Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER – IV • EXAMINATION – WINTER 2012

Subject code: 342302 **Date: 27/12/2012**

Subject Name: Hydraulics and Pneumatics

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **English version is considered to be Authentic.**

Q.1	(a)	Write the advantages of hydraulic system.	**07**
	(b)	State Pascal's law. Explain the principle of hydraulic jack.	**07**
Q.2			
	(a)	Draw hydraulic symbol for (1) Filter (2) Check valve (3)Pressure relief valve (4) Variable displacement unidirectional pump (5) fixed displacement unidirectional motor (6) Unloading valve (7) sequence valve	**07**
	(b)	List types of connectors used in hydraulic system. Explain any one of them.	**07**
		OR	
	(b)	Explain basic properties required for good hydraulic oil.	**07**
Q.3			
	(a)	List various directional control valves and explain two way valve with neat sketch.	**07**
	(b)	List various pressure control valves and explain any one with neat sketch.	**07**
		OR	
Q.3	(a)	Expain working of single stage pressure intensifire with neat sketch.	**07**
	(b)	List types of flow control valve. Explain pressure compensated flow control valve with neat sketch.	**07**
Q.4			
	(a)	State various pump problems and their remedies.	**07**
	(b)	Write a brief note on accumulators.	**07**
		OR	
Q. 4	(a)	Describe construction and working of vane pump.	**07**
	(b)	Draw and explain deceleration circuit.	**07**
Q.5			
	(a)	Draw and explain clamp control circuit.	**07**
	(b)	Draw and explain prefill circuit.	**07**
		OR	
Q.5	(a)	Compare hydraulic and pneumatic system.	**07**
	(b)	List components of pneumatic system and explain any one of them.	**07**

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