

**STRUCTURE OF ONE YEAR FULL TIME POST GRADUATE DIPLOMA IN  
ELECTRIC MOBILITY (PG-DEM)  
(A Joint Programme COEP, Cummins COE, Pune and DoT, SPPU Pune)  
Each Trimester is of 15 weeks followed by examination in subsequent week.**

**Trimester I**

Sr. No.	Course Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	PGEM1	Bridge Course a) Fundamentals of Automotive Electrical & Electronic Systems (for Mechanical group) b) Fundamentals of Automotive Mechanical Systems (for Electrical group)	3	0	0	3
2	PGEM2	Applied Mathematics	2	1	0	3
3	PGEM3	EV System Design and Architecture	3	0	0	3
4	PGEM4	Energy Storage Systems for Electric Vehicles	2	1	0	3
5	PGEM5	EV Motor Drives and Power Electronics	2	1	0	3
6	PGEM6	Lab 1	0	0	4	2
7	PGEM7	Mini Project 1	0	0	4	2
		<b>Total</b>	12	3	8	19
		<b>Total Academic Engagement and Credits</b>	<b>23</b>			<b>19</b>

**Trimester II**

Sr. No.	Course Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	PGEM8	Vehicle Dynamics and Traction Systems	2	1	0	3
2	PGEM9	Sensors and Controls in Electric Vehicles	2	1	0	3
3	PGEM10	IOT for Electric Vehicles	3	0	0	3
4	PGEM11	Elective 1	2	0	0	2
5	PGEM12	Elective 2	2	0	0	2
6	PGEM13	Lab 2	0	0	4	2
7	PGEM14	Mini Project 2	0	0	8	4
		<b>Total</b>	11	2	12	19
		<b>Total Academic Engagement and Credits</b>	<b>25</b>			<b>19</b>

**Trimester III**

Sr. No.	Course Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	PGEM14	Industrial In-Plant Training (15-18 Weeks)	0	0	0	12
		<b>Total</b>	0	0	0	12
		<b>Total Academic Engagement and Credits</b>	<b>0</b>			<b>12</b>
		<b>Course Total Credit</b>				<b>50</b>

Sr. No.	List of Electives
a	Thermal Design and Management of EV Systems
b	Safety and Automotive Standards
c	Energy Management and Vehicle Integration
d	Advance Electric Drives
e	Embedded Systems and in vehicle communication protocols
f	FEM and CFD for Electric Vehicles
g	Design Validation Process