



## IIPM SCHOOL OF ENGINEERING AND TECHNOLOGY

### LESSON PLAN: Summer 2023

#### Sub: TH.2 AUTOMOBILE ENGINEERING AND HYBRID VEHICLES

Course :Diploma

Semester:6<sup>TH</sup>

Duration : 75 hours

Faculty name : PRASANNA MOHANTY

Sl. No	Chapter	Proposed Week for Teaching	Lecture No.	Subject Topic	Important Teaching Point	Content Source
1.	1. INTRODUCTION & TRANSMISSION SYSTEM	1 <sup>st</sup>	1	Introduction	Automobiles Classification & its need.	
2.			2	Automobile Chesis	Graphical Representation	
3.			3	Clutch System	Single Plate & Multi plate clutch.	
4.			4	Gear Box	Purpose & needs Classification	
5.		2 <sup>nd</sup>	1	Cont.	Cont.	
6.			2	Cont.	Cont.	
7.			3	Propeller shaft	Graphical representation	
8.			4	Cont.	Universal Joint	
9.		3 <sup>rd</sup>	1			
10.			2	Differential	Graphical representation, needs during	

					turning.	
11.			3	Cont..	Cont..	
12.			4	Previous Year Question Discussion		
13.	2.BRAKING SYSTEM	4 <sup>th</sup>	1	Introduction	Need and types	
14.			2	Mechanical Brake	Internal Expanding Shoe Brake	
15.			3	Hydraulic Brake	Schematic Diagram of Hydraulic Breaking System.	
16.			4	Air Brake	Diagram of Air Breaking System.	
17.		5 <sup>th</sup>	1	Air assisted Hydraulic Brake		
18.			2	Vacuum Brake	Breaking System using Dummy Coupling	
19.	3		Battery ignition System	Schematic Diagram		
20.	3. IGNITION & SUSPENSION SYSTEM:	6 <sup>th</sup>	4	Magnet ignition system	Schematic Diagram	
21.			1	Spark plugs	Purpose, construction and specifications	
22.			2	Common ignition troubles	Ignition Delay	
23.			3	Conventional suspension system	For front & rear Axle	
24.		4	Suspension system used in cars	Coil, Spring & Tension Bar		
25.		7 <sup>th</sup>	1	Working of a telescopic shock absorber	Constructional Features	

26.			2	Engine cooling	Needs & Classification	
27.			3	Defects of cooling	Non Uniform Cooling & its remedies.	
28.	4. COOLING AND LUBRICATION		4	Function of lubrication		
29.		8 <sup>th</sup>	1	Lubrication System of I.C. engine	Water Jackets in I.C Engine.	
30.			2	Air fuel ratio	Rich ,Lean & Mixture	
31.			3	Carburetion process	Use of Carburetor in Petrol Engine.	
32.			4	Fuel injection system	Multipoint Fuel Injection System	
33.		9 <sup>th</sup>	1	Fuel injection system for multi cylinder Engine	Diagrammatic Representation	
34.			2	Cont..		
35.	5. FUEL SYSTEM		4	Filter for Diesel engine		
36.		10 <sup>th</sup>	1	Working principle of Fuel feed pump		
37.			2	Fuel Injector for Diesel Engine.		
38.			3	Revision		
39.			4			
40.		11 <sup>th</sup>	1			
41.			2	importance of Hybrid Vehicle		
42.			3		Operational Advantages	
43.			4		Battery types and fuel cells	
44.		12 <sup>th</sup>	1	Present performance and	Types of Hybrid and Electric	

				applications of Electric Vehicles	Vehicles	
45.	6.ELECTRIC AND HYBRID VEHICLES		2	Cont.		
46.			3	Cont.		
47.			4	Battery for Electric Vehicles		
48.		13 <sup>th</sup>	1	Cont.		
49.			2	Cont.		
50.			3	Hybrid vehicles		
51.			4	Cont..		
52.		14 <sup>th</sup>	1	Cont..		
53.			2	Social and Environmental		
54.			3	Previous year question discussion		
55.			4	Cont..		
56.		15 <sup>th</sup>	1	Cont..		
57.			2			
58.			3			
59.			4			