

B.E. Mechanical Engineering (Model Curriculum) Semester-VII
OE-4011 - Automobile Engineering

P. Pages : 2

Time : Three Hours



GUG/S/25/14268

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Diagrams and Chemical equation should be given wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.
 6. Solve : Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.

1. a) Define 'an automobile'. Name major components of an automobile. Explain any two of them in brief. 8
- b) How to classify automobile? Name important transport vehicles and describe the salient features of each. 8

OR

2. a) What's the main function of the Anti-lock Braking System? Working of Anti-lock Braking System. What are future trends in automobile? 8
- b) What's the main function of the Traction Control? Working of Traction Control. 8
3. a) What is the necessity of clutch in automobile? Demonstrate the construction and working single plate clutch with neat sketch. 8
- b) Explain the Clutch Trouble Shooting. 8

OR

4. a) Explain with neat sketch construction and operation of a Constant mesh gear box. Also explain how the clashing of dog clutch can be avoided while gear shifting? 8
- b) Explain with neat sketch gear selector mechanism. Explain the purpose of interlock device used in manual transmission. 8
5. a) Explain with neat sketch construction and working propeller shaft and universal joint? State the purpose of front and rear universal joints. 8
- b) Explain with neat sketch all types of final drive. 8

OR

6. a) List out the various types of brake system and explain with neat sketch the construction and operation Hydraulic brake system. 8
- b) Explain construction and working of fixed expander and floating expander of drum brake with neat sketch. 8

7. a) Explain with neat sketch Worm and worm wheel steering gear. 8
- b) Explain with neat sketch Rack and pinion steering gear. 8

OR

8. a) Explain the necessity of suspension system. Describe the working of telescopic type shock absorber with neat sketch. 8
- b) State the requirements of a tyre. What are the results of under inflation and over inflation? 8
9. a) Explain the Magneto Ignition system used in automobile with neat sketch. State its salient features. Also define battery capacity. 8
- b) State functions of Battery. What are the main components of battery? Explain in details all components of battery. 8

OR

10. a) Discuss the construction and working with neat sketch Dyer drive for automobiles. 8
- b) Explain automobile air-conditioning system in brief. 8
