Total No. of Questions : 8]

SEAT No. :

P5405

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M.E. (E &TC) (VLSI & Embedded Systems) (Semester - II)

EMBEDDED AUTOMOTIVE SYSTEMS

(2017 Pattern)

Time : 3 Hours] ***[Max. Marks : 50***

Instructions to the candidates :

1) ***Solve any five questions.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data if necessary.***

Q1) a) Briefly explain the working of spark plug & disk braking system with suitable diagram. **[6]**

b) Describe: "Why electronics is so widely used in today's vehicles?" **[4]**

Q2) a) Explain with suitable diagram Fuel Injectors in Petrol engine. Also describe security & warning system. **[6]**

b) Write a notes on : **[4]**

i) Vehicle emission & environmental health.

ii) Emission control strategies.

Q3) a) What is Hall effect? Explain a position sensor using principle of Hall effect? Compare with magnetic reluctance position sensor. **[6]**

b) What is tyre pressure monitoring system? How does it work? **[4]**

Q4) a) What is Lambda sensor? Explain the construction and working of Lambda sensor with a neat sketch. **[6]**

b) Differentiate Throttle body Injection and Multi port fuel injection system.**[4]**

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Q5) a) Draw & explain anti-lock braking system and electronics suspension system. **[6]**

b) Discuss superset of variables sensed in engine control system. **[4]**

Q6) a) Outline & explain components of an electronically controlled engine with suitable diagram. **[6]**

b) Compare analog & digital cruise control system. **[4]**

Q7) a) State the meaning of terms 'fault' and 'symptom'. State the two main criteria necessary to diagnose the fault. **[6]**

b) Explain Protocol wakeup & startup with respect to FlexRay protocol. **[4]**

Q8) a) Explain connection schematic of CANcentrate & ReCANcentrate. **[6]**

b) Draw & explain electrical diagnosis procedure in detail. **[4]**

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