

Badriprasad Institute of Technology, Sambalpur

Lesson plan for Theory -2, AUTOMOBILE ENGINEERING AND HYBRID VEHICLES

Semester & Branch: 6th Sem. Mechanical Engineering

Total Periods- 60

Name of the Faculty : Mr. Paresh Pradhan

No of periods /week- 4

Week	Day	Topic
1st	1st	INTRODUCTION & TRANSMISSION SYSTEM: Automobiles: Definition, need and classification
	2nd	Layout of automobile chassis with major components (Line diagram)
	3rd	Clutch System: Need, Types (Single & Multiple)
	4th	Working principle with sketch of Clutch
2nd	5th	Gear Box: Purpose of gear box
	6th	Construction and working of a 4 speed gear box
	7th	Concept of automatic gear changing mechanism
	8th	Propeller shaft: Constructional features
3rd	9th	Differential: Need, Types and Working...continue
	10th	Differential: Need, Types and Working principle
	11th	Braking systems in automobiles: Need and types
	12th	Mechanical Brake
4th	13th	Hydraulic Brake
	14th	Air Brake,Air assisted Hydraulic brake
	15th	Vacuum Brake
	16th	IGNITION & SUSPENSION SYSTEM
5th	17th	Battery ignition and Magnet ignition system
	18th	Spark plugs: Purpose, construction and specifications...continue
	19th	Spark plugs: specifications
	20th	Common ignition troubles and its remedies
6th	21st	Description of the conventional suspension system for Rear and Front axle...continue
	22nd	Description of the conventional suspension system for Front axle.
	23rd	Description of independent suspension system used in cars: coil spring and tension bars...continue
	24th	Description of independent suspension system used in cars: tension bars, Constructional features of telescopic shock absorber
7th	25th	Working of a telescopic shock absorber
	26th	COOLING AND LUBRICATION
	27th	Engine cooling: Need and classification
	28th	defects of cooling and their remedial measures
8th	29th	Function of lubrication
	30th	lubrication System of I.C. engine
	31st	Class test
	32nd	Revision
9th	33rd	FUEL SYSTEM

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	34th	Carburetion process for Petrol Engine
	35th	fuel injection system
	36th	Multipoint fuel injection system for Petrol Engine
10th	37th	Working principle of fuel injection system
	38th	working principle of fuel injection system for multi cylinder Engine
	39th	Filter for Diesel engine
	40th	Fuel feed pump and Fuel Injector of Diesel engine
11th	41st	working principle of Fuel feed pump and Fuel Injector for Diesel engine
	42nd	Revision
	43rd	Class test
	44th	ELECTRIC VEHICLES
12th	45th	Social and Environmental importance of Electric Vehicles
	46th	Hybrid Vehicles
	47th	Social and Environmental importance of Hybrid Vehicles
	48th	Description of Electric Vehicles, operational advantages, present performance of Electric Vehicles...continue
13th	49th	Performance and applications of Electric Vehicles
	50th	Battery for Electric Vehicles
	51st	Battery types and fuel cells for electric vehicles
	52nd	Types of Hybrid Electric Vehicles
14th	53rd	Parallel, Series, Parallel and Series configurations...continues
	54th	Parallel and Series configurations
	55th	Drive train
	56th	Solar powered vehicles
15th	57th	Doubt clear class
	58th	Revision
	59th	Revision
	60th	Class test

Sign of Faculty

Sign of HOD