



17619

16172

3 Hours / 100 Marks

Seat No.

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- Instructions :** (1) *All questions are compulsory.*
(2) *Illustrate your answers with neat sketches wherever necessary.*
(3) *Figures to the right indicate full marks.*
(4) *Assume suitable data, if necessary.*

Marks

1. A) Attempt **any three** : **12**
- a) What are the uses of photodiode ?
 - b) State types of computer memory.
 - c) Describe the working of oxygen sensor with neat sketch.
 - d) State need of :
 - i) Air bags
 - ii) Park assists.
 - e) List and explain uses of lux meters.
- B) Attempt **any one** : **6**
- a) What is a power diode ? How is it used in charging system ?
 - b) Draw block diagram of basic computer and explain its various components.
2. Attempt **any four** : **16**
- a) List four uses of LED.
 - b) Describe binary number system.
 - c) Describe working of idle speed actuator.
 - d) Explain digital visual display.
 - e) Compare Read Only Memory and Random Access Memory (any 4 points).
 - f) Describe construction of EGR valve with neat sketch.
3. Attempt **any four** : **16**
- a) List six step approach for component testing and explain any one.
 - b) What is the correct way to test an injector with an ohmmeter ?
 - c) Explain with block diagram open loop control system.
 - d) State four advantages of Electronic Power Steering.
 - e) Draw the block diagram of Global Positioning System and label it.
 - f) List and explain limitations of analog display.

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4. A) Attempt **any three** : **12**
- a) Explain working of low pressure warning system.
 - b) Describe construction and working of Crankshaft Position Sensor.
 - c) State types of errors and explain error compensation.
 - d) Draw a neat sketch of fuel pump and explain its working.
 - e) Describe the working of purge control valve.
- B) Attempt **any one** : **6**
- a) Describe construction and working of unit injector with neat sketch.
 - b) Explain working of ABS system with a neat sketch. State four advantages of ABS system.
5. Attempt **any four** : **16**
- a) Describe working of collision avoidance system.
 - b) Explain MPFI system with a neat sketch.
 - c) What is CAN BUS and LIN BUS ? Explain in brief.
 - d) Describe diagnostic procedure of throttle position sensor.
 - e) Describe construction and working of airflow measurement sensor.
 - f) Explain electronic control of suspension.
6. Attempt **any four** : **16**
- a) How GSM network work ?
 - b) Describe working of temperature sensor used in automobile.
 - c) Explain the process of analog to digital conversion.
 - d) What is the correct procedure for checking an oxygen sensor with a digital multimeters ?
 - e) Describe the diagnostic procedure for diode.
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