

Total No. of Questions :10]

SEAT No. :

P2851

[4958]-1032

[Total No. of Pages :2

T.E. (Automobile)

AUTOMOTIVE ELECTRICAL AND ELECTRONICS (316482)

(2012 Course) (Semester - I)

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Neat diagrams must be drawn whenever necessary.*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data if necessary.*

- Q1)** a) Enlist and explain the comparison between
- i) Positive earth & negative earth
 - ii) Earth Return & Insulated return system. **[5]**
- b) How are the following defects used in lead acid batteries.
- i) Sulphation
 - ii) Self. discharge
 - iii) Internal short circuiting **[5]**

OR

- Q2)** a) Explain the necessity of the drive mechanism. What types of drives are employed on cranking motor. **[5]**
- b) Explain constructional details of distributors
- i) With contact point
 - ii) With magnetic pick-ups **[5]**

- Q3)** a) Discuss following as clearly as possible giving neat sketches:
- i) The plate group
 - ii) The separator
 - iii) Battery container **[5]**
- b) Discuss in detail with neat sketch spark advance mechanism. **[5]**

OR

P.T.O.

- Q4)** a) Describe with the help of a neat diagram working of balancing coil type of fuel gauge. [5]
b) What is the purpose of indicating & warning devices provided in vehicles? Enlist reasons in support of their usefulness. [5]

- Q5)** a) Describe what is Engine Management system. Draw a block diagram of an EMS showing all inputs and o/p. [8]
b) With neat sketch explain Electronic Ignition system. [8]

OR

- Q6)** a) Write a short note on
i) Fuel control Maps ii) Spark timing control [8]
b) Describe fuel system and its components with neat sketches. [8]

- Q7)** a) Explain in detail with the help of neat sketch:
i) Air flow rate sensor ii) Angular Position sensor [8]
b) Explain solenoid actuator with the help of neat sketch and give any four automobile application. [8]

OR

- Q8)** a) Explain sensor feedback control system with neat sketch. [8]
b) Explain the principle of actuators & types of actuators in detail. [8]

- Q9)** a) Write a short note on
i) Vehicle tracking system
ii) Radar warning system
iii) GPS [9]
b) With neat sketch explain electronically operated suspension system by using damper. [9]

OR

- Q10)** a) With neat sketch explain Adaptive cruise control system. [9]
b) With neat sketch explain Anti lock Braking system (ABS) with EBD. Also state its advantages. [9]

x x x