Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. – SEMESTER – IV EXAMINATION – OCTOBER 2012

Subject code: 741101 **Date: 25-10-2012**

Subject Name: Hydraulic and Pneumatic Systems in Automotive Vehicles

Time: 2:30 pm – 5:00 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)**	Describe important properties of hydraulic fluids.	**07**
	(b)	Describe various components of pneumatic system.	**07**
Q.2	**(a)**	Describe construction and working of swash plate axial piston hydro-motor.	**07**
	(b)	Describe selection of hydro-motor.	**07**
		OR	
	(b)	Enlist important points for maintenance of hydraulic system.	**07**
Q.3	**(a)**	Describe classification of pneumatic cylinders according to construction.	**07**
	(b)	Describe working of double acting pneumatic cylinder.	**07**
		OR	
Q.3	**(a)**	Describe hydro-pneumatic suspension used in automobile.	**07**
	(b)	Describe hydraulic tipping mechanism used in automotive vehicle.	**07**
Q.4	**(a)**	Describe construction and working of actuators.	**07**
	(b)	Describe construction and working of control valves.	**07**
		OR	
Q.4	**(a)**	Describe pneumatic system lubricator using principle of venturimeter.	**07**
Q.4	**(b)**	Write comparison of air motor and electric motor.	**07**
Q.5	**(a)**	Describe construction and working of Electro-pneumatic system.	**07**
	(b)	Describe construction and working of servo valves.	**07**
		OR	
Q.5	**(a)**	Describe working of air brake used in automobiles.	**07**
	(b)	Describe trouble shooting of pneumatic circuits.	**07**

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