

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI EXAMINATION – SUMMER 2025

Subject Code: 3160211

Date: 26-05-2025

Subject Name: Automobile Chassis and Body Engineering

Time: 10:30 AM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Define: Chassis, Body, and Frame. **03**
(b) Classify the types of car body. **04**
(c) Describe various types of materials used for body construction. **07**
- Q.2** (a) Explain unibody structure design for vehicle. **03**
(b) Explain dash board with figure in detail. **04**
(c) Name the various components of transmission line and explain functions of each. **07**
- OR**
- (c) Explain driver seat design & dimension parameters. **07**
- Q.3** (a) State the sources of body noise. **03**
(b) Explain the Aerodynamic drag and its types. **04**
(c) Explain different forces and moments with their effects on the vehicle. **07**
- OR**
- Q.3** (a) Define crashworthiness of vehicle. **03**
(b) Describe the use of GRP in bus body. **04**
(c) Explain the simple structure surface (SSS) method. **07**
- Q.4** (a) Classify types of commercial vehicle bodies. **03**
(b) Explain the vehicle roof and vehicle side panel assembly. **04**
(c) Explain pneumatic for passenger door opening & closing. **07**
- OR**
- Q.4** (a) Explain the working of Airbags. **03**
(b) Explain various vehicle body trim. **04**
(c) Differentiate between passive and active safety. **07**
- Q.5** (a) Give the requirements of pedestrian safety. **03**
(b) Explain roll over crash test. **04**
(c) Explain the chassis and body alignment test. **07**
- OR**
- Q.5** (a) Explain the crumple zone in vehicle. **03**
(b) Explain the concept of H-point referencing **04**
(c) Explain driver visibility & method for improving it. **07**
