

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Discipline:	Semester: 6th	Name of the Teaching Faculty
MECH	No. of days per week	Semester from Dt. 14.2.2023 to Dt. 29.5.2023
Subject: AE & Hybrid vehicle (Mech)	Class Allotted:	No. of Weeks: 15
Week	Class Day	Theory / Practical Topics
1st	1st day	1.0 Introduction & Transmission System
	2nd	1.1 Automobiles ÷ Define, need and Classification, Layout of Automobile Chassis with major components (line drawing)
	3rd	1.2 Clutch System - Need, types (Single & Multiple). Working Principle.
2nd	1st	1.3 Gear Box - Purpose of gearbox construction & Working of 4-speed gearbox
	2nd	1.4 Concept of automatic gear Changing mechanisms.
	3rd	1.5 Propeller shaft - Constructional features
	4th	1.6 Differential - Need, types and Working Principle.
	5th	2.0 Braking System
3rd	1st	2.1 Braking Systems in automobiles - Need & types
	2nd	2.2 Mechanical Brake.
	3rd	2.3 Hydraulic Brake
4th	1st	2.4 Air Brake
	2nd	2.5 Air assisted Hydraulic Brake
	3rd	2.6 Vacuum Brake.
5th		
6th		

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Week	Class Day	Theory / Practical Topics
7th	4th	3. Ignition & Suspension System;
	5th	3.1 Describe the Battery ignition & magnet ignition system.
	1st	3.2. Spark Plugs: Purpose, Construction and Specifications.
	2nd	
	3rd	
8th	4th	3.3 State the Common ignition troubles and its remedies.
	5th	
	1st	3.4 Description of the Conventional Suspension System on Rear & front ax.
	2nd	
	3rd	
9th	4th	3.5 Description of independent Suspension system used in cars (Coil Spring & tension bars)
	1st	
	2nd	3.6 Constructional features and Working of a telescopic shock absorber.
	3rd	
	4th	
10th	4th	4.0 COOLING AND LUBRICATION
	1st	4.1 Engine Cooling: Need and classification
	2nd	4.2 Describe defects of cooling and their remedial measures.
	3rd	4.3 Describe the function of Lubrication.
	4th	
11th	1st	4.4 Describe the Lubrication System of I.C engine.
	2nd	

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Week	Class Day	Theory / Practical Topics
12th	3rd	5.0 FUEL SYSTEM:
	4th	5.1 Describe Air fuel ratio
	5th	5.2 Describe Combustion Process of Petrol engine.
	1st	5.3 Describe Multi Point fuel injection System for Petrol engine.
	2nd	
	3rd	5.4 Describe the Working Principle of fuel injection System for Multi Cylinder engine
	4th	
	5th	5.5 Filter for Diesel engine.
	1st	5.6 Describe the Working Principle of Fuel feed Pump and Fuel injection for Diesel engine.
	2nd	
13th	3rd	
14th	4th	6.0 ELECTRIC & HYBRID VEHICLES
	1st	6.1. Introduction, Social & Environmental importance of Hybrid & Electric Vehicles
	2nd	
	3rd	
	4th	6.2. Description of Electric Vehicles, operational advantages, Present Performance and applications of Electric Vehicles

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Week	Class Day	Theory / Practical Topics
15th	5th	6.3 Battery for Electric Vehicles, Battery types and fuel cells.
	1st	6.4. Hybrid Vehicles, Types of Hybrid vehicles and Electric vehicles.
	2nd	6.5 Drive train 6.6 Solar Powered Vehicle