

FACULTY OF ENGINEERING

B.E. 4/4 (M/P) I-Semester (Supplementary) Examination, June / July 2011

Subject : **Automobile Engineering** (Elective – I)

Time : 3 Hours

Max. Marks: 75

Note: Answer all questions from Part-A and answer any **Five** questions from Part-B.

PART - A (25 Marks)

1. What is an automobile and how it differs from other self propelled vehicle? 3
2. What are the functions of a carburetor? 2
3. What are the primary and secondary objects of lubrication? 3
4. What is the function of a radiator in cooling system? 2
5. What are the main requirements of a steering system? 2
6. What do you understand from wheel alignment? Explain. 3
7. What is a torsion bar? 2
8. Discuss the advantages of a constant mesh gear box over the sliding mesh type. 3
9. What are the functions of propeller shaft and universal coupling in an automobile? 3
10. What is a catalytic converter? Explain. 2

PART - B (50 Marks)

- 11.a) How are the automobiles classified? Explain in detail giving examples. 5
- b) Compare mechanical fuel injection system with electronic fuel injection system. 5
- 12.a) What are the characteristics which are considered while selecting a particular lubricant for an automobile engine? Discuss in details. 6
- b) Explain the function of thermostat in the engine cooling system. 4
- 13.a) Discuss in details the requirements and the functions of an ignition Systems in an IC engine. 5
- b) Differentiate between battery ignition and magneto ignition system. 5
- 14.a) What is steering? What are the different types of steering systems employed? Explain with a neat sketch the Ackerman's steering system. 6
- b) Write a short notes on rack and pinion steering mechanism. 4

QUESTION - 2 -

- 15.a) Describe in detail constructional features of the tubed and the tubeless tyres for automotive use. 5
- b) What are the different types of brakes used in an automobile? Explain. 5
- 16.a) What is a function of a clutch? Explain the working of a single plate clutch with neat a neat diagram. 6
- b) Describe the principle of a torque converter. Discuss its advantages and disadvantages. 4
17. How does an automobile contribute towards pollution of the atmosphere? Discuss various methods to reduce the emissions of pollutants in exhaust gases. 10