Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER III (NEW) – EXAMINATION – WINTER-2016

Subject Code: 2730807 **Date:25/10/2016**

Subject Name: OIL HYDRAULICS AND PNEUMATICS

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.**

Q.1	**(a)**	Explain PLC Controller with neat sketch.	**07**
	(b)	State and explain the advantages and disadvantages of oil hydraulic power transmission.	**07**
Q.2	**(a)**	Draw the symbol of a hydraulic accumulator. List the different types of accumulator. Describe working of any one of them.	**07**
	(b)	What is compressor? Explain the working principle of piston type compressor with neat sketch.	**07**
		OR	
	(b)	Explain the hydraulic press circuit in detail.	**07**
Q.3	**(a)**	Discuss the function of the FRL unit	**07**
	(b)	Explain the working of a pneumatic speed control circuit	**07**
		OR	
Q.3	**(a)**	State the applications of fluidic devices Explain the importance of electro hydraulic servo systems and proportional valves	**07**
	(b)	State function of cushioning mechanism of hydraulic cylinder and state function of valves used in it.	**07**
Q.4	**(a)**	Explain application of Flapper nozzle valve with the help of suitable neat sketch and describe working of the system.	**07**
	(b)	Explain difference between Hydraulics System and Pneumatics system. Explain main three components of each of them	**07**
		OR	
Q.4	**(a)**	With the help of circuit diagrams. Explain the applications of accumulator. Also illustrate its types.	**07**
	(b)	Write Short notes on: 1. Ram type actuators 2. Telescopic type actuators.	**07**
Q.5	**(a)**	I) What are the factors considered during the installation of pneumatic system? ii) What are advantages of using fluidics system	**07**
	(b)	Explain the working principle of a PLC with neat block diagram	**07**
		OR	
Q.5	**(a)**	Classify the types of hydraulic cylinders. Describe the working of a double acting tanden cylinder and gear motor.	**07**
	(b)	Explain with block diagram the components present in a PLC and give their functions.	**07**

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