

GOVERNMENT POLYTECHNIC JAJPUR

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DEPARTMENT OF MECHANICAL ENGINEERING (2025-2026)

LESSON PLAN

Discipline: MECHANICAL	Semester: 6TH SEMESTER	Name of the Teaching faculty: JANMEJAY SARANGI	
Subject: AUTOMOBILE ENGINEERING AND HYBRID VEHICLES	No of Days /Week class alloted: 4	Semester from Date: 22/12/2025 No of weeks: 15	To Date: 18/04/2026
Sl No.	Topic	Subtopic	
1	1st	Define Automobiles: Need & Classification	
	2nd	Analyze the Layout of Automobile Chassis	
	3rd	Explain the Clutch System: Types & Working	
	4th	Describe the Purpose & Working of a Gear Box	
2	1st	Compare Automatic & Manual Gear Changing Mechanisms	
	2nd	Determine the Constructional Features of a Propeller Shaft	
	3rd	Explain the Need & Working of a Differential	
	4th	Define Automobiles: Need & Classification	
3	1st	Analyze the Layout of Automobile Chassis	
	2nd	Explain the Clutch System: Types & Working	
	3rd	Describe the Purpose & Working of a Gear Box	
	4th	Compare Automatic & Manual Gear Changing Mechanisms	
4	1st	Identify the Need & Types of Braking Systems	
	2nd	Compare Mechanical & Hydraulic Brakes	
	3rd	Describe the Working of an Air Brake System	
	4th	Analyze Air Assisted Hydraulic & Vacuum Brakes	
5	1st	Evaluate the Efficiency of Different Braking Systems	
	2nd	Explain Battery & Magnet Ignition Systems	
	3rd	Describe the Purpose & Construction of Spark Plugs	
	4th	Analyze Common Ignition Troubles & Propose Remedies	
6	1st	Compare Conventional & Independent Suspension Systems	
	2nd	Determine the Function of Coil Spring & Tension Bars	

6	3rd	Explain the Working of a Telescopic Shock Absorber
	4th	Define Engine Cooling & Its Classification
7	1st	Define Engine Cooling & Its Classification
	2nd	Define Engine Cooling & Its Classification
	3rd	Define Engine Cooling & Its Classification
	4th	Define Engine Cooling & Its Classification
8	1st	Analyze Cooling Defects & Propose Remedies
	2nd	Explain the Function of Lubrication in Engines
	3rd	Describe the Lubrication System of an I.C. Engine
	4th	Define Engine Cooling & Its Classification
9	1st	Analyze Cooling Defects & Propose Remedies
	2nd	Explain the Function of Lubrication in Engines
	3rd	Describe the Lubrication System of an I.C. Engine
	4th	Define Air-Fuel Ratio & Its Importance
10	1st	Explain the Carburetion Process for Petrol Engines
	2nd	Analyze the Multipoint Fuel Injection System
	3rd	Describe the Fuel Injection System for Multi-Cylinder Engines
	4th	Determine the Role of a Diesel Engine Fuel Filter
11	1st	Explain the Working of a Fuel Feed Pump & Injector
	2nd	Define Air-Fuel Ratio & Its Importance
	3rd	Explain the Carburetion Process for Petrol Engines
	4th	Analyze the Multipoint Fuel Injection System
12	1st	Describe the Fuel Injection System for Multi-Cylinder Engines
	2nd	Describe the Concept of Hybrid & Electric Vehicles
	3rd	Analyze the Social & Environmental Impact of EVs
	4th	Compare Electric Vehicles: Advantages & Applications
13	1st	Explain Different Battery Types & Fuel Cells
	2nd	Differentiate Hybrid Vehicle Types & Configurations
	3rd	Analyze the Functioning of a Drive Train
	4th	Evaluate the Potential of Solar Powered Vehicles
14	1st	Describe the Concept of Hybrid & Electric Vehicles
	2nd	Analyze the Social & Environmental Impact of EVs
	3rd	Compare Electric Vehicles: Advantages & Applications
	4th	Explain Different Battery Types & Fuel Cells
15	1st	Differentiate Hybrid Vehicle Types & Configurations
	2nd	Analyze the Functioning of a Drive Train

	3rd	Evaluate the Potential of Solar Powered Vehicles
	4th	Describe the Concept of Hybrid & Electric Vehicles

Janmejay Sawang

signature of faculty