

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER 2013****Subject Code: 150202****Date: 29-11-2013****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 with neat sketch the vehicle layout for automobile of front engine front wheel drive with its advantages and applications. **07**

(b) Explain types of chassis with suitable sketch. **07**

Q.2 (a) Classify tyres and compare between radial ply and bias ply tyres. **07**

(b) Explain following term with neat sketch
1. Caster 2. Camber. 3. Toe in and Toe out

OR

(b) Explain under steer and over steer. **07**

Q.3 (a) Explain single plate clutch with neat sketch. **07**

(b) Describe with neat sketch the construction and working of a 4-forward and 1-reverse type constant mesh gear box **07**

OR

Q.3 (a) Explain multi plate clutch with neat sketch. **07**

(b) Explain epicyclic gear box. **07**

Q.4 (a) Explain with neat sketch working and construction of master cylinder for hydraulic braking system. **07**

(b) Explain with neat sketch the automatic transmission. **07**

OR

Q.4 (a) Discuss; Vacuum brake with suitable diagram **07**

(b) Short note on Independent suspension. **07**

Q.5 (a) Explain working of propeller shaft with suitable sketch and function of each component of it. **07**

(b) Short note on power steering. **07**

OR

Q.5 (a) Explain following term; **07**

1. Traction and Tractive effort 2. Air resistance. 3. Wheel skidding

(b) Discuss Hotchkiss drive with neat sketch. **07**
