epicyclic gear – overdrive gear system.

AUTOMOBILE TRANSMISSION :

Power glide Transmission – hydraulic control systems of Automatic transmission.

BRAKES :

Functions and methods of operation – types of Brakes – Air brakes – Vacuum brake – Hydraulic Brake – Mechanical Brake – Lining material – Brake adjustment and overhauling

STEERING SYSTEM :

Function of steering, types of steering gears – steering linkages – steering adjustments and overhauling – Transmission system lubrication maintenance period.

MACHINE DRAWING :

Freehand sketching with dimension of simple solids such as cubes - rectangular blocks – cylinders – nuts and bolts – rivets and washers – keys and screw threads with dimension views of simple machine parts (like plumber block, screw jack, A.C. pump, Cylinder head, cylinder Block, crank shaft, cam shaft, crank case, nozzle, hacksaw assembly) – Automobile components – Pistons – connecting rod gear box – clutch. Sketches of simple assembly drawing isometric views – simple Automobile components – Camshafts – crankshaft – leaf and coil springs – piston cylinder head – cylinder block – plumber lock etc.

ELECTRIC DRIVE :

Advantages and limitations – modern electric drives for buses.

REFERENCE BOOKS :

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