

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3170214

Date:19-11-2024

Subject Name: Vehicle and Road Safety

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.

	MARKS
Q.1 (a) Define automobile safety and explain preventive design.	03
(b) Give the classification of safety and explain each with detail.	04
(c) Discuss the national road safety policy of the government of India.	07
Q.2 (a) Explain the working of collapsible steering column.	03
(b) Write a short note on crumple zone of a car.	04
(c) Draw and explain the working of automatic Seatbelt Tightener system.	07
OR	
(c) Explain deformation behavior of vehicle body by type of collision.	07
Q.3 (a) Give the causes of rear end collision of a car.	03
(b) Explain vehicle safety rating in India.	04
(c) Describe Electronic System for activating air bags.	07
OR	
Q.3 (a) Differentiate between active safety and passive safety.	03
(b) Explain rear vehicle object detection system.	04
(c) Explain Bumper Design for the vehicle safety.	07
Q.4 (a) List out the characteristics of road accidents.	03
(b) Justify traffic rules with driving behavior.	04
(c) Write a short note on crash test.	07
OR	
Q.4 (a) Give the responsibilities of teachers and parents for the road accident preventions.	03
(b) Explain road traffic accidents scenario in India and in the world.	04
(c) Discuss on efforts done by the Government regarding Road Safety.	07
Q.5 (a) Give the police responsibilities for the accident preventions.	03
(b) Explain types of road traffic signs in India.	04
(c) Describe the four E's of Accidents Prevention.	07
OR	
Q.5 (a) Discuss about the responsibilities of Politicians and Community members for the road safety.	03
(b) Describe the provisions for the vulnerable road users in India.	04
(c) Explain five P's of Road safety education.	07
