Name of the Institute:	R.K. INSTITUTE OF ENGG. & TECH.
Department:	Mechanical Engineering
Semester:	6th SEM.
Subject Name with code:	AUTO. ENGG. & HYBRID VEHICLES TH:2
Total No. of Class (Required):	60 FROM-22/12/2025 TO-18/04/2026
Faculty Name:	Mr. ANANDA KUMAR DAS

Class No.	Brief Description of the Topic/Chapter to be taught	Remarks
1	**1.0 INTRODUCTION & TRANSMISSION SYSTEM:**	
2	Automobiles: Definition, need	
3	Classification: Layout of automobile chassis with major components (Line diagram)	
4	Clutch System: Need, Types	
5	Working principle with sketch of single clutch	
6	Working principle with sketch of Multiple clutch	
7	Gear Box: Purpose of gear box, Construction and working of a 4 speed gear box	
8	Propeller shaft: Constructional features	
9	Differential: Need, Types and Working principle	
10	Differential: Need, Types and Working principle	
11	**2.0BRAKING SYSTEM:**Braking systems in automobiles: Need and types	
12	Mechanical Brake	
13	Hydraulic Brake	
14	Air Brake	
15	Air assisted Hydraulic Brake	
16	Vacuum Brake	
17	3.0IGNITION & SUSPENSION SYSTEM	
18	3.0IGNITION & SUSPENSION SYSTEM	
19	Describe the Battery ignition and Magnet ignition system	
20	Spark plugs: Purpose, and Spark plugs: construction	
21	**Spark plugs: specification**	
22	State the common ignition troubles and its remedies	
23	Description of the conventional suspension system for Rear and Front axle	
24	Description of the conventional suspension system for Rear and Front axle	
25	Description of independent suspension system used in cars (coil spring and tension bars)	
26	Constructional features and working of a telescopic shock absorber	
27	**4.0COOLING AND LUBRICATION:** Engine cooling: Need and classification	

28	Describe defects of cooling and their remedial measures	
29	Describe the Function of lubrication	
30	Describe the lubrication System of I.C. engine	
31	Describe the lubrication System of I.C. engine	
32	QUESTION DISCUSSION	
33	**FUEL SYSTEM:** Describe Air fuel ratio	
34	Describe Carburetion process for Petrol Engine	
35	INTERNAL EXAMINATION.	
36	Describe Multipoint fuel injection system for Petrol Engine	
37	Describe the working principle of fuel injection system for multi cylinder Engine	
38	Filter for Diesel engine	
39	Describe the working principle of Fuel feed pump for Diesel engine	
40	Describe the working principle of Fuel Injector for Diesel engine	
41	**5.0ELECTRIC AND HYBRID VEHICLES:** Introduction	
42	Social and Environmental importance of Hybrid and Electric Vehicles	
43	Description of Electric Vehicles,	
44	operational advantages, present performance of Electric Vehicles	
45	applications of Electric Vehicles	
46	Battery for Electric Vehicles, Battery types and fuel cells	
47	Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations	
48	Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations	
49	Solar powered vehicles	
50	Solar powered vehicles	
51	Revision	
52	Revision	
53	Revision	
54	Revision	
55	Revision	
56	Revision	
57	previous year question discussion	
58	previous year question discussion	
59	previous year question discussion	
60	previous year question discussion	

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