



NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY

SERGARH-756060, BALASORE (ODISHA)

(Approved by AICTE& affiliated to SCTE&VT, Odisha)



LESSON PLAN

SUBJECT: TH -2 AUTOMOBILE ENGG. & HYBRID VECHICLES

CHAPTER WISE DISTRIBUTION OF PERIODS

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	Introduction & Transmission System	12	12
2	Braking system	05	05
3	Ignition & Suspension System	10	10
4	Cooling and Lubrication	08	08
5	Fuel system	10	10
6	Hybrid and Electric Vehicles	15	15
	TOTAL	60	60

Discipline: MECHANICAL ENGG.	Semester: 6TH	Name of the Teaching Faculty: Er.Ranjit Giri
Week	Class Day	Theory / Practical Topics
1st	1st	1.1 Automobiles: Definition, need and classification: Layout of automobile chassis with major components (Line diagram)
	2nd	1.1 Automobiles: Definition, need and classification: Layout of automobile chassis
	3rd	1.2 Clutch System: Need, Types (Single & Multiple) and Working principle with sketch
	4th	1.2 Clutch System: Need, Types (Single & Multiple) and Working principle with sketch
2nd	1st	1.3 Gear Box: Purpose of gear box, Construction and working of a 4 speed gear box
	2nd	1.3 Gear Box: Purpose of gear box, Construction and working of a 4 speed gear box
	3rd	1.4 Concept of automatic gear changing mechanisms
	4th	1.4 Concept of automatic gear changing mechanisms
3rd	1st	1.5 Propeller shaft: Constructional features
	2nd	1.5 Propeller shaft: Constructional features
	3rd	1.6 Differential: Need, Types and Working principle
	4th	1.6 Differential: Need, Types and Working principle
4th	1st	2.1 Braking systems in automobiles: Need and types
	2nd	2.2 Mechanical Brake
	3rd	2.3 Hydraulic Brake
	4th	2.4 Air Brake
5th	1st	2.5 Air assisted Hydraulic Brake
	2nd	2.6 Vacuum Brake
	3rd	3.1 Describe the Battery ignition and Magnet ignition system
	4th	3.1 Describe the Battery ignition and Magnet ignition system
6th	1st	3.2 Spark plugs: Purpose, construction and specifications
	2nd	3.3 State the common ignition troubles and its remedies
	3rd	3.4 Description of the conventional suspension system for Rear and Front axle
	4th	3.4 Description of the conventional suspension system for Rear and Front
7th	1st	3.5 Description of independent suspension system used in cars (coil spring and tension bars
	2nd	3.5 Description of independent suspension system used in cars (coil spring and tension bars
	3rd	3.6 Constructional features and working of a telescopic shock absorber
	4th	3.6 Constructional features and working of a telescopic shock absorber

8 th	1 st	4.1 Engine cooling: Need and classification
	2 nd	4.1 Engine cooling: Need and classification
	3 rd	4.2 Describe defects of cooling and their remedial measures
	4 th	4.2 Describe defects of cooling and their remedial measures
9 th	1 st	4.3 Describe the Function of lubrication
	2 nd	4.3 Describe the Function of lubrication
	3 rd	4.4 Describe the lubrication System of I.C. engine
	4 th	4.4 Describe the lubrication System of I.C. engine
10 th	1 st	5.1 Describe Air fuel ratio
	2 nd	5.2 Describe Carburetion process for Petrol Engine
	3 rd	5.2 Describe Carburetion process for Petrol Engine
	4 th	5.3 Describe Multipoint fuel injection system for Petrol Engine
11 th	1 st	5.3 Describe Multipoint fuel injection system for Petrol Engine
	2 nd	5.4 Describe the working principle of fuel injection system for multi cylinder
	3 rd	5.4 Describe the working principle of fuel injection system for multi cylinder
	4 th	5.5 Filter for Diesel engine
12 th	1 st	5.5 Filter for Diesel engine
	2 nd	5.6 Describe the working principle of Fuel feed pump and Fuel Injector for Diesel engine
	3 rd	5.6 Describe the working principle of Fuel feed pump and Fuel Injector for Diesel engine
	4 th	6.1 Introduction, Social and Environmental importance of Hybrid and Electric
13 th	1 st	6.1 Introduction, Social and Environmental importance of Hybrid and Electric
	2 nd	6.2 Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
	3 rd	6.2 Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
	4 th	6.2 Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
14 th	1 st	6.3 Battery for Electric Vehicles, Battery types and fuel cells
	2 nd	6.3 Battery for Electric Vehicles, Battery types and fuel cells
	3 rd	6.4 Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations;6.5 Drive train
	4 th	6.4 Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations;6.5 Drive train
15 th	1 st	6.4 Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations;6.5 Drive train
	2 nd	6.6 Solar powered vehicles
	3 rd	6.6 Solar powered vehicles
	4 th	Revision