

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

B.VOC - SEMESTER- IV EXAMINATION – WINTER 2023

**Subject Code:21140303**

**Date:07-12-2023**

**Subject Name: Hydraulics and Pneumatics Systems**

**Time:02:30 PM TO 04:30 PM**

**Total Marks:50**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) State the advantages and disadvantages Hydraulics. **05**  
(b) Explain Meter in circuit with circuit diagram. **05**
- Q.2** (a) Explain regenerative circuit with neat sketch. **05**  
(b) Explain FRL unit in pneumatic system? **05**
- OR**
- (b) Explain any one rotary actuator with neat sketch. **05**
- Q.3** (a) Classify the Hydraulic oil and explain in detail? **05**  
(b) State various types of contaminants and sources of contamination? **05**
- OR**
- Q.3** (a) List the function of hydraulic fluid. **05**  
(b) Explain biodegradable oil and fire-resistant oil? **05**
- Q.4** (a) Explain single acting reciprocating compressor. **05**  
(b) Difference between hydraulic and pneumatic system. **05**
- OR**
- Q.4** (a) Draw any 5 ISO symbol of pneumatic system. **05**  
(b) Explain vane type air compressor. **05**
- Q.5** (a) Explain twin pressure valve with neat sketch. **05**  
(b) Explain 3/2 direction control valve with neat sketch for hydraulic system. **05**
- OR**
- Q.5** (a) Explain pressure control valve for hydraulic system. **05**  
(b) Explain double acting cylinder for hydraulic system. **05**

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