



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B.Voc), 1st Semester
Branch: Automobile Servicing
Subject Name: Electric & Hybrid Vehicle-Lab.
Subject Code: 1110106

**With effective
from academic
year 2018-19**

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	P	OJT		Theory		Tutorial/ Practical		
			University exams (ESE)	Progressive Assessment (PA)	External Practical /viva Exam (ESE)	Internal evaluation Practical /viva Exam (PA)		
-	2	-	2	-	-	30	20	50

L- Lectures; P- Practical; OJT- On Job Training; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Content:

Sr. No.	Content	Hrs
1	Understand working of different configurations of electric vehicles	4
2	Understand hybrid vehicle configuration and its components, performance analysis	4
3	Understand the properties of batteries and its types	4
4	Understand of electric vehicle drive systems.	4
5	Understand of hybrid electric vehicles.	4
6	Understand Auxiliary systems including charging, starter motor, on board power supply, lighting and environmental sensing and conducting repairs. Repair & Replacement of Electric/ Hybrid Vehicle body	8
7	Repair & Replacement of Electric Vehicle Drive Train	6
8	Fault diagnosis & repair / replacement of Battery, DC & AC Electrical Machines, Hybrid Electric Vehicles	8
	Total	42

Reference Books:

1. Modern Electric, Hybrid Electric & Fuel Cell Vehicles by Mehrdad Ehsani, CRC Press.
2. Modern Vehicle Technology by Heinz, Butterworth Heinemann.
3. Electric and Hybrid Vehicles: Design Fundamentals by Iqbal Husain, CRC Press.

Course Outcomes:

At the end of this practical course students will be

1. familiar with working on different configurations of electric vehicles
2. Understand hybrid vehicle configuration and its components and their performance analysis.
3. Understand Auxiliary systems and their Repair & Replacement of Electric/ Hybrid Vehicle.