

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA ENGINEERING – SEMESTER 4– • EXAMINATION – WINTER 2016**

**Subject Code: 342302****Date:22-11-2016****Subject Name: Hydraulics and Pneumatics****Time: 2.30 PM TO 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.
4. Each question carry equal marks (14 marks)

- Q.1** (a) State Pascal's law and explain its application in hydraulic system. **07**  
(b) List the advantages and disadvantages of hydraulic system. **07**
- Q.2** (a) List the types of directional control valves and explain two way valve. **07**  
(b) Explain ideal characteristics of hydraulic oil . **07**
- OR
- (b) Draw the hydraulic symbols of the following: **07**  
1) Working line 2) Pressure gauge 3) Sequence valve 4) Single acting cylinder 5) Check valve 6)Two way valve 7) Pressure relief valve.
- Q.3** (a) Explain working of single acting Air compressor. **07**  
(b) What is the function of check valve. Explain ball type check valve. **07**
- OR
- Q.3** (a) List various components used in pneumatic system. Explain any one of them. **07**  
(b) What is function of an accumulator? List various types of accumulators and explain any one of them. **07**
- Q.4** (a) List the types of pressure control valves and explain any one of them. **07**  
(b) Write a short note on packing and seals. **07**
- OR
- Q.4** (a) What is the function of flow control valve? List various flow control valves and explain any one in detail. **07**  
(b) Explain working of single stage pressure intensifier with a neat sketch. **07**
- Q.5** (a) Draw and label injection control circuit. **07**  
(b) Write short note on gear pumps. **07**
- OR
- Q.5** (a) Draw and explain Deceleration circuit. **07**  
(b) Compare hydraulic system with pneumatic system. **07**

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