

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII • EXAMINATION – SUMMER 2014**

**Subject Code: 171902**

**Date:03-06-2014**

**Subject Name: Automobile Engineering**

**Time:02:30pm to 05:00 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)** Explain advantages and disadvantages of a passenger car with the engine mounted at the front and rear engine mounting with neat sketch. **07**
- (b)** Describe the construction and working of wind screen wiper, Speedometer Odometer and Fuel Gauge **07**
- Q.2 (a)** Explain the working of multi plate clutch with neat sketch. **07**
- (b)** Explain construction and working of differential unit with neat sketch **07**
- OR**
- (b)** Write short note on non-slip type differential **07**
- Q.3 (a)** Define (1) castor (2) camber (3) toe in and toe out State their effect on steering geometry with neat sketch. **07**
- (b)** Describe the rack and pinion type steering gear box with neat sketch. **07**
- OR**
- Q.3 (a)** Designate the tyre with example. Differentiate between tube and tubeless tyre **07**
- (b)** What are the difference between Hotchkiss and torque tube drive describe with the help a neat sketch **07**
- Q.4 (a)** Explain the working of constant mesh gear box with diagram. **07**
- (b)** Explain the need of suspension system and state its objective. **07**
- OR**
- Q.4 (a)** Give the classification of automobile brake. Explain with neat sketch the working of master cylinder used in hydraulic brake **07**
- (b)** State the function of battery and explain construction of automobile battery with sketch. **07**
- Q.5 (a)** What are the different types of rear end suspension ? How does a rigid axle front end suspension differ from an independent front end suspension? **07**
- (b)** Explain the typical lighting circuit diagram of a car **07**
- OR**
- Q.5 (a)** Enlist the various types of tools and equipment required in service station. **07**
- (b)** Write short note on Euro norms **07**

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