

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (Old) EXAMINATION – WINTER 2019****Subject Code: 171902****Date: 26/11/2019****Subject Name: Automobile Engineering****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.

- Q.1** (a) Define the term “Automobile” and give the detail classification of automobiles. **07**
(b) Explain rolling resistance, gradient resistance and wind resistance. **07**
- Q.2** (a) Explain the working of multi plate clutch with neat sketch. **07**
(b) Describe the common features and major difference in constant mesh and synchromesh gear box. **07**
- OR**
- (b) Explain construction and working of fluid coupling with the help of neat sketch. **07**
- Q.3** (a) Explain overdrive coupling with the help of neat sketch. **07**
(b) What are functions of propeller shaft in automobile vehicles? What is the function of slip joint in propeller shaft assembly? **07**
- OR**
- Q.3** (a) Explain the need of suspension system and state its objective. **07**
(b) Explain construction and working of telescopic type shock absorber. **07**
- Q.4** (a) Explain : (i) Camber (ii) Caster (iii) Toe-in (iv) Toe-out respect to steering geometry. **07**
(b) Explain with neat sketch the working of power assisted brake. **07**
- OR**
- Q.4** (a) Describe the rack and pinion type steering gear box with neat sketch. **07**
(b) Give the classification of automobile brake. Explain with neat sketch the working of master cylinder used in hydraulic brake. **07**
- Q.5** (a) Explain Convectional tube tyre & Tubeless tyre in detail **07**
(b) Write names and purpose of instruments fitted on the panel board of vehicle. **07**
- OR**
- (a) State the function of battery and explain construction of automobile battery with sketch. **07**
(b) Describe the factors should be considered to purchase a new car for a family. **07**
