



Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, April 2015
(2008 Scheme)**

08.803 : AUTOMOBILE ENGINEERING (M)

Time : 3 Hours

Max. Marks : 100

- Instruction :** i) Answer **all** questions from Part – A.
ii) Answer **one** question from **each** Module in Part – B.

PART – A

1. Explain the different ways in which automobile engines can be classified.
2. What are the qualities of a good lubricant for use in an automobile ?
3. Describe the principle involved in the functioning of a simple carburettor.
4. Explain the terms 'ignition timing' and 'ignition advance'.
5. What are the advantages of synchromesh transmission ?
6. Distinguish between three speed and four speed gear boxes.
7. Explain the working of Epicyclic gear train.
8. Prepare a brief note on 'tandem master cylinder'.
9. What is a steering knuckle and what is its importance ?
10. Explain briefly on hybrid vehicles.



(4×10=40 Marks)

**PART – B
Module – I**

11. a) Explain any two types of valve operating mechanisms used in an engine. **10**
b) With neat sketches, explain the working of Wankel rotary piston engine. **10**
12. a) With the help of sketch explain the working of battery coil ignition system. **10**
b) Describe the most popular method of lubrication used in passenger cars. **10**

**Module – II**

13. a) Explain the common troubles encountered in gear boxes and suggest suitable remedies. 10
b) Describe the working of a torque converter. 10
14. a) Give an account on the working of Hobbs and Smiths transmission system. 10
b) Discuss briefly on variometric transmission used in two-wheelers. 10

Module – III

15. a) Sketch a reciprocating ball type steering gear and explain its working. 10
b) Describe the working and construction of a torsion bar suspension with sketches. 10
16. Prepare short notes on following : (4x5=20 Marks)
- a) Rack and pinion
 - b) Chasis lubrication
 - c) Stratified charge engine
 - d) Automotive Air conditioning.

