

Lesson Plan & Work-done Diary for AY: 2025-26, ODD Semester

Course with Code: Automotive Electronics – BEC714C							Semester: VII	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-1								
1	4/8/25	Prerequisite Class 1	PPT	1				
2	5/8/25	Prerequisite Class 2		2				
3	7/8/25	Prerequisite Class 3		3				
4	11/8/25	Evolution of Automotive Electronics, Automobile Physical Configuration, Survey of Major Automotive Systems		4				
5	12/8/25	The Engine – Engine Block, Cylinder Head, Four Stroke Cycle Engine Control, Ignition System - Spark plug, High voltage circuit and distribution		5				
6	14/8/25	Spark pulse generation, Ignition Timing, Diesel Engine, Drive Train – Transmission		6				
7	18/8/25	Drive Shaft, Differential, Suspension, Brakes, Steering System, Starter Battery –Operating principle		7				
8	19/8/25	Motivation for Electronic Engine, Control – Exhaust Emissions, Fuel Economy		8				
9	21/8/25	Concept of an Electronic Engine control system, Definition of General terms, Definition of Engine performance terms		9				
10	25/8/25	Engine mapping, Effect of Air/Fuel ratio, spark timing and EGR on performance		10				
11	26/8/25	Control Strategy, Electronic Fuel control system Analysis of intake manifold pressure, Electronic Ignition		11				



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MODULE-2								
12	28/8/25	Automotive Sensors: Automotive Control System applications of Sensors and Actuators – Typical Electronic Engine Control System, Variables to be measured	PPT	12				
13	1/9/25	Airflow rate sensor, Strain Gauge MAP sensor		13				
14	2/9/25	Engine Crankshaft Angular Position Sensor, Magnetic Reluctance Position Sensor		14				
15	4/9/25	Hall effect Position Sensor, Shielded Field Sensor		15				
16	8/9/25	Optical Crankshaft Position Sensor, Throttle Angle Sensor (TAS)		16				
17	9/9/25	Engine Coolant Temperature (ECT) Sensor, Exhaust Gas Oxygen (O2/EGO)		17				
18	15/9/25	Lambda Sensors, Piezoelectric Knock Sensor.		18				
19	16/9/25	Solenoid, Fuel Injector, EGR Actuator, Ignition System		19				



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MODULE-3								
20	18/9/25	Digital Engine control features, modes for fuel Control (Seven Modes) EGR Control, Electronic Ignition Control - Closed loop Ignition timing	PPT	20				
21	22/9/25	Spark Advance Correction Scheme, Integrated Engine Control System		21				
22	23/9/25	Secondary Air Management, Evaporative Emissions Canister Purge		22				
23	25/9/25	Automatic System Adjustment, System Diagnostics.		23				
24	29/9/25	Operating conditions, Design		24				
25	30/9/25	Data processing, Programming,		25				
26	6/10/25	Digital modules in the Control unit		26				
27	9/10/25	Control unit software		27				



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MODULE-4								
28	13/10/25	Bus Systems – Classification	PPT	28				
29	14/10/25	Applications in the vehicle, Coupling of networks, Examples of networked vehicles		29				
30	21/10/25	Buses - CAN Bus, LIN Bus, MOST Bus, Bluetooth		30				
31	27/10/25	Flex Ray, Diagnostic Interfaces		31				
32	28/10/25	Typical Cruise Control System, Digital Cruise Control System		32				
33	30/10/25	Digital Speed Sensor, Throttle Actuator		33				
34	3/11/25	Digital Cruise Control configuration		34				
35	4/11/25	Cruise Control Electronics (Digital only), Antilock Brake System (ABS)		35				



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MODULE-5								
36	6/11/25	Timing Light, Engine Analyzer, On-board diagnostics, Off-board diagnostics	PPT	36				
37	10/11/25	Expert Systems, Occupant Protection Systems, Accelerometer based Air Bag systems		37				
38	11/11/25	Alternative Fuel Engines, Electric and Hybrid vehicles, Fuel cell powered cars		38				
39	13/11/25	Collision Avoidance Radar warning Systems, Low tire pressure warning system		39				
40	17/11/25	Heads Up display, Speech Synthesis, Navigation – Navigation Sensors, Radio Navigation, Signpost navigation		40				
41	18/11/25	Dead reckoning navigation, Voice Recognition Cell Phone dialing,		41				
42	20/11/25	Advanced Cruise Control, Stability Augmentation,		42				
43	27/11/25	Automatic driving Control		43				



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Sl. No	Activity	Planned	Actual	Remarks
1	Theory Classes	43		
2	Assignments/ Quizzes/ Self-study	2+1		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	100%		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	