

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII(NEW) • EXAMINATION – WINTER 2016**

**Subject Code:2170204****Date:25/11/2016****Subject Name:Vehicle Testing &Homologation****Time:10.30 AM to 1.00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain Need of vehicle testing and homologation. **07**  
 (b) Explain Type Approval & Conformity of Production tests. **07**
- Q.2** (a) Explain different Measurement techniques for measuring BHP & IHP . **07**  
 (b) Explain Orsat apparatus in detail with neat sketch. **07**
- OR**
- (b) Explain infrared gas analyzers. **07**
- Q.3** (a) Explain noise control methods and Pass by Noise testing method with required figure. **07**  
 (b) Explain sources of vehicle noise :- intake and exhaust noise, combustion noise, mechanical noise, noise from auxiliaries, wind noises, transmission noises, brake squeal, structure noise. **07**
- OR**
- Q.3** (a) Explain Steering Impact test and Steering effort test. **07**  
 (b) Explain tyre and road condition and traffic condition and driving habits on fuel economy **07**
- Q.4** (a) Explain wind tunnel testing **07**  
 (b) Explain hill climbing, handling and ride characteristics. **07**
- OR**
- Q.4** (a) Explain wheel alignment testing **07**  
 (b) Explain two wheel & four wheel testing on chassis dynamometers **07**
- Q.5** (a) Explain crash test, rollover test, seatbelt test and airbag test. **07**  
 (b) Explain Occupant protection Impact test & Side door intrusion test. **07**
- OR**
- Q.5** (a) Explain testing standards like; AIS testing standards, Euro Standards, SAE standards. **07**  
 (b) Explain AIS-003 (Automotive Vehicles - Starting Gradeability - Method of Measurement and Requirements). **07**

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