

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– V (New) EXAMINATION – WINTER 2019****Subject Code: 2150207****Date: 29/11/2019****Subject Name: Automobile Transmission****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) Write classification of transmission systems. **03**
 (b) Differentiate : hydrostatic and hydrodynamic drive. **04**
 (c) With neat sketch explain torque convertor. **07**
- Q.2** (a) Explain principle of operation of clutch. **03**
 (b) Write brief note on single and two wheel drive systems. **04**
 (c) Explain in detail: Why different types of location of transmission system are used in the different four wheeler? **07**
- OR**
- Q.3** (c) List gear shifting mechanism and explain any one in detail. **07**
 (a) Define: tractive effort, double declutching and synchronizing **03**
 (b) Explain different resistances to motion of a vehicle with neat sketch. **04**
 (c) Explain hydraulic mode of operating a clutch in detail with sketch. **07**
- OR**
- Q.3** (a) Write brief note on freewheel clutch. **03**
 (b) With neat sketch write construction of fluid coupling. **04**
 (c) Define Clutch and explain centrifugal clutch in detail with neat sketch. **07**
- Q.4** (a) Compare electric and hybrid drive system. **03**
 (b) Explain any four points of gear maintenance. **04**
 (c) With neat sketch explain construction and working of constant-mesh gear box. **07**
- OR**
- Q.4** (a) Compare dry clutch and wet type clutch. **03**
 (b) Explain performance characteristics of electric drive. **04**
 (c) Explain clutch maintenance in detail. **07**
- Q.5** (a) Write note on types of clutch lining materials. **03**
 (b) Discuss the principle of early Ward Leonard Control system. **04**
 (c) Explain automatic transmission with intelligent Electronic control systems. **07**
- OR**
- Q.5** (a) Write brief note on hybrid drive system. **03**
 (b) Explain types of hydrostatic drive. **04**
 (c) Explain construction and working of Janny hydrostatic drive neat sketch. **07**
