



“PVCNSSK” GOVT. POLYTECHNIC BILASPUR, AT KALOL

Academic Lecture Plan (w.e.f 02.03.2022)

Name of the course teacher:	Er. Chaman Lal
Course	Diploma in Mechanical Engg.
Semester/ Branch	6 th /ME
Course Title	Automobile Engg.
Theory	56 Lectures

Sr. No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1	3	Introduction	Components of an automobile Classification of automobiles Layout of chassis Types of drives-front wheel, rear wheel, four wheel, left hand, right hand Introduction to electric vehicle	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT
2	17	Transmission System	Clutch Function, constructional details of single plate and multi plate frictionclutches, Centrifugal and semi centrifugal clutch Gear Box: Function, Working of slide mesh, constant mesh and synchro mesh gear box, Torque converter and overdrive Propeller shaft and rear axle Function, Universal joint, Differential, Rear axledrives and different types of rear axles Wheels and Tyres Types of wheels- disc wheels and wire wheel, Types of tyres used in Indian vehicles, Causes of tyre wear, Toe in, Toe out, Camber, Caster, Kingpininclination, Tube less tyres	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT
3	5	Steering System	Function and principle Ackerman and Davis steering gears Types of steering gears- worm and nut, worm and wheel, Rack and pinion type Introduction to power steering	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT

4	6	Braking System	Constructional detail and working of mechanical, hydraulic and vacuum brake. Concept of brake adjustment & Bleeding of brakes Introduction to ABS, EBD and hill assist braking system Introduction to Traction control	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT
5	4	Suspension System	Function ,Types, Working of coil spring, leaf spring, Shock absorber	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT
6	5	Battery	Constructional details of lead and cell battery Specific gravity of electrolyte Effect of temperatures, charging and discharging on specific gravity Capacity and efficiency of battery Battery charging Maintenance of batteries Checking of batteries for Voltage and specific gravity	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT
7	6	Dynamo and Alternator	Dynamo, Function and details, Regulators- voltage, current and compensated type, Cut out-Construction, working and their adjustment. Alternator, Construction and working, Charging of battery from alternator	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT
8	4	Introduction to special purpose vehicles	Tractors, Forklift, Cranes & Recovery vehicles	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT
9	6	Lighting System and Accessories	Introduction to Lighting system of automobile, Windscreen Wiper, Horn, Speedometer, HVAC system	R1 ,R2,R3	Pedagogical Tools:- Black board ; PPT

Recommended Books:

1. Automobile Engineering by Kirpal Singh, Standard Publishers
2. Automobile Engineering by GBS Narang, Khanna Publishers
3. Automobile Mechanics by Joseph Heitner, CBS Publishers



H.O.D (Mech.)