

Exam Date & Time: 28-Sep-2020 (02:00 PM - 05:45 PM)



PSG COLLEGE OF ARTS AND SCIENCE

Note: Writing 3hrs: Checking & Inserting Image : 30mins

MSc DEGREE EXAMINATION MAY 2020
(Fourth Semester)

Branch - ELECTRONICS

AUTOMOTIVE ELECTRONICS [18ELP23]

Marks: 75

Duration: 210 mins.

SECTION A

Answer all the questions.

- 1) The purpose of ignition system is to supply a _____ inside the cylinder.
 - (i) Fuel
 - (ii) Spark
 - (iii) Air
 - (iv) Heat

(1)

- 2) The type of battery generally used in cars is _____.
 - (i) Lithium-ion
 - (ii) Nickel-cadmium.
 - (iii) Lead-acid
 - (iv) Alkaline

(1)

- 3) The high compression ratio of diesel engine improves thermal efficiency and lowers _____.
 - (i) Fuel consumption
 - (ii) engine speed
 - (iii) Engine power
 - (iv) engine heat

(1)

- 4) In a vehicle, all earth connectors are identified using _____ colour.
 - (i) Green
 - (ii) Blue
 - (iii) Red
 - (iv) Black

(1)

- 5) The plenum chamber is used in _____ unit.
 - (i) Ignition
 - (ii) Exhaust
 - (iii) Ventillation
 - (iv) Transmission

(1)

- 6) The lambda value of mixture strength and performance ratio is _____.
 - (i) 12:1
 - (ii) 16:1

(1)

(iii) 14.7:1

(iv) 12.7:1

- 7) Which one of the following method locks all the doors when the driver side door is locked?
 (i) Lazy lock
 (ii) Central locking (1)
 (iii) Remote locking
 (iv) Auto lock
- 8) Which one of the following can be considered as closed loop operation in automobiles?
 (i) auto transmission
 (ii) power steering (1)
 (iii) cruise control
 (iv) parking sensor
- 9) A local area network protocol developed for automobiles by SAE is _____.
 (i) ATM
 (ii) CAN (1)
 (iii) FTTC
 (iv) Wi-fi
- 10) The BLE is termed as _____.
 (i) Bluetooth Low Energy
 (ii) Bluetooth Low Emission
 (iii) Bluetooth Low Efficiency (1)
 (iv) Bluetooth Low Energy

SECTION B

Answer all the questions.

- 11) Discuss about the evolution of automotive systems. (7)
- a)
 [OR] Describe the engine block of a vehicle. (7)
 b)
- 12) Analyze the requirements of starting systems. (7)
- a)
 [OR] State the advantages of Electronic Ignition System. (7)
 b)
- 13) Discuss about Programmed Ignition. (7)
- a)
 [OR] Summarise the advantages of fuel Injection. (7)
 b)
- 14) Describe the requirements f ABS. (7)

- a)
[OR] Demonstrate the operation of Central Locking. (7)
b)
- 15) Analyze the LIN protocol implementation in vehicles. (7)
- a)
[OR] Discuss about Wi-Fi architecture. (7)
b)

SECTION C

Answer 3 out of 5 questions.

- 16) Demonstrate the method of engine control in automotives. (10)
- 17) Classify different types of ignitions systems with their features. (10)
- 18) Elucidate the Fuel Injection system in detail. (10)
- 19) Analyze the operation of Anti-lock brake system in cars. (10)
- 20) Enumerate the method of sharing data among ECUs using CAN protocol. (10)

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