

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3160214

Date:28-11-2024

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) Define Category M and Category N vehicle as per IS and AIS standard?	03
	(b) Discuss about vehicle testing organization.	04
	(c) Explain two wheel and four wheel chassis dynamometer.	07
Q.2	(a) Define: (1) Homologation (2) Indicated Power (3) Flue Gases	03
	(b) Explain measurement of fuel consumption.	04
	(c) Define dynamometer? Explain Eddy current dynamometer with sketch.	07
	OR	
	(c) Explain infrared gas analyzers with sketch.	07
Q.3	(a) Explain Gradeability test.	03
	(b) Explain procedure for brake stopping distance test.	04
	(c) Explain energy consumption in conventional automobiles, performance, emission and fuel economy.	07
	OR	
Q.3	(a) Explain operation of full load and part load conditions.	03
	(b) Explain steering impact test.	04
	(c) Illustrate wind tunnel testing.	07
Q.4	(a) Give example of active safety and passive safety features.	03
	(b) Explain effect of noises on human being.	04
	(c) Explain various sources of noises in an automobile vehicle.	07
	OR	
Q.4	(a) Short note on vehicle testing lanes.	03
	(b) Explain types of corrosion occur within the automotive industry.	04
	(c) Explain wheel alignment testing.	07
Q.5	(a) Explain Euro standards.	03
	(b) Explain AIS-093 (code of practice for construction and approval of truck cabs and truck bodies).	04
	(c) Describe AIS-037 standards.	07
	OR	
Q.5	(a) Explain AIS testing standards.	03
	(b) Explain Willan's line method.	04
	(c) What is wheel balancing? Give its importance and explain types of wheel balancing with sketch	07
