Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–VI (NEW) EXAMINATION – WINTER 2024

Subject Code:3160211 Date:28-11-2024

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)**	What is Automobile chassis? Give the name of main components of chassis.	**03**
	(b)	Explain in brief which types of loads are acting on the vehicle frame.	**04**
	(c)	What do you mean by drag force? Explain different types of drag force.	**07**
Q.2	**(a)**	List out the main parts of the car body work.	**03**
	(b)	Explain the crumple zone in vehicle.	**04**
	(c)	Explain vehicle structure analysis using by simple structural surface method in simple van.	**07**
		OR	
	(c)	Explain driver visibility & methods for improving visibility.	**07**
Q.3	**(a)**	Write a short note on tipper body.	**03**
	(b)	Difference between Mini bus and Midi bus.	**04**
	(c)	Explain various types of tanker body construction with detail.	**07**
		OR	
Q.3	**(a)**	Define crashworthiness of vehicle.	**03**
	(b)	Write a short note on car pillars.	**04**
	(c)	Explain the effect of different types of forces and moments acting on vehicle body.	**07**
Q.4	**(a)**	List out minimum drag optimization techniques for aerodynamics.	**03**
	(b)	Explain about resistance to vehicle motion.	**04**
	(c)	Draw layout of power plant location and drive in vehicle with neat sketch.	**07**
		OR	
Q.4	**(a)**	Classify types of commercial vehicle bodies.	**03**
	(b)	Explain different types of metal section used in construction and regulation of bus body.	**04**
	(c)	Explain the driver cabin design for compactness design of frames for bus and commercial vehicles	**07**
Q.5	**(a)**	Define: airbag, seat belt and dashboard of vehicles.	**03**
	(b)	Explain external and internal flow problems in vehicle aerodynamics.	**04**
	(c)	Differentiate between active and passive safety.	**07**
		OR	
Q.5	**(a)**	Give the requirements of pedestrian safety.	**03**
	(b)	Explain the concept of H-point referencing.	**04**
	(c)	Explain the chassis and body alignment test.	**07**

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