

EXTRA

Q.P. Code : 730502

(3 Hours)

Total Marks: - 80

- N.B: (1) Question no 1 is compulsory.  
 (2) Attempt any three out of remaining five questions.  
 (3) Figures to the right indicate full marks.  
 (4) Illustrate your answers with sketches wherever necessary.

- Q.1 Solve any four from following six 20
- a Define cylinder block.? What is the need of carrying out rebuilding procedure of it? 05
- b Enlist the purpose of charging system of vehicle. 05
- c Explain the working of power lock system. 05
- d What is the need of having seat belt in automobile? 05
- e Chalk out the difference between transmission and transaxle. 05
- f How the vehicular performance will be affected by defective wheel cylinder? 05
- Q.2 a It is being found that tie rods have worn out. Person "A" says that problem could be due to air in the system while the person "B" says that problem could be due to tight worm shaft thrust bearing preload adjustment. Which person could be correct? Support your claim with suitable reasoning. 06
- b Out of the statements written below about air bag sensor which is false also justify your answer. 06
- i. Roller type of sensor depends upon roller held in place with magnet. The circuit is closed when roller moves and strikes spring contact.
- ii. Mass type of sensors depends upon ball and magnet. The circuit is complete when ball makes contact with electrical contact in the sensor.
- iii. An accelerometer containing piezoelectric element generates analogue voltage in relation to severity of deceleration forces.
- iv. Direction of input force is also sensed by an accelerometer.
- c Fill in the blank with correct option and also justify your choice of answer. 06
- Relay with a timer employed in rear window defroster generally allows \_\_\_\_\_.
- i. Defogger set to shut off after fixed length of time.
- ii. Defogger stops functioning after rear window is cleared.
- iii. Defogger will work independent of ignition switch.
- iv. None of above
- d Enlist the difference between manual and power steering. 02

TURN OVER

- Q.3 a Explain the common troubles related to lead acid battery and how you will diagnose it? 10
- b Explain in detail the inspection and servicing of oil pump 10
- Q.4 a List the common issues related to EGR and what corrective action will be initiated to diagnosis it? 10
- b Write short note on final drive trouble diagnosis 10
- Q.5 a Describe the working of following systems
- i. Cigarette lighter 05
  - ii. Clock system 05
- b Make a detailed note of procedure adopted for servicing and assembly of connecting rod. 10
- Q.6 Solve any four from six 20
- a Write short note on OBD-II 05
  - b List down the causes of differential noise & methods of diagnosing it. 05
  - c Explain in detail the function of event data recorder & precollision devices used in automobile. 05
  - d Describe the working of power mirror system. 05
  - e Explain the things to be done prior to align the headlight. 05
  - f Write short note on inspection of camshaft and timing components. 05
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