GOVERNMENT POLYTECHNIC DHENKANAL

MECHANICAL ENGINEERING DEPARTMENT
LESSON PLAN

Discipline :- **MECHANICAL**	Semester:-**6TH**	Name of the Teaching Faculty **BHAGABAN PARIDA**
Subject:- AUTOMOBILE ENGINEERING &HYBRID VEHICLE Course Code: **TH 2**	No of Days/per Week Class **Allotted :-04**	Semester :15 WEEKS Semester From date : **14.02.2023** To Date: **23.05.2023**

Week	Class Day	Theory/ Practical Topics
1st	1st	Automobiles: Definition
	2nd	Automobile- need
	3rd	classification
	4th	classification
2nd	1st	Layout of automobile chassiswith major components
	2nd	Major components
	3rd	Major components
	4th	Major components
3rd	1st	Layout of automobile chassiswith major components
	2nd	(Line diagram)
	3rd	Clutch System: Need, Types (Single & Multiple)
	4th	Clutch System Single
4th	1st	Working principle with sketch
	2nd	Clutch system multiple
	3rd	Working principle with sketch
	4th	Gear Box: Purpose of gear box
5th	1st	Construction and working of a 4 speed gear box
	2nd	Construction and working of a 4 speed gear box
	3rd	Concept of automatic gear changing mechanisms
	4th	Concept of automatic gear changing mechanisms
6th	1st	Propeller shaft: Constructional features
	2nd	Propeller shaft: Constructional features
	3rd	Differential: Need
	4th	Types
7th	1st	Working principle
	2nd	Braking systems in automobiles:
	3rd	Need and types
	4th	Mechanical Brake
8th	1st	Hydraulic Brake
	2nd	Air assisted Hydraulic Brake
	3rd	Vacuum Brake

	4th	Describe the Battery ignition
9th	1st	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 front axle
10th	1st	Description of the conventional suspension system for rear axle
	2nd	Description of independent suspension system used in cars (coil spring and tension bars)
	3rd	Constructional features
	4th	working of a telescopic shock absorber
11th	1st	Engine cooling: Need and classification
	2nd	Describe defects of cooling
	3rd	their remedial measures
	4th	Describe the Function of lubrication
12th	1st	Describe the lubrication System of I.C. engine
	2nd	Describe Air fuel ratio
	3rd	Describe Carburetion process for Petrol Engine
	4th	Describe Multipoint fuel injection system for Petrol Engine
13th	1st	Describe the working principle of fuel injection system for multi cylinder Engine
	2nd	Filter for Diesel engine
	3rd	Describe the working principle of Fuel feed pump
	4th	Fuel Injector for Diesel engine
14th	1st	Introduction, Social and Environmental importance of Hybrid and Electric Vehicles
	2nd	Description of Electric Vehicles, operational advantages, present performance and applications of Electric Vehicles
	3rd	Battery for Electric Vehicles
	4th	Battery types and fuel cells
15th	1st	Hybrid vehicles,
	2nd	Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel andSeries configurations
	3rd	Drive train
	4th	Solar powered vehicles

Teaching Faculty

HOD(Mech)