



Register Number:.....

**B.E DEGREE EXAMINATIONS: NOV/ DEC 2014**

(Regulation 2009)

Seventh Semester

**MECHATRONICS ENGINEERING**

MCT119: Automotive Electronics

**Time: Three hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10Marks)**

1. One of the major exhaust emissions from C.I engines compared to SI engine is

- a) Oxides of nitrogen
- b) Unburnt hydrocarbons
- c) Particulate Matter
- d) Co and Co<sub>2</sub>

2. Minimum engine starting speed of an engine is

- a) 100 rpm
- b) 75 rpm
- c) 90 rpm
- d) 80 rpm

3. Disadvantages of reciprocating IC engine are

- a) Vibration
- b) use of fossil fuels
- c) balancing problem
- d) all the above

4. Multi-point fuel injection system uses

- a) manifold injection
- b) direct injection
- c) port injection
- d) both c & b



20. State the function of torque converter.

**PART C (5 x 14 = 70Marks)**

21. a) Discuss in detail about the role of electronics in automobile.

**(OR)**

b) Explain about Starting system and Starter motor with neat diagram.

22. a) Explain the Working principle of four Stroke Petrol engine with neat diagram.

**(OR)**

b) Describe in detail about mono point and multi point injection system with neat diagram.

23. a) Explain the working principle and characteristics of Air flow and Oxygen sensor.

**(OR)**

b) Discuss the role EGR actuator in exhaust gas recirculation technique with suitable diagram.

24. a) Explain the operation of combined ignition and fuel control systems of an Electronic Engine Management system.

**(OR)**

b) What is mean by CAN? Explain about CAN standard and format.

25. a) Explain the operation of the electronic ABS with its basic components.

**(OR)**

b) Explain the working principle of centralized door locking system and climate control of cars.

\*\*\*\*\*