

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – 4 • EXAMINATION – WINTER 2017

Subject Code: 342302**Date:09-11-2017****Subject Name: HYDRAULICS AND PNEUMATICS****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.
4. Each question carry equal marks (14 marks)

- Q.1** (a) State advantages and disadvantages of hydraulic system. **07**
(b) Explain various types of packings and explain any one with neat sketch. **07**
- Q.2** (a) Explain function of air filter with neat sketch. **07**
(b) List various directional control valves and explain poppet type check valve with neat sketch. **07**
- OR
- (b) Explain ideal characteristics of hydraulic oil. **07**
- Q.3** (a) Explain working principle of balanced piston type pressure relief valve. **07**
(b) Explain flow control valve with neat sketch. **07**
- OR
- Q.3** (a) State types of accumulators and explain any one with neat sketch. **07**
(b) Explain working of single stage pressure intensifier. **07**
- Q.4** (a) Explain construction and working of vane pump. **07**
(b) Explain oil filtration circuit with neat sketch. **07**
- OR
- Q.4** (a) State and explain causes and remedies for various pump problems. **07**
(b) State Pascal's law and explain its applications to hydraulic system. **07**
- Q.5** (a) Draw clamp control circuit and explain its working. **07**
(b) Explain working of single stage air compressor. **07**
- OR
- Q.5** (a) Draw and explain hydraulic motor circuit. **07**
(b) Compare hydraulic system and pneumatic system. **07**
