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| Discipline : **MECHANICAL ENGG** | Semester : **6TH**  | Name of the Teaching Faculty: **SANTOSH KUMAR JENA** |
| Subject: **AUTOMOBILE ENGINEERING** | No. of days/per week class allotted:**04** | Semester From date : **02.01.2019** To Date:**15.04.2019**No. of Weeks: **15**  |
| Week | Class Day | Theory / Practical Topics |
| 1ST | 1ST | **1.0** Automobiles: Definition, need and classification |
|  | 2ND | Layout of automobile chassis with major components (Line diagram) |
|  | 3RD | Manufacturer’s specification of auto engines of motorcycle, scooter, car & bus one from each. |
|  | 4TH | State the classification of engines basing on working principle, fuel used position of cylinder, arrangement of cylinder. |
| 2ND | 1ST | Continued  |
|  | 2ND | **2.0** Clutch System: Need, Types and Working principle with neat sketch of single clutch system |
|  | 3RD | Need, Types and Working principle with neat sketch of double clutch system |
|  | 4TH | Continued  |
| 3RD | 1ST | Gear Box: Purpose of gear box |
|  | 2ND | Continued |
|  | 3RD | Construction and working of a 4 speed gear box |
|  | 4TH | Concept of automatic gear changing mechanisms |
| 4TH | 1ST | Propeller shaft: Constructional features |
|  | 2ND | Differential: Need, Types and Working principle |
|  | 3RD | Continued  |
|  | 4TH | **3.0** Braking systems in automobiles: Need |
| 5TH | 1ST | Braking systems in automobiles: Types |
|  | 2ND | Discussed about Mechanical Brake |
|  | 3RD | Discussed about Hydraulic brake |
|  | 4TH | Discussed about Air brake |
| 6TH | 1ST | Discussed about Air assisted hydraulic brake |
|  | 2ND | Discussed about Vacuum Brake |
|  | 3RD | **4.0** DefineAuto electric system |
|  | 4TH | Wiring diagram of Horn circuit(Sketch and description) |
| 7TH | 1ST | Lighting circuit, Cut-out circuit (Sketch and description) |
|  | 2ND | Voltage current regulator circuit and Flasher circuit (Sketch and description) |
|  | 3RD | Continued  |
|  | 4TH | State the common ignition troubles and its remedies. |
| 8TH | 1ST | Spark plugs: Purpose, construction and specifications |
|  | 2ND | Continued |
|  | 3RD | **5.0** Description of the conventional suspension system for Rear and Front axle. |
|  | 4TH | Description of independent suspension system used in cars (coil spring and tension bars) |
| 9TH | 1ST | Constructional features and working of a telescopic shock absorber. |
|  | 2ND | State tyre specifications. |
|  | 3RD | Explain the causes and remedies of tyre wear. |
|  | 4TH | **6.0** Describe necessity of engine cooling. |
| 10TH | 1ST | Continued  |
|  | 2ND | Describe defects of cooling and their remedial measures. |
|  | 3RD | Describe the Function of lubrication. |
|  | 4TH | Continued  |
|  | 5TH  | Describe the lubrication System of I.C. engine. |
| 11TH | 1ST | Continued |
|  | 2ND | **7.0** Define Fuel and Ignition system |
|  | 3RD | Discussed For petrol Engine: Fuel and Ignition system |
|  | 4TH | For petrol Engine: Describe carburetion and Air fuel ratio. |
| 12TH | 1ST | Continued  |
|  | 2ND | For petrol Engine: Describe the Battery ignition and Magnet ignition system. |
|  | 3RD | Continued |
|  | 4TH | For petrol Engine: Describe Multipoint fuel injection system. |
| 13TH | 1ST | Continued |
|  | 2ND | Continued |
|  | 3RD | For Diesel engine: Describe the working principle of Fuel feed pump. |
|  | 4TH | Continued |
| 14TH | 1ST | Continued |
|  | 2ND | For Diesel engine: Describe the working principle of Injector and Fuel filter. |
|  | 3RD | Continued |
|  | 4TH | Continued |
| 15TH | 1ST | For Diesel engine: Describe the working principle of fuel injection system for multi cylinder engine. |
|  | 2ND | Continued |
|  | 3RD | Previous year questions discussion  |
|  | 4TH | Previous year questions discussion |

**Learning Resources:**

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| **Sl.** | **Name of Authors** | **Title of the Book** | **Name of the Publisher** |
|  |  |  |  |
| 1 | R.B.Gupta | Automobile Engineering | Satya Prakashan |
|  |  |  |  |
| 2 | Dr Kirpal Singh | Automobile Engineering Vol- I & II | Standard Publishers |
|  |  |  |  |
| 3 | C.P.Nakra | Automobile Engineering | Dhanpat Rai Publication |
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