

ME8031 - Elective-II : Automobile Engineering

P. Pages : 2

Time : Three Hours



GUG/W/16/7111

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Answer **five** questions from Q. 1 or 2, Q. 3 or 4, Q. 5 or 6, Q. 7 or 8, Q. 9 or 10.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Give the importance of lubrication system in an IC Engine. What are the various lubrication systems used in IC engines? Explain any one system with neat sketch. **8**
- b) With a neat sketch explain thermostatic controlled water cooling system. **8**

OR

2. a) What is a radiator? Explain its construction & working with sketches. **8**
- b) Explain the various types of vehicle layout. **8**
3. a) Explain the working of a single plate clutch with neat sketch. **8**
- b) Explain the working of constant mesh type of gear box. **8**

OR

4. a) Describe the working of a sliding mesh type of gear box with the help of a sketch. **8**
- b) State the necessity of clutch and give the requirements of clutch systems. Classify clutches. **8**
5. a) Explain with neat sketches Hotch – Kiss drive and torque tube drive. **8**
- b) What are the functions of Brakes? What are the requirements of good braking system? **8**

OR

6. a) Explain the necessity of differential in an automobile. Discuss in detail the construction and working of differential. **8**
- b) Explain the construction and working of Universal Joint. **8**
7. a) What is the need of suspension system? Explain in brief linked suspension system. **8**
- b) Explain the necessity of power steering system in an automobile. Explain any one power steering system. **8**

OR

8. a) What are the important causes of tyre wear? What are their effects on tyre tread wear? How can they be controlled? 8
- b) Explain the terms and their effects. 8
- i) Camber
- ii) Caster
- iii) King – pin – inclination
- iv) Toe – in
9. a) Explain the working of alternator with neat sketch and also give its construction. 8
- b) Explain automobile air – conditioning system in brief. 8
- OR**
10. a) State functions of Battery. What are the main components of battery? Explain its construction with neat sketch. 8
- b) Explain working of battery ignition system with neat sketch. Also define battery capacity. 8
