

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – SUMMER • 2014****Subject Code: 150202****Date: 13-06-2014****Subject Name: Automobile Systems****Time: 10.30 am - 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) Explain functions of automobile frame. Give comparison of conventional frame and frameless construction. **07**
- (b) Explain with neat sketch vehicle layout for automobile of front engine front wheel drive with its advantages. **07**
- Q.2** (a) Explain various resistances acting on a vehicle in motion. **07**
- (b) With neat sketch explain construction and working of centrifugal clutch. **07**
- OR**
- (b) Write a short note on Diaphragm type clutch plate. **07**
- Q.3** (a) With neat sketch explain the working of Sliding mesh gear box. **07**
- (b) Write a short note on Continuously variable transmission. **07**
- OR**
- Q.3** (a) Describe the common features and major differences in a constant mesh and synchromesh gear box. **07**
- (b) Write a short note on Torque convertor. **07**
- Q.4** (a) Give detail comparison of Hotchkiss and Torque tube drive with sketch. **07**
- (b) Explain the terms Camber, Castor and steering axis inclination. What are the effects of each on steering characteristics of a vehicle? **07**
- OR**
- Q.4** (a) Explain in detail Telescopic type shock absorber. **07**
- (b) Explain the rear axle shaft supporting of 1. Semi floating 2. Three quarter floating. **07**
- Q.5** (a) Explain construction and working of Master cylinder with neat sketch. **07**
- (b) Give the comparison of following. **07**
1. Cross ply tyres and radial ply tyres.
2. Tubeless tyres and conventional tubed tyres.
- OR**
- Q.5** (a) Give comparison of Disc and Drum brakes. **07**
- (b) Write a short note on Power steering **07**
