Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER–VI • EXAMINATION – SUMMER • 2014**

**Subject Code: 160205** **Date: 26-05-2014**

**Subject Name: Automobile 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)** | What is vehicle drag? Explain the types of drags faced by the vehicle. | **07** |
| | **(b)** | Explain body optimization techniques and aerodynamics aids for optimization of drag. | **07** |
| **Q.2** | **(a)** | Explain different materials used for automobile body. | **07** |
| | **(b)** | What is dash board? Explain different instruments included in dash board. | **07** |
| | | **OR** | |
| | **(b)** | Explain roll over test to be performed for auto vehicles. | **07** |
| **Q.3** | **(a)** | Give detailed classification of vehicle bodies. | **07** |
| | **(b)** | What is vehicle safety? Explain requirements and provisions for vehicle safety. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain shear panel method for vehicle body. | **07** |
| | **(b)** | Explain briefly‘heating and ventilation systems’ of the vehicle. | **07** |
| **Q.4** | **(a)** | Explain different aerodynamic forces and moments with their effects on the vehicle. | **07** |
| | **(b)** | Explain selection of paint and different methods of painting process. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Give the difference between toughened glass, sheet glass and laminated glass. | **07** |
| | **(b)** | Explain different symmetric and asymmetric vertical loads in car. | **07** |
| **Q.5** | **(a)** | Write a short note on ‘wind tunnel testing of scale model’. | **07** |
| | **(b)** | Explain different seating dimension parameters with sketch. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Write a short note on “crash test”. | **07** |
| | **(b)** | Explain briefly GRP and FRP used in automobile body. | **07** |

**********