

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VIII • EXAMINATION – SUMMER 2014**

**Subject Code: 180204****Date: 27-05-2014****Subject Name: Automotive Hydraulics and Pneumatics****Time: 10:30 am TO 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) Compare Hydraulic & Pneumatic system in detail. **07**  
 (b) Give Hydraulic / Pneumatic symbols for following. **07**  
 (1) Direction control with four ports and two finite position.  
 (2) Shut off valve (3) Throttle valve (4) Pressure relief valve  
 (5) Double acting cylinder (6) sequence valve (7) 5/2 Direction control valve
- Q.2** (a) Explain requirement and properties of a Hydraulic fluid. **07**  
 (b) Explain with neat sketch Meter In hydraulic circuit with suitable example. **07**
- OR**
- (b) Explain with neat sketch Meter Out pneumatic circuit with suitable example **07**
- Q.3** (a) Explain with neat sketch Gear pump. State its application. **07**  
 (b) Explain typical mechanism of hydraulic system with its element and line diagram of it. **07**
- OR**
- Q.3** (a) Explain with neat sketch Vane pump. State its application **07**  
 (b) Explain typical mechanism of pneumatic system with its element and line diagram of it. **07**
- Q.4** (a) Write short note on hydraulic braking system with neat sketch. **07**  
 (b) Classify various hydraulic valves? Explain pressure relief valve with its application. **07**
- OR**
- Q.4** (a) Write short note on pneumatic suspension system of modern automobile with line diagram of it. **07**  
 (b) Short note on Air motors. **07**
- Q.5** (a) List pneumatic sensors and logic gates used in pneumatic circuit and explain any one of each. **07**  
 (b) List most common causes of pneumatic system breaks down and suggest remedy. **07**
- OR**
- Q.5** (a) Discuss Double acting pneumatic cylinder in detail with suitable sketch **07**  
 (b) Explain and draw quick exhaust valves in pneumatic circuit and give its application **07**

\*\*\*\*\*