

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER • 2014****Subject Code: 150202****Date: 28-11-2014****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 various resistances acting on a vehicle in motion. **07**
(b) Explain with neat sketch vehicle layout for automobile of rear engine rear wheel drive with its advantages. **07**

- Q.2** (a) With neat sketch explain construction and working of a single plate clutch. **07**
(b) Explain working of fluid flywheel with neat sketch. **07**

OR

- (b) Explain the rear axle shaft supporting of 1. Semi floating 2. Full floating. **07**
- Q.3** (a) Explain in detail Telescopic type shock absorber. **07**
(b) Explain Hotchkiss drive with a neat sketch. **07**

OR

- Q.3** (a) Describe in brief Camber, Castor and steering axis inclination. What are the effects of each on steering characteristics of a vehicle? **07**
(b) Write a short note on Power steering **07**

- Q.4** (a) Give the comparison of following. **07**
1. Cross ply tyres and radial ply tyres.
2. Tubeless tyres and conventional tubed tyres.
(b) Explain the working of synchromesh gear box. **07**

OR

- Q.4** (a) Explain the working of internal expanding shoe brake with neat sketch. **07**
(b) Write a short note on hydraulic automatic transmission. **07**

- Q.5** (a) Explain with a neat sketch pneumatic braking system. **07**
(b) Classify steering system. Explain any one of them with a neat sketch. **07**

OR

- Q.5** (a) Explain Drum brakes and also explain the term “Bleeding of brakes”. **07**
(b) What is an independent suspension? Explain the Mac Pherson strut type of independent suspension in detail. **07**
