VIDHYADEEP UNIVERSITY
Holy Flame of Knowledge

THIRD-YEAR DIPLOMA ELECTRICAL ENGINEERING SYLLABUS

Semester: 5th

Course Code Lab: 002203582 **Type of Course:** PEC-LC-2

Course Name: ELECTRIC VEHICLES

Course Prerequisites:

COURSE OBJECTIVE(S):

Main objective of subject is to introduce major parts of electric vehicle system, its parameters, battery, charging system and safety.

TEACHING & EXAMINATION SCHEME:

Teaching Scheme (Hrs/Week)				Examination Scheme					
Theory	Tutorial	Practical	Credit	SEE		CA			Total
				Th	Pr	MSE	PLE	LA	
0	0	2	1	0	25	0	0	25	50

SEE: Semester End Examination; CA: Continuous Assessment; Th: Theory; Pr: Practical; MSE: Mid Semester Examination; PLE: Participatory Learning Experience; LA: Laboratory Assessment

*TOTAL Practical Hours: No. of Pr. and Prt.Hrs/Week*15 = 30*

LIST OF PRACTICALS: *(sample for 2 hrs/week)*15 weeks*

Sr. No.	Content	Unit No.	Time Duration
1	Develop block diagram of Electric vehicle and identify parts.	1	2
2	Case study- Compare minimum four vehicles for economic and environmental analysis.	1	2
3	Develop schematic diagram of hybrid electric vehicle and identify the components fluorescent lamp.	1	2
4	Prepare report on Plug in Electric vehicle by visiting a charging station.	2	2
5	Inspect and install inverter of given lead acid battery.	3	2
6	Prepare a report on batteries used from market survey.	3	2
7	Collect specifications of converters and inverters used for Electric vehicles a single lamp control by two switches.	3	2
8	Diagnose, repair and maintain battery used in electric vehicle.	3	2
9	Prepare test procedure for equipment used in Electric vehicle.	4	2
10	List safety procedures and schedule for handling HEVs and EVs.	4	2
11	To Study Battery Charging System for Lead Acid Battery.	5	4
12	To Study Battery Charging System for Li-ion Battery.	5	4
13	To study safety and protection requirement of Li-ion Battery.	5	2
		TOTAL	30

Text Book(s):

Title of the Book	Author(s)	Publication
Electrical And Hybrid Vehical	Shyam M. Ramnani	Tech Knowledge

Electrical Hybrid Vehical	A K Babu	Khanna Book

Reference Book(s):

Title of the Book	Author(s)	Publication
Electric & Hybrid Vehicles	A.K. Babu	Khanna Publishing House
A. E. Hybrid Vehicles and the Future of Personal Transportation	Fuhs	CRC Press
Electric and Hybrid Electric Vehicles	Husain	CRC Press

Web Material Link(s):

- https://nptel.ac.in/courses/108102121/

Equivalent/Corresponding Course on NPTEL (SWAYAM):

PRACTICAL EVALUATION:

Sr. No.	Activity	Marks	Weightage
1	Semester End Examination (External Practical)	25	60%
2	Continuous Assessment Practical (CAP)	25	40%
	Semester End Examination (External Practical)		
1(a)	Lab Experiment/Exercise		30%
1(b)	Viva-voce		20%
1(c)	Certified Record		10%
	Continuous Assessment Practical (CAP)		
2(a)	Day to day Laboratory Work & Attendance		15%
2(b)	Submission of Laboratory Work/Journal		10%
2(c)	Exam		15%

* For 4 Credit Subjects

1 Credit = 25 Marks
Theory: 3 Credits = 75 Marks
Practicals: 1 Credit = 25 Marks
SEE Evaluation will be of 100 marks and converted to 50 Marks (75 Th + 25 Pr)
CA Evaluation will be of 100 Marks and converted to 50 Marks. (75 Th + 25 Pr)

Distribution of Marks for Theory Evaluation as per Bloom's Taxonomy Level:

Level	Remember	Understand	Apply	Analyze	Evaluate	Create

THIRD-YEAR DIPLOMA ELECTRICAL ENGINEERING SYLLABUS

% Weightage	20%	20%	20%	10%	20%	10%

COURSE OUTCOMES:

CO1	Understand electric vehicle, and its applications.
CO2	Understand selection of appropriate motor for EV applications.
CO3	Understand requirement of battery type, characteristics for EV applications.
CO4	Understand requirement of power train & in-wheel drive operation.
CO5	Understand safety requirement for EVs.