B.E./B.TECH. Degree Examination, December 2020

Seventh Semester

AE16701 - ENGINE AND VEHICLE MANAGEMENT SYSTEM

(Regulation 2016)

Time: Three hours Maximum : 80 Marks

Answer **ALL** questions

PART A - (8 X 2 = 16 marks)

1. Use of Integral control along with Proportional control facilitates in PID controller.
   a) Eliminates of offset b) Reduction of offset
   c) Reduction of stability time d) None of the above
2. Which sensor is generally considered to be the electronic accelerator Pedal of a fuel-injected engine?
   a) Oxygen sensor b) Knock sensor
   c) Engine MAPsensor d) Throttle position sensor
3. In L Jetronic system, air flow into the engine is measured by
   a) Hot wire anemometer b) Throttle position sensor
   c) Mass air flow sensor d) Manifold air pressure sensor
4. _____ is not an input for the Electronic controlled suspension system.
   a) Crash sensors b) Vehicle speed sensor
   c) Steering wheel rotation sensor d) Height sensor
5. Illustrate the fuzzy estimator in the temperature controller.
6. How does a knock sensor prevent detonation in gasoline engines?
7. Discuss the effect of Pilot injection in diesel engine combustion process.
8. Interpret the need for measuring steering torque and steering position in a vehicle.

PART B - (4 X16 = 64 marks)

9. (a) With the aid of a sketch, explain the architecture of the PIN diagram of the 8085 microprocessor. **(16)**

(OR)

(b) Illustrate with an example of the open loop and closed loop control system used in an automobile. **(16)**

10. (a) Explain the construction and working of a sensor based on piezoelectric effect and its application in a car. **(16)**

(OR)

(b) Investigate the concept and working of Throttle position sensor and its diagnosis techniques. **(16)**

11. (a) (i) Investigate the construction and working operation L-Jetronic SI engine management system. **(12)**

(ii) Compare L-Jetronic with LH- Jetronic system . **(4)**

(OR)

(b) Enumerate the construction and working of the Exhaust Gas Oxygen sensor in the CI Management system and how it controls the Emission from the CI Engine? **(16)**

12. (a) Explain the architecture of the airbag system and discuss how it is improving the safety of the passenger? **(16)**

(OR)

(b) Explain the influence of the important parameter in designing the Adaptive Cruise control system with neat sketches. **(16)**