

Total No. of Questions : 11]

SEAT No. :

P3170

[Total No. of Pages : 3

[4859]-128

B.E. (Electronics)

AUTOMOTIVE ELECTRONICS SYSTEMS

(2008 Pattern) (Elective - IV) (Semester - II)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answers to the two sections should be written in separate books.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw suitable diagrams wherever necessary.*

SECTION - I

- Q1)** a) With the help of a diagram, describe working of 4-stroke petrol engine used in automobile. [8]
- b) Explain utility of Battery in automotive systems. [8]

OR

- Q2)** a) Compare battery operated vehicles with conventional fuel operated vehicles. [8]
- b) What is Transmission system? Explain types of Transmission system in brief. [8]

- Q3)** a) Explain the operation of temperature sensing system in automobile. How it can be co-related with cooling. [8]
- b) Describe working of automotive system with reference to anticollision & distance sensing. [8]

OR

- Q4)** a) Explain position sensors with reference to tyre & differential using necessary diagram. [8]
- b) Explain the working of Instrumentation amplifier. How it is useful for signal conditioning. [8]

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- Q5)** a) Explain Engine management system in detail. [8]
b) How will you control electronically - [10]
i) Lighting in automotive
ii) Wipers in automotive

- Q6)** a) Explain the control strategy for
i) Anti theft system [5]
ii) Air Conditioning/Heating [5]
b) Describe the methods of improving engine performance & its efficiency. [8]

SECTION - II

- Q7)** a) Explain the significance of interrupts & watch dog timers. [8]
b) Justify the real time programming in automotive systems. [8]

OR

- Q8)** a) Explain the procedure of software testing & debugging. [8]
b) Write a C program to blink LED indicator when the car crosses a certain speed limit. Explain the algorithm to control the speed. [8]

- Q9)** a) What is ECU in automotive system. How the electronic gadgets are interfaced to it? [8]
b) Write a short note on higher end technologies in automotive systems. [5]
c) Explain in brief: application of Telematics in automotives. [5]

- Q10)** a) Describe Bluetooth Technology with its working principle applications & limitations. [8]
b) Explain in detail : CAN & LIN buses. [10]

- Q11)** a) Explain in detail about passenger comfort & security system in automotive system. [8]
- b) Write a sequential process of trouble shooting & fault finding of electronic systems in automotive system. [8]

OR

Write a short note on :

- a) Automotive EMC standards. [6]
- b) On board & Off board diagnostic in automotive. [6]
- c) Basic & multiplex wiring in automotive system. [4]

