

**GUJARAT TECHNOLOGICAL UNIVERSITY****M.E Sem-II Examination July 2010****Subject code: 721104****Subject Name: Automotive Chassis & Body Engineering****Date: 07 /07 /2010****Time: 11.00am – 1.30pm****Total Marks: 60****Instructions:**

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

- Q.1** (a) Explain typical car body construction with neat sketch. **06**  
(b) Explain vehicle aerodynamics. **06**
- Q.2** (a) List different vehicle body materials and explain any three of them. **06**  
(b) State and explain shear panel method of determining stress analysis and body load. **06**
- OR**
- (b) Explain how car bodies are classified? **06**
- Q.3** (a) Explain design of automobile body for safety. **06**  
(b) Differentiate between symmetric and asymmetric vertical loads in car. **06**
- OR**
- Q.3** (a) With neat sketch explain how vehicle body weight distribution is carried out for design purpose. **06**  
(b) Write brief notes on “Chassis frame design”. **06**
- Q.4** (a) Explain how auto frames are classified. State defects in frame of auto vehicle. **06**  
(b) Explain stress analysis of bus body structure under bending and torsion. **06**
- OR**
- Q.4** (a) Explain flow visualization techniques. **06**  
(b) Explain classification of automobile coach work. **06**
- Q.5** (a) Explain in detail how wind tunnel testing of vehicular body is carried out. **06**  
(b) State and explain with neat sketch methods of improving visibility and space in car body. **06**
- OR**
- Q.5** (a) Explain various safety aspects incorporated in modern cars. **06**  
(b) State and explain various forces and moments acting on auto vehicle. State effects of such forces. **06**

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