Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII(NEW) • EXAMINATION – WINTER 2016

Subject Code:2171912 Date:21/11/2016

Subject Name:Oil Hydraulics & Pneumatics(Department Elective - I)

Time:10.30 AM to 1.00 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)**	Construction and working of an internal gear pump.	**07**
	(b)	Explain open loop closed circuits and closed loop closed circuits for hydrostatic systems.	**07**
Q.2	**(a)**	Construction and working of time delay valve of pneumatic systems.	**07**
	(b)	A single acting cylinder is to be operated from two different sources A and B such that its forward motion can be actuated from either of the two locations. Draw and explain a circuit diagram.	**07**
		OR	
	(b)	Explain memory circuit and speed control of the cylinder for pneumatic systems.	**07**
Q.3	**(a)**	Explain control of a bi-directional motor by 4/2 way valve.	**07**
	(b)	Cite the classification of check valves and explain the function of pilot-operated check valve, giving the necessary drawing.	**07**
		OR	
Q.3	**(a)**	State the different ways of control of DCVs.	**07**
	(b)	Explain the control of a surface grinder table by pilot-operated valve with detail drawing.	**07**
Q.4	**(a)**	Basic Components of a Hydraulic System	**07**
	(b)	What is a by-pass filter? State its advantages and disadvantages.	**07**
		OR	
Q.4	**(a)**	List the six basic components used in a pneumatic system.	**07**
	(b)	Draw the symbols of Pressure control valves used in hydraulic systems.	**07**
Q.5	**(a)**	Differentiate between direct and indirect control. Draw simple hydraulic circuit diagrams of both and explain the differences.	**07**
	(b)	Advantages and disadvantages of High - Water Content Fluid (HWCF).	**07**
		OR	
Q.5	**(a)**	Differentiate between a hydrostatic and hydrodynamic system.	**07**
	(b)	Draw a hydraulic circuit diagram of a hydraulic system having a double acting cylinder which has a rapid approach speed, than slow feed motion and at the end of the stroke the cylinder returns rapidly.	**07**

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