

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022  
(Sixth Semester)

Branch – ELECTRONICS

**DISCIPLINE SPECIFIC ELECTIVE-II**  
**AUTOMOTIVE ELECTRONICS**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

1. The capacity of a battery is expressed in terms of \_\_\_\_\_  
(i) current rating (ii) Voltage rating  
(iii) Ampere hour rating (iv) Power rating
2. A starter is a device used to \_\_\_\_\_ an internal – combustion engine.  
(i) rotate (ii) crank (iii) initiate (iv) start
3. A Spark plug is a device used for delivering electric \_\_\_\_\_  
(i) current (ii) voltage (iii) Power (iv) discharge
4. In electric ignition system, \_\_\_\_\_ emission generates.  
(i) more (ii) Low (iii) less (iv) good
5. A sensor is an electronic device that senses physical quantity in the form of \_\_\_\_\_  
(i) transducer (ii) physical (iii) pressure (iv) electrical
6. A relay is an \_\_\_\_\_ operated switch.  
(i) electrically (ii) mechanically (iii) automatically (iv) thermally
7. An engine control unit, the type of electronic control unit that controls a series of \_\_\_\_\_  
(i) module (ii) actuators (iii) EEMS (iv) fuel lines
8. An Engine mapping is a process carried out in the \_\_\_\_\_ industry  
with the aim of modeling engine outputs as functions of inputs.  
(i) Software (ii) Engine (iii) remap (iv) auto
9. The lighting system of a motor vehicle consists of lighting and \_\_\_\_\_ device.  
(i) visibility (ii) signaling (iii) motor (iv) positioning
10. The cables are used extensively in electronic device for \_\_\_\_\_ and signal  
circuits  
(i) Power (ii) neutral (iii) earth (iv) wire

**SECTION - B (25 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

11. a Explain the characteristics of battery charging.  
[OR]  
b Describe about the principle and construction of starter Motor.
12. a Classify the types of spark Plug.  
[OR]  
b Compare the Electronic ignition and Transistor ignition system.
13. a Narrate the classification of sensors.  
[OR]  
b Explain about the Exhaust oxygen level.

Cont...

14 a Describe briefly about the Electronic fuel injection  
[OR]

b Sketch and explain the Multi – point fuel injection.

15 a Describe the details of Head Light in lighting system.

[OR]

b Explain the wiper systems.

**SECTION -C (40 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

16 a Enumerate the DC and AC generators with neat diagram.

[OR]

b Discuss about the working of different Starter drive units.

17 a Elucidate the Magneto coil ignition system with neat diagram.

[OR]

b Outline the importance of Solid state ignition systems and enumerate its advantages and disadvantages.

18 a Discuss briefly about the Coolant temperature

[OR]

b Enumerate the operation of Stepper motors and relay.

19 a Elucidate the function of Gasoline direct injection.

[OR]

b Distinguish between the Engine control module and power train control module.

20 a Discuss about the Head light dazzling and preventive methods.

[OR]

b Highlight the Multiplexing and De- multiplexing system with diagram.

Z-Z-Z

END