Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII EXAMINATION – WINTER 2015

Subject Code:181907 **Date:12/12/2015**

Subject Name: Automobile body engineering (Department elective-II)

Time: 2:30pm to 5:00pm **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)**	Explain various aerodynamic forces and moments with their effects on the vehicle.	**07**
	(b)	Explain briefly wind tunnel testing of scale model.	**07**
Q.2	**(a)**	Explain various materials used for automobile body.	**07**
	(b)	What do you mean by vehicle safety? Explain requirements and provisions for vehicle safety in a vehicle.	**07**
		OR	
	(b)	Explain heating and ventilation systems used in the vehicle.	**07**
Q.3	**(a)**	Explain body optimization techniques and aerodynamics aids for optimization of drag.	**07**
	(b)	Give the complete classification of different vehicle bodies in detail.	**07**
		OR	
Q.3	**(a)**	Explain different methods of painting process used for automobile body.	**07**
	(b)	Explain dash board and different instruments included in it with it's layout.	**07**
Q.4	**(a)**	Write a short note on chassis frame design for a vehicle.	**07**
	(b)	Explain shear panel method for vehicle body.	**07**
		OR	
Q.4	**(a)**	Explain crash test to be performed for a vehicle.	**07**
	(b)	Draw the bus body layout and give the function of each component of bus body.	**07**
Q.5	**(a)**	Explain roll over test to be performed for auto vehicles.	**07**
	(b)	Give the difference between toughened glass, sheet glass and laminated glass.	**07**
		OR	
Q.5	**(a)**	What is driver's visibility? Explain methods for improving visibility of drivers in a vehicle.	**07**
	(b)	Explain briefly symmetric and asymmetric vertical loads in car.	**07**

****