

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER–VI (NEW) EXAMINATION – WINTER 2023****Subject Code:3160211****Date:07-12-2023****Subject Name: Automobile Chassis and Body Engineering****Time:02:30 PM 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.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

Q.1	(a)	Explain Dashboard with figure in detail.	03
	(b)	Explain different types of commercial vehicle body.	04
	(c)	Explain types of car body with neat sketch.	07
Q.2	(a)	Define: Chassis, Body, Frame	03
	(b)	Explain vehicle body trims.	04
	(c)	Explain driver seat design & dimension parameters.	07
OR			
	(c)	Explain Full frontal crash test with neat sketch.	07
Q.3	(a)	State the sources of body noise.	03
	(b)	Describe the uses of GRP in bus body.	04
	(c)	Describe various types of materials used for body construction.	07
OR			
Q.3	(a)	Define crashworthiness of vehicle.	03
	(b)	Explain different types of metal section used in the construction of bus body.	04
	(c)	Explain the effects of different types of forces & moments acting on vehicle body.	07
Q.4	(a)	Write the properties and use of FRP.	03
	(b)	Classify various bus bodies with diagram.	04
	(c)	Explain various body optimization techniques used for drag reduction for vehicle body.	07
OR			
Q.4	(a)	Explain working of seat belt.	03
	(b)	Compare the conventional & integral type construction of busbody.	04
	(c)	Explain driver visibility & methods for improving visibility.	07
Q.5	(a)	Define ergonomics of vehicle.	03
	(b)	What do you mean by crumple zones? What is their importance?	04
	(c)	Differentiate between passive and active safety.	07
OR			
Q.5	(a)	Explain about resistance to vehicle motion.	03
	(b)	Explain working of Airbags.	04
	(c)	Explain load analysis of simple van using SSS method.	07