Seat No.:	Enrolment No
Seat Ivo.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY DIPLOMA ENGINEERING – SEMESTER – IV-EXAMINATION – WINTER 2015

Subject Code: 342302 Date: 04/12/2015

**Subject Name: Hydraulics and Pneumatics** 

Time: 02:30 PM TO 5:00 PM Total Marks: 70

Ins	<ol> <li>M</li> <li>Fi</li> </ol>	ons:  Ittempt any five questions.  Iake suitable assumptions wherever necessary.  Igures to the right indicate full marks.  Igures to the right indicate full marks.	
Q.1	(a) (b)	State Pascal's law & explain its application in hydraulic jack. State the advantages & disadvantages of hydraulic system.	07 07
Q.2	(a) (b)	Define check valve. List the types of check valves and explain any one.  Draw hydraulic symbols of:  1) Working line 2) Two way valve 3) Check valve 4) Filter 5) Pressure Gauge 5) Sequence valve 6) Single acting cylinder  OR	07 07
	(b)	Explain ideal characteristics of hydraulic oil.	07
Q.3	(a) (b)	List the components used in pneumatic system and explain any one of them. List the types of directional control valves and explain two way valve.  OR	07 07
Q.3	(a) (b)	List pressure control valves and explain any one with a neat sketch. List the types of flow control valve. Explain pressure compensated flow control valve with a neat sketch.	07 07
Q.4	(a) (b)	State the types of accumulators and explain any one.  Explain the working of single stage pressure intensifier.  OR	07 07
Q. 4	(a) (b)	Explain the construction and working of vane pump. Write a short note on gear pumps.	07 07
Q.5	(a) (b)	Explain construction and working of single stage air compressor.  Draw and explain clamp control circuit.  OR	07 07
Q.5	(a) (b)	Draw and explain prefill circuit. Compare hydraulic and pneumatic system.	07 07