Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII • EXAMINATION – SUMMER 2014

Subject Code: 180204 **Date: 27-05-2014**

Subject Name: Automotive Hydraulics and Pneumatics

Time: 10:30 am TO 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)**	Compare Hydraulic & Pneumatic system in detail.	**07**
	(b)	Give Hydraulic / Pneumatic symbols for following. (1) Direction control with four ports and two finite position. (2) Shut off valve (3) Throttle valve (4) Pressure relief valve (5) Double acting cylinder (6) sequence valve (7) 5/2 Direction control valve	**07**
Q.2	**(a)**	Explain requirement and properties of a Hydraulic fluid.	**07**
	(b)	Explain with neat sketch Meter In hydraulic circuit with suitable example.	**07**
		OR	
	(b)	Explain with neat sketch Meter Out pneumatic circuit with suitable example	**07**
Q.3	**(a)**	Explain with neat sketch Gear pump. State its application.	**07**
	(b)	Explain typical mechanism of hydraulic system with its element and line diagram of it.	**07**
		OR	
Q.3	**(a)**	Explain with neat sketch Vane pump. State its application	**07**
	(b)	Explain typical mechanism of pneumatic system with its element and line diagram of it.	**07**
Q.4	**(a)**	Write short note on hydraulic braking system with neat sketch.	**07**
	(b)	Classify various hydraulic valves? Explain pressure relief valve with its application.	**07**
		OR	
Q.4	**(a)**	Write short note on pneumatic suspension system of modern automobile with line diagram of it.	**07**
	(b)	Short note on Air motors.	**07**
Q.5	**(a)**	List pneumatic sensors and logic gates used in pneumatic circuit and explain any one of each.	**07**
	(b)	List most common causesof pneumatic system breaks down and suggest remedy.	**07**
		OR	
Q.5	**(a)**	Discuss Double acting pneumatic cylinder in detail with suitable sketch	**07**
	(b)	Explain and draw quick exhaust valves in pneumatic circuit and give its application	**07**

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