VIT
Vellore Institute of Technology

Final Assessment Test – November 2019

Course: MEE1037 - Automotive Electronics
Class NBR(s): 2022
Time: Three Hours

Slot: E1+TE1
Max. Marks: 100

KEEPING MOBILE PHONE/SMART WATCH, EVEN IN 'OFF' POSITION, IS EXAM MALPRACTICE

General Instruction: Assume the data if any not given

PART – A (10 X 8 = 80 Marks)
Answer ALL Questions

1. The temperature of the car is measured by thermistor. What will be the digital output by a 5 bit ramp type A/D converter used in a car when the temperature measured by thermistor is 26°C? When the resolution of ADC is 1.

2. Explain with the example, how regulated voltage is achieved in order to prevent damage to electronic components in automotive vehicles.

3. Explain in detail, the working of a sensor used to measure the temperature of coolant in an IC engine.

4. Explain the working of strain gauge to measure the engine manifold pressure.

5. Explain the working operation with neat diagram of oxygen/air fuel sensor in the automotive vehicles.

6. Define wheel locking and explain with the neat sketch about Antilock braking system.

7. Write the minimized product of sum expression of the function: $F(x, y, z) = \Sigma m(1, 2, 5, 6, 7)$.

8. Explain in detail about the construction, working and application of E-MOSFET.

9. Explain in detail the working of electronic fuel control system.

10. Explain the operation of inductive type sensor for measurement of position in automotive vehicles.

PART – B (5 X 4 = 20 Marks)
Answer any FIVE Questions

11. Draw the circuit diagram of full adder and full subtractor.

12. Explain the working of knock sensor in automotive vehicles.

13. Explain the working of air-mass flow sensor in automotive vehicles.

14. Discuss in detail about the construction and working of Stepper motor.

15. Explain the fastest Analog to Digital converter in detail.

16. Explain the working of electronic suspension system in automotive vehicles.

17. Explain the architecture of 8085 microprocessor.

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