



**B.Voc Automobile Servicing**  
**Second year**

**End sem Question Bank with answers for Automobile Electrical System**

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1. Which of the following is the hottest part of the spark plug?  
a) Terminal **b) Insulator tip** c) Shell d) Gasket
  2. Which of the following is not the main part of a spark plug?  
a) The center electrode b) The ground electrode c) Distributor cap **d) The insulator**
  3. What is the function of the sealing between the insulator and the body shell?  
**a) Prevents the hot gas from leaking** b) Prevents the pressure increase  
c) Prevents the temperature increase d) Prevents Current leakage
  4. Which of the following material is used to fill the space between the plug electrodes in a surface discharge plug?  
**a) Semiconductor** b) Plastic c) Rubber d) Wood
  5. Which part builds up fuel injection pressure in fuel injector?  
a) **Solenoid** b) Regulator c) Common rail d) Fuel pump
  6. Which fuel is related to cetane number?  
a) Petrol **b) Diesel** c) Coal d) Kerosene
  7. Where is the pressure discharge valve fitted in CRDI fuel system?  
**a) Common rail** b) Fuel pump c) Injectors d) Fuel filter
  8. Armature winding is mounted on a \_\_\_\_\_  
a) Stator **b) Rotor** c) Can be mounted anywhere on stator or rotor d) Not required
  9. As the armature rotates, the number of coils in series tapped by the brush pairs \_\_\_\_\_  
**a) Remains same** b) Increases c) Decreases d) Depends on rotor speed and direction of torque
  10. Which of the following is NOT true of automatic headlamp systems?  
A) They can turn headlamps on or off.  
B) They can control high- and low-beam switching.  
**C) They are easily diagnosed when defective.**  
D) They can be adjusted to fit various conditions
  11. What is the use of taillight?  
**a) Indication to vehicle behind** b) indication to slowing down c) Provide enough visibility  
d) Provide interior illumination
  12. What is the advantage of the liquid cooling system?  
a) Dependent only on water supply b) Power absorbed by the pump is considerable  
**c) Even cooling** d) Very cheap

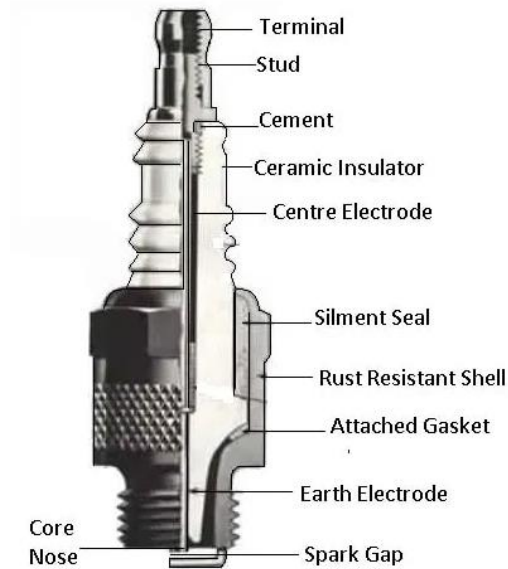


13. What is the material of the radiator cooling tube?  
a) Rubber b) Plastic c) Brass **d) Copper**
14. Why does the engine overheating happen?  
**a) Due to a broken fan belt** b) Due to excess coolant c) Due to an open thermostat  
d) Due to the stuck radiator pressure cap
15. Why is radiator provided?  
**a) To cool the jacket water** b) To pressurize the cooling water c) To provide additional water flow  
d) To cool the external surface of the engine
16. In the dashboard, the warning light comes ON when the pressure of the lubricating oil falls below \_\_\_\_\_ value.  
**a) 0.3** b) 0.4 c) 0.2 d) 0.5
17. \_\_\_\_\_ valve is provided to control the oil pressure of the lubricating oil.  
**a) pressure-relief** b) control c) directional control d) flow control
18. Why is thermostat used?  
a) To control the velocity of water b) To control the distribution of water to various cylinders  
**c) To control the water temperature** d) To control the pressure of water
19. What is the purpose of a fan in a liquid cooling system?  
a) To disperse engine fumes **b) To pump cold air over the hot water**  
c) To cool the external surface of the engine d) To drive airflow when the vehicle speed is low
20. Which pump is used in a forced cooling system?  
a) Piston pump b) Gear pump c) Vane pump **d) Centrifugal pump**

**Write in one line (2 Marks)**

**1. What is a spark plug?**

**Answer:** The spark plug is a device that produces an electric spark to ignite the compressed air-fuel mixture inside the engine cylinder. The spark plug is screwed into the top of the cylinder so that its electrodes project into the combustion chamber.



