

Branch Name:	Automobile Engineering
Program Code:	ET408
Course Title:	Automobile professional practice- I
Course Code:	2ET4080406
Pre-requisite Course:	-----

Course Objectives:

1. To understand the types of maintenance.
2. To understand the workshop and various departments.
3. To understand two and three wheeler technology.
4. To understand industry 4.0

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
0	0	6	3	-----	----	20	30	50

Course Contents:

Unit No	Topic	Total Hours
1	Vehicle Maintenance practices • Introduction of vehicle maintenance practice. • Types of vehicle maintenance: - Daily maintenance - Weekly maintenance - Preventive maintenance - Breakdown maintenance • Maintenance check-up procedure. • Vehicle service procedure	08
2	Workshop Management Practices • Organization structure of the automobile workshop. • Layout of workshop. • Requirement and importance of the workshop management. • List of activities and duties of the workshop management. • Procedure and function of material management. • Inventory Control. • Maintain procedure and steps of the workshop documentation and records. (Quotations, Tenders, Store records, Bin card, Store Ledger, warranty vehicle registration) • Importance and requirement of purchase, store keeping, customer care and vehicle sales.	10
3	Two and Three wheeler Technology • Major components of two wheeler and three-wheeler. • Maintenance and service/repair of two wheeler and three wheeler. • Adjust/change wire cable/control cable of two wheeler and three wheeler.	06
4	Industrial Revolution and Industrial Internet of Things • Introduction Industrial Revolution. • Core idea of industry 4.0 • Conceptual frame work and road map of Industry 4.0 • Understanding of Industrial Internet of Things.	06

	- Artificial Intelligence. - Application of Industrial Internet of Things	
5	Industrial visit/Expert talk - Industrial visit (Suggestive points for best outcome) - Preparation of task sheet before visit. - Noting of important points during visit - Participation during visit - Report writing covering task sheet data, noted information in detail. - Expert talk (Suggestive points for best outcome) - Aware students well in advance about main theme of expert talk.	04

List of Practical:

1. Execute planned maintenance schedule with the help of proper tools and equipment.
2. Perform inspection of brake down vehicle and list out repair/ replacement work required for total repair.
3. Draw layout of authorized automobile workshop considering important points to be taken care of, rules and safety aspects.
4. Understand cleaning and adjusting procedure of spark plug gap.
5. Maintain wiring harness of given vehicle.

Reference Books:

1. Automobile Mechanics William Crouse Tata Mc-Graw Hill Publication
2. Automotive Technology James D Halderman Pearson Education
3. Two And Three Wheeler Technology Dhruv U Panchal PHI learning pvt.Ltd.
4. Vehicle maintenance and garage practice Jigar A Joshi Dhruv U Panchal Jayesh P Maniar PHI learning pvt.Ltd

List of Open-Source Software/learning website:

1. <https://www.howacarworks.com>
2. <https://swayam.gov.in>
3. <https://auto.howstuffworks.com>
4. <https://nptel.ac.in>
5. <https://tinyurl.com/mwcxwd94> for video link
6. <https://tinyurl.com/rrc7ts3v> for web link

Course Learning Outcomes (CLO):

1. Carryout vehicle inspection and maintenance work with safety.
2. Maintain the workshop documentation and records.
3. Perform maintenance procedure of the two and three-wheeler automotive system.
4. Describe industrial revolution and industrial internet of things.
5. Develop individual professional skills.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes(PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	L		L	M	H		L					M	M	M	L	
CLO2		L			M				M				M	M		
CLO3			M	M	M							M		L	M	
CLO4		M		L			L		L			M				
CLO5		M	M		M							L	M		L	

H: High, M: Medium, L: Low