

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: V

AUTOMOBILE ENGINEERING

Subject Name: **Automobile Maintenance and Repair Practice (Institute Elective-II)**

Subject Code: **150204**

Teaching Scheme				Evaluation Scheme		
Theory	Tutorial	Practical	Total	University Exam (Theory) (E)	Mid Sem Exam (Theory) (M)	Internal Assessment (I)
2	0	4	6	70	30	50

Sr. No.	Course content
1.	Vehicular maintenance Practices: Types of maintenance schedules (daily, weekly and monthly), Break down, Preventive, Predictive maintenance practices.
2.	Measuring Instruments: Measuring instruments for wear, Fuel consumption, Speed, acceleration, Vibration, Noise.
3.	Maintenance & Overhauling of Aggregates: <ol style="list-style-type: none"> a) Cylinder bore – measurement, Cylinder boring/Cylinder liners fitting, honing b) Cylinder head- facing, valve seat lapping. c) Petrol Engine- Carburetor- tuning and setting of MPFI engines. d) Diesel engine- Fuel injection pumps and fuel injector's calibration. e) Cleaning of water cooling system, water pump & radiator maintenance. f) Gear box – repairing of gear box and shifting mechanism. g) Final drive and differential- final drive maintenance, differential back lash adjustment. h) Wheels and tyre maintenance, retreading of tyres, wheel balancing. i) Steering system linkages, Wheel alignment: toe in, toe out, caster and camber. j) Hydraulic brakes- brake adjustment, bleeding of brakes. k) Chassis greasing. l) Suspension system: lubrication, maintenance. m) Adjustment of clutch pedal free play ,repair/replacement of clutch parts n) Repair & maintenance of Propeller shaft “U” joints and Centre bearing o) Maintenance & repair practices for Leakage of Oil, Oil consumption, Coolant leakage and overheating. p) Diagnosis for Low fuel average (including Air lock), poor pick up. q) Maintenance & repair of electrical and ignition system.
4.	Garage Practice: Service station, functions and operations, activities, depot and workshop layouts, Transport services undertaking garage equipments and their function, Measuring instruments and testing procedures, Repairing processes and machines used for servicing and lubrication.

5.	Workshop Management Practice: Workshop documents & records (job cards, bill, satisfaction voucher, history sheet, manufacturer's service coupon book, warranty policy etc.)Customer complaint Handling & consumer cases in case of any dispute.
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Reference Books:

1. Automotive mechanics by Crouse,TMH
2. Automobile system by Anil Chikara.
3. K.K.Ramlingan, Automobile Engineering, SciTech Publication.
4. Joseph Heitner, Automechanics, East West Press.
5. Pattern and Donald, Automotive Service Basics, Pearson Publications.