Total No. of Questions : 6]

SEAT No. :

P48

[Total No. of Pages : 2

APR - 17/BE/Insem - 56
B.E. (E &TC) (Semester - II)
ADVANCED AUTOMOTIVE ELECTRONICS (Elective - IV (E))
(2012 Pattern) (Open Elective)

Time : 1 Hour] *[Maximum Marks : 30*

Instructions to the candidates:

1) *Attempt Q. 1 or Q.2, Q.3 or Q.4, Q.5 or Q.6*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Assume suitable data if necessary.*

Q1) a) What do you mean by Ignition in an IC engine? What are the components of an Ignition system and explain each of them. **[6]**

b) What is the difference between 'Ignition timing' and 'firing order'? **[4]**

OR

Q2) a) Draw and explain components of a transmission system. **[6]**

b) Write a short note on V-Model development cycle. **[4]**

Q3) a) State specifications and explain signal conditioning of sensor used for measuring speed of vehicle. **[6]**

b) Explain the working principle & characteristics of a MAP sensor. **[4]**

OR

Q4) a) What is an EGO sensor? What are the desirable EGO characteristics? Explain its switching characteristics. **[6]**

b) Make a clearly labeled sketch to show an exhaust gas recirculation system. **[4]**

Q5) a) Explain why automotive grade processors are preferred in automobiles. **[3]**

b) What is meant by Look up table and how it is used in engine control? **[4]**

c) Write a short note on real-time application of PWM in automotive subsystems. **[3]**

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OR

Q6) a) Explain Microcontroller based cruise control, with suitable block diagram. **[6]**

b) Write a short note on: **[4]**

i) Engine calibration

ii) Torque table