

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 171902****Date: 02-12-2014****Subject Name: Automobile Engineering****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Draw the layout of an automobile and describe the primary purpose of each main parts of an automobile. **07**
- (b) Name different resistances encountered by an automobile. Explain any one of them. **07**
- Q.2** (a) Explain construction and working of fluid coupling with the help of neat sketch. **07**
- (b) What is necessity of gear box? Explain the working of constant mesh gear box with neat sketch. **07**
- OR**
- (b) Draw the schematic of a box section type frame of an automobile and discuss design features are to be considered in making of the frame. **07**
- Q.3** (a) Explain the construction and working of telescopic shock absorber. **07**
- (b) Describe the importance of caster and camber in an automobile with neat sketch. **07**
- OR**
- Q.3** (a) Explain principle of braking. Explain construction and working of disc brake system with neat sketch. **07**
- (b) Describe the safety features available in modern car. **07**
- Q.4** (a) What are the functions of wheel? Explain construction and working of pressed steel disc. **07**
- (b) Give the classification of tyre. Differentiate between tube tyre and tubeless tyre. **07**
- OR**
- Q.4** (a) Explain briefly following **07**
- 1) Driving license
- 2) Insurance against third party
- (b) Why servicing of an automobile is necessary? Explain various types of servicing required to maintain a vehicle. **07**
- Q.5** (a) What is the need of using a differential assembly in an automobile? Discuss the working of the differential with neat sketch. **07**
- (b) What is the function of the propeller shaft? Explain the working of propellant shaft with neat sketch. **07**
- OR**
- Q.5** (a) Discuss the lights used in modern vehicle for various purposes. **07**
- (b) Describe the factors should be considered to purchase a new car for a family. **07**

\*\*\*\*\*