

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**MSc DEGREE EXAMINATION MAY 2022
(Fourth Semester)**

Branch – APPLIED ELECTRONICS

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 compression ratio in the combustion chamber should be _____ for normal use.
 (i) 9:1 (ii) 12:1
 (iii) 7:1 (iv) 3:1
- 2 The detonation process is dangerous in _____ engines.
 (i) Large (ii) Medium sized
 (iii) Small (iv) Very large
- 3 EGR in the carburetion system is expanded as _____.
 (i) Excess gas return (ii) Exhaust gas recirculation
 (iii) Excess gas recirculation (iv) Exhaust gas reject
- 4 In a vehicle, significant amount of emissions are produced during _____.
 (i) high speed (ii) high load
 (iii) long run (iv) warm up time
- 5 The _____ is used to sense the temperature in the cars.
 (i) thermocouple (ii) thermistor
 (iii) RTD (iv) infrared sensor
- 6 The system which injects fuel into the intake valve of each cylinder is called _____.
 (i) Direct injection (ii) Central port injection
 (iii) multipoint fuel injection (iv) Continuous injection
- 7 The Lumbar pump motor is used in _____ control.
 (i) steering (ii) speed
 (iii) head light (iv) electronic seat
- 8 The music system in the car is often called as _____ system.
 (i) broadcast (ii) in car entertainment
 (iii) stereo (iv) radio
- 9 A serial network protocol used for the communication between components in a vehicle is _____.
 (i) LIN (ii) Wi- Fi
 (iii) ATM (iv) FTTC
- 10 The _____ is the system, used for the transmission of audio, video and control data for vehicles.
 (i) CAN (ii) BLE
 (iii) MOST (iv) LIN

Cont...

SECTION - B (35 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a Enumerate the physical configuration of automotive systems.
OR
b Discuss about the Steering system of a car.
- 12 a Describe the components of conventional ignition systems.
OR
b Illustrate the operation of ignition coil cores.
- 13 a Discuss about the Electronic control of carburetion.
OR
b Compare the carburetion and fuel injection systems.
- 14 a Mention the requirements of ABS.
OR
b Demonstrate the implementation of Electric window system.
- 15 a Elucidate the diagnostics and data sharing method between vehicles using J1850.
OR
b Describe the implementation of BLE in cars.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Describe the braking and Steering systems in automotives.
- 17 Discuss about various types of ignition systems in vehicles.
- 18 Analyze the functions of fuel injection system in detail.
- 19 Explain the traction control system in vehicles.
- 20 Enumerate the functions of KWP 2000 on board vehicle diagnostics system.

Z-Z-Z

END