**LESSON PLAN**

**NAME OF THE FACULTY: - Sh. Vipin Kumar**

**DISIPLANE: - ME**

**SAMESTER:- 6th**

**SUBJECT—AE**

**Lesson Plan Duration:- 15 weeks**

**Work Load (Lecture/Practical) per week (In hours): Lecture 03, Practical -02**

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| --- | --- | --- | --- | --- |
| Week | Theory | | Practical | |
|  | **Lecture Day** | **Topic (Including assignment/test)** | **Practical** | **Topic** |
|  |  |  |  |
| 1st | 1st | Automobile and its development | 1st | Fault and their remedies in (i) Battery Ignition system (ii) magnetic Ignition  system |
| 2nd | Various types of automobiles manufactured in India |
| 3rd | Layout of chassis |
| 2nd | 4th | Fuel systems for petrol and diesel engines | 2nd | Demonstration of (i) Head Light Model (ii) Wiper and Indicators |
| 5th | multi point fuel  injection (MPFI), |
| 6th | common rail direct injection (CRDI), |
| 3rd | 7th | Fuel injectors  and nozzles. | 3rd | Demonstration of (i) AC Pump (ii) SU Pump (iii) Master Cylinders. |
| 8th | Comparison of MPFI with carburetor system |
| 9th | Concept of double overhead cam, single overhead cam, Twin cam 16  valve technology in 4 cylinder engine. |
| 4th | 10th | Clutch - Function, Constructional details of single plate and multiplate  friction clutches, | 4th | Demonstration of (i) rear axle (ii) differential (iii) steering system. |
| 11th | Centrifugal and semi centrifugal clutch, Hydraulic  clutch |
|  | 12th | Gear Box - Function, Concept of sliding mesh, constant mesh and  synchromesh gear box |
| 5th | 13th | Torque converter and overdrive, | 5th | Fault finding practices on an automobile - four wheelers (petrol/ diesel  vehicles). |
| 14th | Types of drives – Front wheel, Rear wheel, Four Wheel.  3.4 Function of Propeller shaft |
| 15th | Universal joint, Differential and Different  types of Rear axles and Front Axles. |
| 6th | 16th | Wheels and Tyres - Types of wheels, Types and specifications of tyres  used in Indian vehicles | 6th | Tuning of an automobile engine. |
| 17th | Wheel balancing |
| 18th | Function and principle of Ackerman |
| 7th | 19th | and Davis steering mechanism, types of  steering gear boxes | 7th | Driving practice on a 4-wheeler. |
| 20th | Worm and nut, worm and wheel, worm and roller |
| 21 | rack  and opinion, Power steering system |
| 8th | 22 | and alignment of wheels – Toe in, toe out, | 8th | Charging of an automobile battery and measuring cell voltage and specific  gravity of electrolyte. |
| 23 | camber, |
| 24 | caster,. |
| 9th | 25 | kingpin inclination | 9th | Changing of wheels and inflation of tyres, balancing of wheels |
| 26 | Constructional details and working of mechanical |
| 27 | hydraulic brake. Concept of  air BRAKE |
| 10th | 28 | vacuum brake | 10 | Checking spark gap and valve clearance |
| 29 | brake adjustment |
| 30 | Introduction to Anti lock brake system  and its working. |
| 11th | 31 | Function, Types | 12 | Cleaning and adjusting a carburetor |
| 32 | Working of coil spring |
| 33 | leaf spring. |
| 12th | 34 | Concept of Air suspension |  |  |
| 35 | Shock absorber |  |  |
| 36 |  |  |  |
| 13th | 37 |  |  |  |
| 38 | Auto Electrical System |  |  |
| 39 | Constructional details of lead acid cell battery. |  |  |
| 14th | 40 | Maintenance of batteries |  |  |
| 41 | checking of batteries for voltage and specific gravity |  |  |
| 42 | Magnato ignition system |  |  |
| 15th | 43 | Battery coil ignition system |  |  |
| 44 | Concept of Dynamo |  |  |
| 45 | Alternator - Construction and working, Charging of battery by Alternator  and Regulator |  |  |

**Teacher Name VIPIN KUMAR**