

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2170204****Date:30/01/2021****Subject Name:Vehicle Testing &Homologation****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Give the full form of following terms:1) CMVR, 2) ARAI, 3) NATRiP **03**
(b) Write Measurement of BHP, IHP, BSFC, Thermal Efficiency of IC engine with proper notation. **04**
(c) Explain working principle of wind tunnel testing. **07**
- Q.2** (a) What is active safety and passive safety and list active and passive safety devices used in automobile? **03**
(b) Explain need of vehicle testing and need of homologation in automobile **04**
(c) Explain working of ORSAT apparatus with neat sketch **07**
- Q.3** (a) Write short note on absorption type and transmission type dynamometer **03**
(b) Write steps for steering effort test **04**
(c) Explain procedure for wheel rim testing. **07**
- Q.4** (a) Explain EURO standards and AIS standards? **03**
(b) List types of pollutant emitted from IC engine and write reason and source of emission **04**
(c) What is the procedure for head light beam alignment testing? **07**
- Q.5** (a) Discuss need of vehicle inspection. **03**
(b) Explain effects of reflecting surfaces on sound propagation. **04**
(c) Explain testing procedure for gradeability test of vehicle **07**
- Q.6** (a) Enlist and write function of sensors used for crash test of vehicle. **03**
(b) Write the steps to measure turning circle diameter test for the vehicle. **04**
(c) Explain energy consumption in conventional automobiles. **07**
- Q.7** (a) Write short note on engine durability test. **03**
(b) Explain types of vehicle inspections. **04**
(c) Explain three chamber corrosion testing procedure. **07**
- Q.8** (a) Discuss fire resistance test for vehicle. **03**
(b) Explain side door intrusion test. **04**
(c) Explain procedure for brake stopping distance test. **07**
