

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3160214

Date:20-05-2024

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.

- Q.1** (a) Why to perform testing and Homologation for automotive? **03**
(b) List the various homologation centers across the country. Also, write the functions of each. **04**
(c) Explain AIS-037 in details. **07**
- Q.2** (a) List the types of Dynamometers. **03**
(b) Define: (1) Brake Power (2) Indicated Power (3) Frictional Loss **04**
(c) Explain with sketch Flame Ionization Detector equipment. **07**
- OR**
- (c) Explain with neat sketch Non Dispersive Infrared equipment. **07**
- Q.3** (a) Describe Noise, Vibration and Harshness. **03**
(b) What is the need of Brake performance test? **04**
(c) Explain pass by noise testing method along with diagram. **07**
- OR**
- Q.3** (a) Explain about the wind noises of the vehicle? **03**
(b) Differentiate Air borne and Structure borne noise. **04**
(c) Explain with neat sketch brake squeal noise test method. **07**
- Q.4** (a) List the point for evaluating vehicle performance. **03**
(b) With the neat sketch explain Turning Circle Diameter test. **04**
(c) With the neat sketch explain Steering Impact test. **07**
- OR**
- Q.4** (a) list the various road testing tracks for automotive. **03**
(b) Write an application of “Wading Troughs” and “Serpentine” test tracks. **04**
(c) Explain accelerated fatigue track with suitable sketch.. **07**
- Q.5** (a) Write an objective of chassis dynamometer. **03**
(b) Explain side slip test. **04**
(c) Explain with sketch chassis dynamometer. **07**
- OR**
- Q.5** (a) List the various EURO and AIS standards for vehicle. **03**
(b) AIS-003 (Starting Grade-ability). **04**
(c) AIS-038 (Battery Operated Vehicles). **07**
