

PNS SCHOOL OF ENGINEERING & TECH LESSON PLAN

Semester-6th

Subject- AE&HV

Branch/Course-Mechanical Engineering/Diploma

Name of the Faculty- Subarna keshari singh

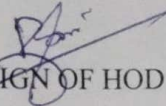
Class start:- 04/02/2025 to 17/05/2025


Periods	Sl.No / Unit	Topics to be covered
1	Module-1	General introduction of the subject and safety precautions
2		Engine and its working system
3		Layout of major components
4		Main parts of engine
5		Transmission and its working
6		Clutch system and its working
7		Use of gearbox in automobile
8		Gear function concept along with its changing mechanism
9		Constructional features of Propeller shaft and universal joint
10		Front axle and steering
11		Working principle, purpose and type of differential; rear axle
12		Class test 1
13	Module-2	Function of breaks and its types
14		Constructional details and working of mechanism and hydraulic brakes
15		Working of master cylinder, the function of the wheel cylinder
16		Concept of air and vacuum brakes
17		Anti-lock brake system and its working
18		QUIZ test
19	Module-3	Need of ignition system, construction, and working of ignition coil distribution, spark plug, and condenser
20		Types of ignition system- battery and magneto ignition system
21		Causes of ignition failure

22		Ways to avoid and overcome ignition failure
23		Principle and necessity of suspension system in an automobile
24		Types of springs, conventional suspension system for rear and front axle
25		Adoption of independent suspension system, important, importance of shock absorber
26		Types of shock absorber, constructional features and working of telescopic shock absorber
27		Class test 2
28		Module-4
29	Advantages and disadvantages of cooling	
30	Measures taken to avoid defects in cooling system	
31	Function of thermostat valve	
32	Need of lubrication and its advantages	
33	Different systems of lubrication and oil pump	
34	Types, qualities and source of lubricant	
35	Need of oil filters, its types, lubrication system of I.c.engine	
36	QUIZ test	
37	Module-5	
38		Functions of gravity feed system
39		Function and types of fuel pump; functions and types of fuel gauge
40		Function, working principle, parts and characteristics of carburettor
41		Fuel injection system for petrol engine
42		Parts of fuel system in diesel engine, function and types of fuel transfer pump
43		Function and types of fuel injection pump,
44		Operation of individual type pump, working, construction and parts of injector
45		role of combustion chamber, advantage of having a governor with fuel injection pump
46		Working principle of fuel injection system for multi cylinder engine
47		Revision chapter

48	Module-6	Important factors of introducing hybrid and electrical vehicle
49		Application, advantages and challenges in electrical vehicle
50		Constructional features of batteries in electric vehicles, its types
51		About hybrid vehicle, types of hybridization, its parts
52		Advantages and disadvantage of HEV
53		Configurations ; drive train
54		Solar powered vehicles and its merits
55		Revision chapter
56		Previous year question discussion and analysis

Sahana Keshani Singh,
SIGN OF LECTURER


SIGN OF HOD

 03/02/25
SIGN OF PRINCIPAL