

GUJARAT TECHNOLOGICAL UNIVERSITY**B.VOC - SEMESTER- IV EXAMINATION – SUMMER 2024****Subject Code: 21140303****Date:20-05-2024****Subject Name: Hydraulics and Pneumatics Systems****Time:10:30 AM TO 12:30 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.

		Marks
Q.1	(a) Explain working of Hydraulic pump with neat sketch.	05
	(b) State the basic components of hydraulic system with its functions.	05
Q.2	(a) Explain mineral based hydraulic oil and write its advantages and disadvantages.	05
	(b) Explain safety and environmental friendliness requirement from hydraulic fluid.	05
OR		
	(b) Explain sources of contaminants in hydraulic system.	05
Q.3	(a) State the advantages and disadvantage of pneumatic system.	05
	(b) Explain construction and working of single cylinder compressor with neat sketch.	05
OR		
Q.3	(a) Explain air filter used in pneumatic system with neat sketch.	05
	(b) Draw ISO symbol of pneumatic system.	05
Q.4	(a) Explain non-return valves for hydraulic system.	05
	(b) Explain single acting cylinder for pneumatic system with neat sketch.	05
OR		
Q.4	(a) Explain pneumatic 3/2 way direction control valves with neat sketch.	05
	(b) Explain twin pressure valve with neat sketch.	05
Q.5	(a) Explain regenerative circuit for hydraulic system with neat sketch.	05
	(b) Explain troubleshooting guidelines for hydraulic system.	05
OR		
Q.5	(a) Explain sequential circuit for two pneumatic cylinders.	05
	(b) Explain maintenance procedure of pneumatic system.	05