**2. Write any 3 parts main parts of a spark plug**

1. Centre electrode or insulated electrode.
2. Earth electrode.
3. Insulation separates the two electrodes.
4. Terminal
5. Shell
6. Stud
7. Contact spring
8. Core nose
9. Silment seal
10. Rust-resistant shell

**3) What are types of spark plugs? (Any 4)**

1. Copper spark plugs
2. Platinum spark plugs
3. Iridium spark plugs
4. Double platinum spark plugs
5. Plustar spark plugs
6. Silver spark plugs



**4) Explain working of Spark Plug?**

- The use of the spark plug is to produce an electric spark to ignite the compressed air-fuel mixture inside the engine cylinder. It must produce the spark at the correct movement at the end of the compression stroke.

**5) What is Capacitor Discharge Ignition (CDI)**

- Capacitor discharge ignition (CDI) or thyristor ignition is a type of automotive electronic ignition system which is widely used in outboard motors, motorcycles, lawn mowers, chainsaws, small engines, turbine-powered aircraft, and some cars.

**6) What are the advantages of CDI**

The advantages of CDI include the following.

- The major advantage of CDI is that the capacitor can be fully charged in a very short time (typically 1ms). So, the CDI is suited to an application where insufficient dwell time is available.

**7) What are the disadvantages of CDI**

The disadvantages of CDI include the following.

- The capacitor discharge ignition system generates huge electromagnetic noise and this is the main reason why CDIs are rarely used by automobile manufacturers.
- The short spark duration is not good for lighting relatively lean mixtures as used at low power levels. To solve this problem many CDI ignitions release multiple sparks at low engine speeds.

**8) What is Magneto Ignition System?**

(2)

- Magneto is a major part of this type of ignition system as it is a source of energy. A magneto is a small electrical generator that is rotated by the engine and is capable of producing very high voltages, and does not require a battery as a source of external power.
- The magneto has both primary and secondary windings and thus does not require a separate coil to boost the voltage required to operate the spark plug.

**9) What are the requirements of automobile lighting**

(3)

1. level of minimum illumination (normal visibility)
2. maximum light intensity (but not blinding drivers of cars moving to the meeting)
3. Conventional headlights should provide high-quality lighting, and such a paradox – the larger the size of the reflector, the better the light quality of the dipped headlights.
4. On the geometric component of the range, the effect of the headlight increases with the height of the headlight.



**10 What are Tungsten Halogen Lamps.**

(3)

- Tungsten Halogen Lamps are similar in construction to conventional gas filled tungsten filament lamps except for a small trace of halogen (normally bromine) in the fill gas.
- The halogen gas reacts with the tungsten that has evaporated, migrated outward, and been deposited on the lamp wall

**11) Explain the auxiliary front Fog light, Brake Light, Flasher Unit?**

(3)

**Fog Light:**

- Front fog lights provide a wide, bar-shaped beam of light with a sharp cutoff at the top, and are generally aimed and mounted low.
- They may produce white or selective yellow light, and were designed for use at low speed to increase the illumination directed towards the road surface and verges in conditions of poor visibility due to rain, fog, dust or snow.
- They are sometimes used in place of dipped-beam headlights, reducing glare from fog or falling snow.

**Brake Light:**

- The brake light switch on your vehicle serves an important safety function. When you press the brake pedal, it supplies power to the signal lights at the back of your vehicle to warn other drivers you have slowed.
- Current designs employ a relay, allowing a lower-voltage control circuit to operate the main power supply switch for the brake lights. This configuration creates a reliable switching mechanism with a long lifespan.

**Flasher Unit:**

- The flasher unit, often called “flasher relay”, controls the flashing impulse of the vehicle’s flasher. A defect of the flashing light is signaled by a change of the flashing frequency of the indicator lamps.
- When towing a trailer, the original flashing unit normally is replaced by a flashing unit with C2 function, and an additional indicator lamp is installed in the combination instrument. When exchanging the flasher unit, the connecting panel of the original flasher unit has to be considered.

