

GUJARAT TECHNOLOGICAL UNIVERSITY**ME - SEMESTER-IV • EXAMINATION – WINTER • 2014****Subject Code: 741101****Date: 26-11-2014****Subject Name: Hydraulic and Pneumatic Systems in Automotive Vehicles****Time: 02:30 pm - 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) Draw and explain in brief different elements of hydraulic system **07**
(b) Discuss Automotive hydraulic fluids in detail? **07**
- Q.2** (a) State the role of a pump in a hydraulic system. Classify pumps and explain with a neat sketch the working of Gear pump? **07**
(b) Give selection criteria for selection of cylinders and valves? **07**
OR
(b) Explain three way valve? **07**
- Q.3** (a) Classify air compressors. What is its function in pneumatic system? Write selection criteria for air compressors in pneumatic systems? **07**
(b) What is air motors? Explain with a neat sketch the working of reciprocating piston type air motor? **07**
OR
- Q.3** (a) Give importance and Explain, filters and air dryers used in pneumatic systems? **07**
(b) Explain screw compressors? **07**
- Q.4** (a) Draw and explain spool valve? **07**
(b) Draw and explain poppet valve? **07**
OR
- Q.4** (a) Describe Air treatment in pneumatic system with moisture content curve? **07**
(b) Explain various methods of cylinder mounting arrangement? **07**
- Q.5** (a) Explain in brief various elements of a pneumatic system? **07**
(b) Explain power steering? **07**
OR
- Q.5** (a) Discuss electro pneumatics in automotive vehicles? **07**
(b) Explain hydro-pneumatic suspension? **07**
