

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI(NEW) EXAMINATION – WINTER 2022****Subject Code:3160214****Date:15-12-2022****Subject Name:Vehicle Testing and Homologation****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 Need of vehicle testing and homologation.	03
(b) Write Measurement of BHP, IHP, BSFC, Thermal Efficiency of IC engine with proper notation.	04
(c) Explain working of hydraulic dynamometer.	07
Q.2 (a) Explain Brake stopping distance.	03
(b) State various noise sources from vehicle and explain wind noise.	04
(c) What is Emission test ? Explain Emission test for CO and HC	07
OR	
(c) Explain Spectroscopic methods.	07
Q.3 (a) Explain Steering Impact test.	03
(b) Explain Type of hydraulic dynamometer.	04
(c) Explain Gas Chromatograph and Smoke meters.	07
OR	
Q.3 (a) Write short note on side slip tester.	03
(b) Explain noise control methods in Vehicle Testing and Homologation.	04
(c) Describe AIS-037	07
Q.4 (a) Explain Measurement of steering effort.	03
(b) Write short note on Turning circle diameter test.	04
(c) Explain Standard noise measurement methods.	07
OR	
Q.4 (a) What is the function of Vehicle Test lane for laboratory testing of vehicle.	03
(b) Difference between active safety and passive safety	04
(c) What is FIP calibrating? Explain FIP calibrating testing	07

- Q.5** (a) Demonstrate gradability test. **03**
(b) Explain Pass by noise test. **04**
(c) Discuss need of vehicle inspection. **07**

OR

- Q.5** (a) Explain Smoke meters. **03**
(b) Explain steering effort test. **04**
(c) Explain testing standards like; AIS testing standards, Euro Standards, SAE standards. **07**