**12) Explain the warning lights?**



1. Oil Pressure Warning: Oil Pressure Warning: If this light stays lit it indicates loss of oil pressure. Immediately check oil level and pressure.



2. Battery/Charging Alert: Indicates voltage level is below normal level and the vehicle's charging system is not functioning properly. Check battery terminals, alternator belt, and battery condition.



3. Check Engine or Malfunction Indicator Light (MIL): Indicates the engine computer has set a Diagnostic Trouble Code (DTC). Usually requires diagnosis with a professional scan tool.



4. ABS Light: Indicates that the Anti-lock Brake computer has set a code and needs professional diagnosis.



5. Lamp Out: Indicates that there is an exterior light on the vehicle that is not functioning properly.



6. Door Ajar: Indicates that a door (including hood and trunk) is not closed. Open and close all doors, including hood and trunk. If vehicle is left in this condition overnight it can drain the battery



7. Brake System: Indicates one of three possible conditions: parking brake is on; problem with the braking system/brake fluid is low, or ABS problem. Check brake fluid and make sure the parking brake is fully released. If the problem is in the ABS system, it may need a professional diagnosis.



8. TPMS (Tire Pressure Monitoring System): Indicates the tire pressure monitoring system has found a tire with low air pressure or there may be a sensor malfunction. Check tire pressure. Some vehicles will allow manual reset of TPMS warning light and others will require professional diagnosis.



9. Airbag Fault: If this light stays illuminated after starting it indicates that the vehicle has found a fault in the airbag system and the computer has set a code. Professional repair of the supplemental restraint system is highly recommended.



10. Cruise Control: Indicates that cruise control is set during driving.

13) What is Oil Pressure gauge? (2)

- An oil pressure gauge is an essential part of the car and acts as an indicator of your car's engine's health. This instrument tells you about the well-being of your engine and acts as an early warning system.

14) What are the components of Car's Heater Work? (1)

There are a few key components like

- Heater Core
- Blower Motor
- Heater Hoses
- Heater Control Valve
- HVAC Control Panel

15) What are Common parts of air conditioning system are. (1)

- HVAC Control Panel
- Compressor
- Condenser
- Accumulator
- Expansion Valve
- Evaporator
- Blower Motor

16) What is the significance of Glow Plugs Work? (3)

- A glow plug is a component within your vehicle that is used to aid the starting of your diesel-powered engine. They are crucial for colder environments, as cold weather can prevent diesel engines from starting completely.
- Diesel engines rely on the heat created by compression in the chamber in order to properly start. When a diesel engine is lacking an outside source of heat while also being exposed to extremely cold weather, the diesel engine will not be able to start. The solutions to this issue are diesel glow plugs.



**17) What is Power door locks and power windows? (3)**

- Power door locks (also known as electric door locks or central locking) allow the driver or front passenger to simultaneously lock or unlock all the doors of an automobile or truck, by pressing a button or flipping a switch.
- Power windows or electric windows are automobile windows which can be raised and lowered by pressing a button or switch, as opposed to using a crank handle.

**18) What is a windscreen wiper? (3)**

- A windscreen wiper, windshield wiper, wiper blade or simply wiper, is a device used to remove rain, snow, ice, washer fluid, water, or debris from a vehicle's front window. Almost all motor vehicles, including cars, trucks, buses, train locomotives, and watercraft with a cabin—and some aircraft—are equipped with one or more such wipers, which are usually a legal requirement.

**19) Explain the working of Automotive Horn Principle? (3)**

- Horns are metal diaphragms that vibrate when a vehicle is in motion. It produces sound electrically using a thin metal disc and an electromagnet or solenoid. As the solenoid gets energized or triggered by the button, it exerts a force on the metal disc. The byproduct of this process is a loud vehicle sound known as horns.

**20) Explain the working of blower in cars? (3)**

- The blower assists in moving the air to allow ventilation. The movement of air either flows from inside to outside or vice versa. This movement effectively transfers any heat present inside the car to the outside or the opposite side.
- A blower motor resistor controls the speed of a blower. This instrument is present near the blower, right in the airflow path.