LESSON PLAN

SUB: AE&HV

BRANCH:- MECHANICAL ENGG.

SEMESTER: 6TH
NAME OF FACULTY: SABYASACHI JAGANNATH MISHRA

GOVERNMENT POLYTECHNIC, BHADRAK

SESSION:2025-26

Hod ,Mechanical

Academic Co-ordinator

Principal
Govt. Polytechnic, Bhadrak

Discipline: MECHANICAL	Semester: 6th	Name of the Teaching Faculty: SABYASACHI JAGANNATH MISHRA Lecturer stage-I mechanical engg.
Subject: AE&HV	No. of days/per week class allotted: 4	Semester From date: 22.12.2025 To date: 18.04.2025 No of weeks: 15
Week	**Class Day**	**Theory Topics:**
1st	1st	**INTRODUCTION & TRANSMISSION SYSTEM:**
	2nd	Automobiles: Definition, need and classification: Layout of automobile chassis
	3rd	Clutch System: Need, Types (Single & Multiple) and Working principle with sketch
	4th	Gear Box: Purpose of gear box, Construction and working of a 4 speed gear box
2nd	1st	Concept of automatic gear changing mechanisms
	2nd	Propeller shaft: Constructional features
	3rd	Differential: Need, Types and Working principle
	4th	**BRAKING SYSTEM:**
3rd	1st	Braking systems in automobiles: Need and types
	2nd	Mechanical Brake
	3rd	Hydraulic Brake
	4th	Class Test
4th	1st	Air Brake
	2nd	Air assisted Hydraulic Brake
	3rd	Vacuum Brake
	4th	**IGNITION & SUSPENSION SYSTEM:**
5th	1st	Describe the Battery ignition and Magnet ignition system
	2nd	Spark plugs: Purpose, construction and specifications
	3rd	State the common ignition troubles and its remedies
	4th	Description of the conventional suspension system for Rear and Front axle

6th	1st	Description of independent suspension system used in cars (coil spring and tension
	2nd	Constructional features and working of a telescopic shock absorber
	3rd	**COOLING AND LUBRICATION**:
	4th	Engine cooling: Need and classification
7th	1st	Describe defects of cooling and their remedial measures
	2nd	Describe the Function of lubrication
	3rd	Describe the lubrication System of I.C. engine
	4th	**FUEL SYSTEM**
8th	1st	Describe Air fuel ratio
	2nd	Describe Carburetion process for Petrol Engine
	3rd	Describe Multipoint fuel injection system for Petrol Engine
	4th	Describe the working principle of fuel injection system for multi cylinder Engine
9th	1st	Filter for Diesel engine
	2nd	Describe the working principle of Fuel feed pump and Fuel Injector for Diesel engine
	3rd	**ELECTRIC AND HYBRID VEHICLES**:
	4th	Introduction, Social and Environmental importance of Hybrid and Electric Vehicles
10th	1st	Introduction, Social and Environmental importance of Hybrid and Electric Vehicles
	2rd	Introduction, Social and Environmental importance of Hybrid and Electric Vehicles
	3rd	Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
	4th	Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
11th	1st	Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
	2nd	Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
	3rd	Class Test
	4th	Battery for Electric Vehicles, Battery types and fuel cells
12th	1st	Battery for Electric Vehicles, Battery types and fuel cells
	2nd	Battery for Electric Vehicles, Battery types and fuel cells
	3rd	Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations
	4th	Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations

13th	1st	Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations
	2nd	Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations
	3rd	Drive train
	4th	Drive train
14th	1st	Solar powered vehicles
	2nd	Solar powered vehicles
	3rd	Discussion PYQ
	4th	Discussion PYQ
15th	1st	Discussion PYQ
	2nd	Doubt clearing class
	3rd	Doubt clearing class
	4th	Doubt clearing class

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