

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**M.E. – SEMESTER – IV EXAMINATION – OCTOBER 2012**

**Subject code: 741101****Date: 25-10-2012****Subject Name: Hydraulic and Pneumatic Systems in Automotive Vehicles****Time: 2:30 pm – 5:00 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) Describe important properties of hydraulic fluids. **07**  
(b) Describe various components of pneumatic system. **07**
- Q.2** (a) Describe construction and working of swash plate axial piston hydro-motor. **07**  
(b) Describe selection of hydro-motor. **07**
- OR**
- (b) Enlist important points for maintenance of hydraulic system. **07**
- Q.3** (a) Describe classification of pneumatic cylinders according to construction. **07**  
(b) Describe working of double acting pneumatic cylinder. **07**
- OR**
- Q.3** (a) Describe hydro-pneumatic suspension used in automobile. **07**  
(b) Describe hydraulic tipping mechanism used in automotive vehicle. **07**
- Q.4** (a) Describe construction and working of actuators. **07**  
(b) Describe construction and working of control valves. **07**
- OR**
- Q.4** (a) Describe pneumatic system lubricator using principle of venturimeter. **07**  
(b) Write comparison of air motor and electric motor. **07**
- Q.5** (a) Describe construction and working of Electro-pneumatic system. **07**  
(b) Describe construction and working of servo valves. **07**
- OR**
- Q.5** (a) Describe working of air brake used in automobiles. **07**  
(b) Describe trouble shooting of pneumatic circuits. **07**

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