

**DEPARTMENT OF MECHANICAL ENGINEERING**

**AUTOMOBILE ENGINEERING**

**Sub code: 22081**

**UNIT I - AUTOMOTIVE ENGINES**

**1 MARK QUESTION:**

1. State types of cylinder liner?(OCT-14)
2. State any one function of piston rings? (APR-14)
3. List any four principles parts of an engine?(APR-15)
4. Why are the rings provided on piston?(OCT-14)
5. How to control Expansion of the piston?(OCT-10)
6. What are the uses of piston rings?(APR-11)
7. State the Function of Connecting Rod.(APR-15,16)
8. State the Function of Crank Shaft.(OCT-14)
9. Which is need of clearance on valve?(APR-12)
10. State the types of combustion Chamber.(OCT-09)
11. What are the types of radiator core? (APR-14)
12. State the Function of Thermostat. .(OCT-14)
13. Why is the necessity for cooling on automobile Engine? (APR-12)
14. What is the meaning of SAE?(OCT-14)
15. Name any two types of commonly used thermostat.(APR-15)
16. What are causes of overheating of an engine?(APR-14)
17. What are the valve actuating mechanism?(APR-14)
18. What is delay period?(APR-14)
19. State the function of piston. (OCT-09)
20. State the function of flywheel. (APR-14)

21. Define scavenging. (APR-10)
22. Why additives are added to lubrications?(APR-14)
23. What is an additives?(OCT -15)
24. What is the method of generating air swirl in pre-combustion chamber?(OCT-15)

**6 MARK & 12 MARK QUESTIONS:**

1. Explain the Construction and Working of Overhead Valve operation mechanism with a neat sketch.(APR-02,07)
2. Briefly explain with a neat sketch the construction and operation of water pump circulating cooling system.(APR-05,16,OCT-01)
3. What is the necessity of an engine? What is the function of Thermostat? Explain any one types of Thermostat With neat Sketch.(APR-01)
4. What is the purpose of lubrication? Explain with neat Sketch with working of full pressure lubrication system in an IC Engine.(APR-01,14,15)
5. Explain with neat Sketch the working of gear and rotor type of oil pump.(APR-03)
6. Explain the working of Two Stroke Diesel Engine with necessary Sketch.(OCT-03)
7. Explain the Stages of Combustion in Diesel Engine.(APR-07,14)
8. Explain the methods of expansion control in piston with sketches.(APR-05,OCT-15)
9. What is the necessity for cooling an engine?(OCT-14)
10. Explain the various types of cylinder liners.(APR-15,16)
11. Explain the functions of (a) cam shaft (b) fly wheel.(APR-15)

## UNIT II - FUEL AND FUEL FEED SYSTEMS

### 1 MARK QUESTION:

1. What is the Function of Choke Valve in Carburetor?(OCT-14)
2. What is the Bio – Gas?(OCT-14)
3. Why are Governors necessary in diesel Engine?(OCT-14)
4. Define Octane Number.(APR-15)
5. What is Detonation?(APR-16)
6. Name any three Alternative fuel used automobile engine. (APR-10)
7. State the different types of fuel feed system in petrol engine. (OCT-12)
8. Define Carburetion.(APR-15,16,OCT-15)
9. What is MPFI System?(OCT-14,APR-16)
10. State the Different Type of Injector Used in Diesel Engine.(OCT-15)
11. What is the Function of Governor in Diesel Engine?(OCT-14)
12. State the Principle of Venturi and it's used. (APR-13)
13. What are the Defects of Simple Carburetor? (OCT-13)
14. What is the Function of Carburetor? (OCT-10)
15. What is the Petrol Injection? Briefly Explain. (APR-11)
16. Draw the neat Sketch an AC Mechanical Fuel Pump and Label the Parts. (OCT-11)
17. What are the Merits and Demerits of Petrol Injection? (OCT-12)
18. What is the Function of Governor. (APR-12)
19. Draw The Layout Of Diesel Feed System (OCT-13)
20. State The Difference between Single hole Nozzle and Multi Hole Nozzle. (OCT-10)

