Total No. of Questions : 8] [Total No. of Printed Pages : 2

Roll No. .....

ME–702

B. E. (Seventh Semester) EXAMINATION, June, 2010

(Mechanical Engg. Branch)

AUTOMOBILE ENGINEERING

(ME – 702)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks. Draw neat sketch where it is necessary.

1. (a) How do you classify chassis ? What are main criteria ? Give advantage and disadvantage of each class. 10
   (b) Discuss basic consideration of automobile safety in detail. 10
2. (a) Describe the working of power steering system. 10
   (b) Discuss wheel alingment. Describe necessary conditions for perfect directional stability. 10
3. (a) Explain briefly with a neat sketch the construction and working of multiplate clutch. 10
   (b) Why is gear box necessary in a CAR ? Draw neat sketch of gear box that is normally used in a car and explain its action. 10

4. (a) What is independent suspension system ? Describe any *one* independent suspension system employed in modern day automobiles. 10
   (b) What is constant velocity universal joint ? How does it function and what are its main advantages ? 10
5. (a) Describe an air brake system with its main parts, functioning and advantages and disadvantages. 10
   (b) Differentiate between "leading shoe" and a "training shoe" in case of internal shoe brake. How a training shoe is converted into a leading shoe ? 10
6. (a) What do you mean by scheduled and unscheduled maintenance of automobile ? What are the critical parts of automobile which requires high maintenance ? 10
   (b) Describe the working of battery charging system in vehicles. Explain current-volt regulator. 10
7. (a) What is a catalytic converter ? Explain the working principle of three-way catalytic converter. 10
   (b) Draw a typical lighting system for a modern vehicle and describe its operation. 10
8. Write short notes on any *four* of the following : 5 each
   (i) Emission control
   (ii) Clutch lining
   (iii) Differential
   (iv) Torsion Bar
   (v) Disc brakes
   (vi) Ackermann Steering System