Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. Sem-IV Examination June- 2011

Subject code: 142302

Subject Name: Plastics Industrial Hydraulics & Pneumatics

Date:08/06/2011 **Time: 10.30 am – 01.00 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)**	Discuss Bernoulli's principle and its application in Industrial Hydraulics	**07**
	(b)	Discuss the Principle of Hydraulic Jack.	**07**
Q.2	**(a)**	Define : Hydraulics; Flow control Valve; Accumulator; Intensifier; Pilot pressure; Check valve; Actuator	**07**
	(b)	Discuss in detail, the requirements of Hydraulic oils.	**07**
		OR	
	(b)	Discuss standard method of moving a hydraulic cylinder.	**07**
Q.3	**(a)**	Discuss with diagram, the Intravane Pumps. Explain the working Principle.	**07**
	(b)	Discuss about Radial Piston pumps.	**07**
		OR	
Q.3	**(a)**	Prefill circuit using Pilot operated check valve	**07**
	(b)	Discuss Double stage Pressure Intensifier	**07**
Q.4	**(a)**	Discuss various flow control methods giving examples	**07**
	(b)	Discuss Pressure Reducing valves	**07**
		OR	
Q.4	**(a)**	Discuss Counterbalance circuit	**07**
	(b)	Discuss Sequence valves	**07**
Q.5	**(a)**	Discuss in detail, Types of Accumulators used on Injection Moulding machines. Highlight application of each of these	**07**
	(b)	Packings and Seals	**07**
		OR	
Q.5	**(a)**	Fill in the blanks:	**07**

1. Strainer is used where _____
2. To Pressure Intensifier works on the Principle of _____
3. Protection to hydraulic circuits is provided by _____
4. Pilot valve works on the principle of _____
5. _____Hydraulic pump is commonly used on Injection Moulding machines.
6. Function of Sequence valve is_____
7. Function of Pressure control valve is _____

	(b)	What is a check valve? Discuss in detail, various types of check valves	**07**

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