

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013****Subject code: 1721104****Date: 03-06-2013****Subject Name: Automotive Chassis and Body 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) Explain car body construction with neat sketch. **07**
 (b) Explain 1. Boot 2. Dash board 3. Bonnet 4. Roof. **07**

- Q.2** (a) Give detailed classification of vehicle bodies. **07**
 (b) Explain various materials used for automobile body. **07**

OR

- (b) Explain shear panel method for design of vehicle bodies. **07**

- Q.3** (a) Explain chassis frame design. **07**
 (b) What is vehicle safety? Explain requirements and provisions for vehicle safety. **07**

OR

- Q.3** (a) Write a short note on Vehicle aerodynamics. **07**
 (b) Draw the bus body layout and give the function of each component of bus body. **07**

- Q.4** (a) Explain different aerodynamic forces and moments with their effects on the vehicle. **07**
 (b) What is driver's visibility? Explain methods for improving visibility of driver in a vehicle. **07**

OR

- Q.4** (a) Explain rules and regulations for design of vehicle bodies. **07**
 (b) Explain stress analysis in integral bus body. **07**

- Q.5** (a) Give the difference between symmetric and asymmetric vertical loads. **07**
 (b) Explain selection of paint and different methods of painting process. **07**

OR

- Q.5** (a) Explain different body optimization techniques for minimum drag. **07**
 (b) Write a short note on wind tunnel testing of scale model. **07**
