

Vehicle Maintenance

B.E. Sem. VIII [AUTO]

EVALUATION SYSTEM

	Time	Marks
Theory Exam	4 Hrs.	100
Practical & Oral	–	–
Oral Exam	–	25
Term Work	–	25

SYLLABUS

1. Engine Maintenance-I

Engine Tuning & Vehicle care :Definition, Necessity, procedure, it's effects, preparation of check sheet for engine tuning and important steps in vehicle maintenance, Maintenance and its types.

Engine analysis :Definition, Testing and diagnosis of various engine and vehicle systems by engine analyzer. Computerized engine analysis for SI and CI engines, various tests conducted on computerized engine analyzer or Auto Master and test procedure.

Engine compression and Vacuum test : Testing equipments and test procedure

2. Engine Maintenance-II

Engine overhauling :Definition, types of overhaul: i)Top overhaul or Decarbonising,ii)Major Overhaul and overhauling procedure

Diagnosis of Various engine faults such as failure to start, misfire, overheating , lack of power, etc.

Engine noises and engine wear

Engine lubricating systems :Purpose, various lubricating systems, types of lubricants used in different vehicle components, Characteristics of lubricants, Engine oil, and analysis of fresh and used oil.

3. Troubleshooting And Servicing

Ignition systems: Battery troubles and their causes, effects and remedies, Ignition timing.

Starter motor, Generator and alternator : Types of starting devices used in an automobile, Differences between starter motor generator and alternator, Routine maintenance & servicing procedures for all

Present trends in Painting and Denting : Painting technology, paint defects, causes and remedies, Body repairing & reconditioning methods.

4. Fault Tracing-I

Transmission and drive line components : Introduction, Manual transmission-troubles diagnosis and servicing, Manual transaxles trouble diagnosis and servicing. Automatic transmission-trouble diagnosis and servicing.

Steering and Suspension systems : Trouble diagnosis, their causes, inspection and servicing of steering and suspension components, Wheel alignment, procedure of Computerized wheel alignment.

5. Fault Tracing-II

Braking Systems: Drum brakes and Disc brakes, troubles, causes, and their remedies, Power brakes, ABS trouble diagnosis and their servicing

Wheels and tyres : Wheel balance, wheel run out, static and dynamic balancing, wheel repairing, Computerized wheel balancing procedure, Tyre inspection ,tyre wear and its remedy, Tyre retreading, Tyre servicing and repair, Demounting of tyre from rim.

6. Fault Tracing-III

On Board Diagnostics : Diagnostic equipments, Study of operation of latest diagnostic equipments such as Oscilloscopes, Engine analyzers, serial port communications. On Board diagnostics, Networking, Electronic Service Bay, Multi Protocol Adaptor etc.

References Books :

1. Automotive Mechanics (*W.H. Crouse and Anglin*).
2. Automobile Electrical and electronic systems(Second Edition) (*Tom Denton*)
3. Automotive Mechanics (*Joseph Heitner*).
4. Automotive Engines Theory & Services (*J.D. Halderman , C.D. Mitchell Jr.*) Pearson Education
5. Mechanics of road vehicle (*W. Steeds*)
6. The Motor vehicle (*Newton Steeds Garrett*).
7. The Mechanism of Car (*Arthur W. Judge*).
8. Automobile repair Guide (*Dwaggins*).
9. AA Book of car- Drive publication Ltd., London
10. Maruti Service Manual-MUL, Haryana.
11. Maruti Gypsy Service Manual-MUL, Haryana.
12. SAE Journals.