### 6 MARK & 12 MARK QUESTIONS:

1. Briefly Explain the Construction and Operation of Solex Carburetor. (APR-03,OCT-04,14)
2. Explain the Construction and Operation of Plunger Type Fuel Injection Pump With a neat Sketch.(OCT-04)
3. Briefly Explain With a neat Sketch the working Principle of Pneumatic Governor.(APR-01,15,OCT-15)
4. Name The Different Types Of Nozzle and State its Function. (OCT-14)
5. Describe with a neat Sketch the construction and operation of a mechanical Governor.(APR-03,15,16)
6. Explain the Construction and Operation of 1. SU Electrical Pump and 2. AC Mechanical Fuel Pump.(APR-05,OCT-15)(APR-14,OCT-14)
7. Describe about the various Alternator Fuels for Petrol and Diesel Engine with their Merits.(APR-14)
8. Explain the layout of diesel fuel feed system.(OCT-14)
9. Explain oil bath type air cleaner with neat sketch.(APR-15)
10. Explain with a neat sketch the working of single acting diesel feed pump.(OCT-15)
11. What is MPFI system? Explain with neat sketch.(APR-15)
12. Draw the layout and state its merits.(APR-16)

### UNIT III -TRANSMISSION AND POWER TRAINS

#### 1 MARK QUESTION:

1. What is the Function of Clutch?(APR-15)
2. What is the Main Advantage of Four Wheel Drive Vehicle?(APR-15)
3. What is the Multi Plate Clutch used in Motor Cycle. (OCT-10)
4. What are the Resistance coming to the vehicle.(OCT-14)
5. What is the purpose of pressure plate in a clutch?(OCT-14)
6. What happens if clutch free pedal play is excessive? (APR-11)
7. What is the function of universal joint?(APR-15,OCT-15)
8. What are the types of gear used for The Final Drive? (APR-11)
9. What are the Types of Rear Axle Drive?(OCT-14)
10. What is the Purpose of Differential?(APR-14)
11. List out any Three Types of Final Drive. (APR-11)
12. List out any two types of Universal Joint. (OCT-09)
13. Define Torque Reaction.(APR-15)
14. What are the functions of transmission system?(APR-16)
15. What is clutch?(APR-16)
16. What are the types of forces acting in rear axles?(APR-16,OCT-15)
17. What is a non-slip differential?(APR-16)
18. Name the various resistances to motion.(OCT-15)
19. What is the purpose of a radius rod?(OCT-15)
20. What is the function of slip joint?(OCT-14)
21. Define fluid coupling.(APR-14)
22. What is the purpose of gear box, Clutch?(APR-14)
23. What is final drive?(APR-14)

#### 6 MARK & 12 MARK QUESTIONS:

1. Explain the construction and working of single plate clutch with a neat Sketch.(APR-02,15)
2. Explain with a help of neat sketch the construction and operation of sliding mesh gear box.(OCT-04,APR-14)
3. Explain with neat Sketch the Construction and operation of Constant mesh Gear Box.(OCT-02,APR-05,15)
4. Describe with a neat sketch the construction and operation of Synchromesh Gear Box.(APR-01)
5. What is the function of final drive? Explain with neat sketch the construction and working of differential in a final drive.(OCT-01,15)
6. Sketch and explain the construction of the Three Quarter Floating and Full Floating Axle.(OCT-04,APR-14)
7. What is the purpose of clutch?(OCT-2000)
8. Write short notes on torque tube drive.(OCT-04,APR-16)
9. Explain the construction of semi floating and full floating rear axle arrangement.(APR-05)
10. Briefly explain Hotchkiss drive with a neat sketch.(OCT-14,15,APR-16)

## UNIT IV - AUTOMOTIVE CHASSIS

### 1 MARK QUESTION:

1. What are the types of front Axle?(OCT-14)
2. What are the types of Stub Axle?(APR-15,16,OCT-15)
3. What is the function of Steering Gear Box?(OCT-14)
4. Name any three types of steering Gear Box.(APR-15)
5. Different Center Point of Steering. (APR-2016)
6. Which is the most popular steering gear box for Car.? (OCT-15)
7. What is Power Steering? What are the Advantages of Disc Brake?
8. Name various types of springs used in suspension system.(OCT-14)
9. What is Torsion Bar.? Which is called Dead Axle?(APR-15)
10. What is Helper Spring? What are the advantages of Alloy wheel? (APR-11)
11. What are the Advantages of Independent Suspension over rigid axle suspension? (OCT-11)
12. State the Advantages of an air suspension. (OCT-10)
13. Write the function of suspension system.(APR-16)
14. What is shock absorber?(APR-14,16)
15. What is the function of tyre?(APR-16)
16. What are the advantages of alloy wheel?(APR-15)
17. Mention any three causes for hard steering.(OCT-15)
18. State the advantages of an air suspension system.(OCT-15)
19. Mention any three causes for spongy brake.(OCT-15)
20. What are the important wheel alignment factors?(APR-14)
21. Write any three causes of tyre wear.(APR-14)

