

AMAE-26 VEHICLE MAINTENANCE

UNIT-1 MAINTENANCE, WORKSHOP PRACTICES, SAFETY AND TOOLS

- 1.1 Maintenance
- 1.2 Need, importance, primary and secondary functions, policies
- 1.3 Classification of maintenance work - vehicle insurance- basic problem diagnosis.
- 1.4 Automotive service procedures- workshop operations
- 1.5 Workshop manual-vehicle identification.
- 1.6 Safety- Personnel, machines and equipment, vehicles, fire safety- First aid.
- 1.7 Basic tools- special service tools- measuring instruments-
- 1.8 Condition checking of seals, gaskets and sealants.
- 1.9 Scheduled maintenance services- service intervals- Towing and recovering.

UNIT-2 ENGINE AND ENGINE SUBSYSTEM MAINTENANCE

- 2.1 General Engine service
- 2.2 Dismantling of Engine components
- 2.3 Engine repair- working on the underside, front, top, ancillaries
- 2.4 Service of basic engine parts, cooling and lubricating system, fuel system,
- 2.5 Intake and Exhaust system, electrical system
- 2.6 Electronic fuel injection and engine management service
- 2.7 fault diagnosis- servicing emission controls

UNIT-3 TRANSMISSION AND DRIVELINE MAINTENANCE

- 3.1 Clutch- general checks, adjustment and service-
- 3.2 Dismantling, identifying, checking and reassembling transmission, transaxle- road testing
- 3.3 Removing and replacing propeller shaft,
- 3.4 Servicing of cross and yoke joint and constant velocity joints-
- 3.5 Rear axle service points- removing axle shaft and bearings servicing differential assemblies- fault diagnosis.

UNIT-4 STEERING, BRAKE, SUSPENSION, WHEEL MAINTENANCE

- 4.1 Inspection, Maintenance and Service of Hydraulic brake,
- 4.2 Drum brake, Disc brake, parking brake.
- 4.3 Bleeding of brakes. Inspection,
- 4.4 Maintenance and Service of Mc person strut, coil spring, leaf spring, shock absorbers.
- 4.5 Dismantling and assembly procedures.
- 4.6 Wheel alignment and balance, removing and fitting of tyres, tyre wear and tyre rotation.
- 4.7 Inspection, Maintenance and Service of steering linkage, steering column, Rack and pinion steering, Recirculating ball steering service- Worm type steering, power steering system

UNIT-5 AUTO ELECTRICAL AND AIR CONDITIONING MAINTENANCE

- 5.1 Maintenance of batteries, starting system,
- 5.2 Charging system and body electrical -Fault diagnosis using Scan tools.

- 5.3 Maintenance of air conditioning parts like compressor, condenser, expansion valve, evaporator
- 5.4 Replacement of hoses- Leak detection- AC Charging
- 5.5 Fault diagnosis Vehicle body repair like panel beating, tinkering, and soldering, polishing, painting.

Reference Books:

1. Ed May, "Automotive Mechanics Volume One" , Mc Graw Hill Publications, 2003
2. Ed May, "Automotive Mechanics Volume Two" , Mc Graw Hill Publications, 2003
3. Vehicle Service Manuals of reputed manufacturers

