GOPAL KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

GOURAHARI VIHAR, PO: RANIPUT, JEYPORE – 764 005

LESSON PLAN

Name of the Subject: AUTOMOBILE ENGINEERING (AE)
Name of the Faculty: Er. BARSHA BARNALI
Subject Code:MEPE3014
Course Structure:3-0-0
Semester: 6th Semester **Branch:Mechanical**
Semester From: December to April **No. of Weeks:** 15 Weeks

Week	Day	Theory Topics	Class
1st	1st	Introduction to automobiles and classification	1
	2nd	Chassis, body and layout types	1
	3rd	Subsystems of automobile	1
2nd	1st	Power unit and engine functions	1
	2nd	Engine components and construction	1
	3rd	Multi-cylinder engines	1
3rd	1st	Engine balancing and vibration	1
	2nd	Firing order	1
	3rd	Road performance curves	1
4th	1st	Fuel feed systems for petrol engines	1
	2nd	Fuel pumps	1
	3rd	MPFI system	1
5th	1st	CRDI system	1

Week	Day	Theory Topics	Class
	2nd	Cooling systems and types	1
	3rd	Cooling system troubles and remedies	1
6th	1st	Lubrication: types and properties	1
	2nd	Engine lubrication systems	1
	3rd	Lubrication troubles and remedies	1
7th	1st	Transmission system overview	1
	2nd	Single and multi-plate clutches	1
	3rd	Clutch adjustment and troubleshooting	1
8th	1st	Gearboxes: sliding mesh	1
	2nd	Constant mesh and synchromesh gearbox	1
	3rd	Overdrive and applications	1
9th	1st	Propeller shaft and drives	1
	2nd	Differential and final drive	1
	3rd	Rear axles	1
10th	1st	Braking systems: mechanical and hydraulic	1
	2nd	Power brakes, air brakes and vacuum brakes	1
	3rd	Brake maintenance and fault finding	1
11th	1st	Steering systems and linkages	1
	2nd	Steering gear and ratios	1
	3rd	Wheel alignment and steering geometry	1

Week	Day	Theory Topics	Class
12th	1st	Power steering	1
	2nd	Suspension systems: rigid and independent	1
	3rd	Shock absorbers	1
13th	1st	Starter motor drives	1
	2nd	Ignition systems: battery and magneto	1
	3rd	Ignition timing and advance mechanisms	2
14th	1st	Electronic ignition systems	1
	2nd	Electric vehicles: introduction and history	2
	3rd	EV components and performance	1
15th	1st	Batteries and fuel cells	1
	2nd	Solar powered vehicles	1
	3rd	Hybrid vehicles	1
16th	1st	Environmental impact of automobiles	1
	2nd	Revision of all modules	1
	3rd	Doubt clearing and exam preparation	1

Books Recommended

1. Automobile Engineering — **Kirpal Singh**
2. Automotive Mechanics — **William H. Crouse and Donald L. Anglin**
3. Automobile Engineering — **R. B. Gupta**
4. Automotive Technology — **Jack Erjavec**
5. Electric and Hybrid Vehicles — **Iqbal Husain**

Teaching Methodology

- Chalk and board teaching
- PPT presentations with automobile diagrams and animations
- Demonstration of automobile components and subsystems
- Numerical and troubleshooting sessions
- Tutorial classes and assignments
- Case studies on modern automobile technologies

Assessment Strategy

- Internal assessment examinations
- Tutorial and assignment evaluation
- Practical and troubleshooting exercises
- Attendance and classroom interaction
- Semester end examination as per Biju Patnaik University of Technology guidelines