### 6 MARK & 12 MARK QUESTIONS:

1. Explain with neat Sketch the construction and operation of re-circulating ball type steering gear box.(OCT-01,APR-05)
2. What are the features of Tandem Master Cylinder? Explain the construction and working with necessary Sketch.(OCT-2000)
3. Explain the construction and working of Hydraulic Brake with a layout.(APR-05,15,16)
4. State the Advantage of Front Independent Suspension explains with neat sketch the construction and working of any one type of front independent suspension system.(APR-06,14,OCT-15)
5. Sketch the layout Air Brake System used in automobile and explain with working.(APR-06)
6. Explain with neat sketches the different parameter of front wheel geometry.(APR-01)
7. Explain the Telescopic type Shock Absorber.(OCT-04,APR-15)
8. Draw the layout of ABS. Explain working of Antilock Brake System.(OCT-14)
9. Write short notes on following: (a) Torsion bar (b) Air suspension.(OCT-14,APR-16)
10. Briefly explain different types of wheels.(OCT-14)
11. Compare radial ply and cross ply tyres.(OCT-15)
12. Compare disc and drump brakes.(OCT-15)
13. Mention any two troubles in the steering system and give the causes.(APR-16)
14. Briefly explain different types of wheel and tyres.(APR-16)

**UNIT V - AUTOMOBILE ELECTRICAL EQUIPMENT AND POLLUTION CONTROL**

**1 MARK QUESTION:**

1. What is the main component of Battery? (OCT-14)
2. Write down the Equation while battery is discharge and recharge. (OCT-13)
3. Define Cold rate test. (OCT-10)
4. The Specific Gravity is measure by ----- (OCT-15)
5. What is the purpose of starter motor in a vehicle? (APR-10)
6. What is specific gravity of fully charged battery? (APR-16)
7. What is the function of ignition coil in a ignition system. (OCT-10)
8. State the Types of Spark Plug.(OCT-14)
9. State The Purpose of Horn Relay. (OCT-09)
10. What is the Crank Case Ventilation? (APR-15)
11. What is EGR?(APR-15)
12. What are the types of catalytic convertor catalyst? (OCT-08)
13. What is meant by pollution?(OCT-14)
14. State the different types of spark advance mechanism. (APR-10)
15. State the function of distributor. (OCT-09)
16. How the batteries are rated?(APR-16)
17. Expand (i)PCV (ii)VRS.(APR-16)
18. What are the methods of reducing emission?(APR-16)
19. What is the use of suppressor?(APR-16)
20. What is a catalytic convertor?(OCT-15)
21. Name the different battery ratings.(OCT-15)
22. Name the three types of starter motor drives.(OCT-15)
23. What is the unit of specific gravity?(APR-15)
  
24. What are the two mostly used types of batteries?(APR-15)
25. Enumerate main components of lead acid battery.(OCT-14)
26. What is crank case ventilation?(OCT-14)
27. What is alternator?(APR-14)
28. How the pollutants are controlled?(APR-14)
29. What are the various types of lighting system used in automobile?(APR-14)

**6 MARK & 12 MARK QUESTIONS:**

1. Show with a help of neat sketch the construction and working of lead acid battery.(OCT-05,14)
2. Explain briefly the construction and operation of bendix inertia drive type starter motor drive mechanism.(APR-07,14)
3. Explain briefly the construction and the working principles of an alternator.(APR-05,06)
4. Explain the working of battery coil ignition system with circuit diagram.(OCT-05,14,APR-16)
5. Explain the different types of exhaust gas treatment.(APR-05,14)
6. What are the major pollutants created by the automobiles? How do you control?(APR-06)
7. Write short notes on:(a) Head light (b) Fluorescent lamp.(OCT-14)
8. Explain the construction and working of Nickel alkaline battery and its merits and demerits.(APR-15,OCT-15)
9. Describe the positive crank case ventilation(PCV) with a neat sketch.(APR-16)
10. With a neat sketch explain vapour recovery system (VRS) in the emission control.(APR-15,OCT-15)
11. Explain the principle of high tension magneto ignition system with diagram.(APR-15)

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