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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– III (New) EXAMINATION – WINTER 2019

Subject Code: 3132305

Date: 03/12/2019

Subject Name: Hydraulics & Pneumatics in Plastic Industry

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) Explain in brief about Pascal's law	03
	(b) Draw symbols: (1) Cylinder, double acting (2) Filter (3) Pressure switch (4) Check valve	04
	(c) List advantages of Hydraulic system	07
Q.2	(a) List disadvantages of Hydraulic system	03
	(b) Explain Bernoulli's principle	04
	(c) Compare: Hydraulic and Pneumatic	07
OR		
	(c) Explain four way valve in detail.	07
Q.3	(a) Explain about Packing and Seals in brief	03
	(b) Solve: In hydraulic mechanism 100 kg force is applied on pump side whose piston diameter is 10 cm. If jack side piston diameter is 40 cm, calculate the force developed on the top of the jack. Also calculate the movement of jack piston if pump plunger moves 500mm	04
	(c) Explain ideal characteristic required for hydraulic oil	07
OR		
Q.3	(a) Give classification of valves	03
	(b) Define (1) Pressure (2) Power (3) Potential energy (4) Servo valve	04
	(c) Draw & Explain about Gear Pump in detail	07
Q.4	(a) Explain about Gauges used in hydraulic system	03
	(b) Explain about connectors in brief	04
	(c) Draw & Explain Pilot operated check valve	07
OR		
Q.4	(a) Draw the Filtration circuit	03
	(b) Give classification of Hydraulic Pumps	04
	(c) Explain single stage pressure intensifier with neat sketch	07
Q.5	(a) Differentiate :Filter and Strainer	03
	(b) Give classification of check valves	04
	(c) Explain single acting Air compressor in detail with neat sketch	07
OR		
Q.5	(a) List the different types of Accumulators	03
	(b) Draw symbols (1) temperature gauge (2) Two-way valve (3) Electric motor (4) Accumulators, Gas charged	04
	(c) Draw and Explain Deceleration circuit	07
