

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV • EXAMINATION – WINTER 2013****Subject Code: 140202****Date: 30-12-2013****Subject Name: Fundamental of Automobile System****Time: 02:30 pm to 05:00 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 sliding mesh gear box with neat sketch. List out its advantages. **07**
(b) Classify power steering system and explain functioning of power steering system. **07**

- Q.2** (a) With a suitable sketch describe the working of centrifugal clutch. **07**
(b) What is a transfer box? Describe clearly the construction and working of transfer box. **07**

OR

- (b) Explain the working principal of two stroke SI engine with sketch. **07**
Q.3 (a) List out merits and demerits of CNG as an automobile fuel. **07**
(b) Explain various resistances during motion of vehicles. **07**

OR

- Q.3** (a) Explain the various chassis layouts with simple diagrams **07**
(b) Explain rear engine and rear wheel drive vehicle layout with diagram. **07**

- Q.4** (a) Write down the braking requirements? Discuss requirements of good lining material and brake oil. **07**
(b) Short note **07**
i) Dead axle
ii) Three quarter floating axle

OR

- Q.4** (a) Explain the function of differential with sketch. **07**
(b) Describe any type of mechanical brake with neat sketch. **07**

- Q.5** (a) Explain the function and construction of leaf spring. Show how it is mounted. **07**
(b) Short note **07**
i) Tread patterns of tyre
ii) Specification of tyres

OR

- Q.5** (a) Explain the requirement of steering system and discuss about steering linkages. **07**
(b) Short note **07**
i) Shock absorber
ii) Torsion bar
