GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-IV Examination June- 2010

Subject code: 142302
Subject Name: Plastics Industrial Hydraulics and Pneumatics

Date: 18 / 06 /2010   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 in detail, the importance of Pascal's Law in hydraulics. Highlight advantages and disadvantages of hydraulics	**07**
	(b)	Discuss types of accumulators in detail.	**07**
Q.2	**(a)**	Discuss balanced piston relief valve in detail.	**07**
	(b)	Discuss flow control valves in detail	**07**
		OR	
	(b)	Discuss double stage pressure intensifier in detail.	**07**
Q.3	**(a)**	Define [any seven] : Check valve ; actuator; pressure reducing valve; port ; sequence valve; solenoid; unloading valve ; motor ; accumulator ; pilot pressure	**07**
	(b)	Discuss Prefill circuit.	**07**
		OR	
Q.3	**(a)**	Write symbols for [any seven] : flow control valve; relief valve ; sequence valve; accumulator; filter ; pressure switch ; hydraulic motor ; drain line; pressurized reservoir ; temperature indicator	**07**
	(b)	Draw circuit showing use of two way and three way valves	**07**
Q.4	**(a)**	Discuss external gear motor in detail.	**07**
	(b)	Disuss use of packings and seals	**07**
		OR	
Q.4	**(a)**	What are 4 way valves ? Discuss various center positions in case of 4 way directional control valves	**07**
	(b)	Discuss requirements of hydraulic oil	**07**
Q.5	**(a)**	Discuss sequence valves in detail.	**07**
	(b)	Fill in the blanks:	**07**

    1. Pressure in hydraulic systems gets created due to _____
    2. Function of relief valve is _____
    3. _____valve is used when heavy loads are to be lifted
    4. Water hammer is defined as _____
    5. Bernaulli's principle is applicable for _____
    6. Function of pressure reducing valve is _____
    7. _____pump is widely used in hydraulic systems.

OR

Q.5	**(a)**	Discuss deceleration circuit	**07**
	(b)	Discuss gerotor motor and its use in hydraulic systems	**07**

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