

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3160214****Date:10-07-2023****Subject Name:Vehicle Testing and Homologation****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) What is homologation? Justify the need of automotive homologation.	03
	(b) What are the types of approval?	04
	(c) Explain conformity of production test, COP period and COP testing.	07
Q.2	(a) Define: (1) Dynamometer (2) Brake Power (3) Flue Gases	03
	(b) State various noise sources from vehicle and explain wind noise.	04
	(c) Classify dynamometer. Explain hydraulic dynamometer with sketch.	07
	OR	
	(c) Explain Spectroscopic methods.	07
Q.3	(a) Explain fundamental of acoustic.	03
	(b) Illustrate pass by noise test.	04
	(c) Explain Gas Chromatography and Smoke meters.	07
	OR	
Q.3	(a) Write short note on side slip tester	03
	(b) Explain effect of noises on human being.	04
	(c) Describe AIS-037	07
Q.4	(a) What is the function of Vehicle Test lane for laboratory testing of vehicle.	03
	(b) What is Turning radius? Explain turning circle diameter test.	04
	(c) What is FIP calibrating? Explain FIP calibrating testing	07
	OR	
Q.4	(a) Demonstrate gradability test.	03
	(b) Describe dynamic wheel balancing.	04
	(c) Explain steering effort test.	07
Q.5	(a) What do you mean by EURO standards and AIS standards?	03
	(b) Explain headlight beam alignment testing.	04
	(c) Explain SHED test on chassis dynamometer.	07
	OR	
Q.5	(a) Explain Brake stopping distance.	03
	(b) Describe measurement of IHP.	04
	(c) What is Emission test ? Explain Emission test for CO and HC	07