Seat No.:	Enrolment No

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE – SEMESTER – VI EXAMINATION – WINTER 2015

	•	Code:161703 Date:08/12/ 2015	
Subject Name: Control System Components Time:2:30pm to 5:00pm Instructions:		:30pm to 5:00pm Total Marks: 70	
	2.	Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain with functional diagram electronic transmitter.  Draw and explain control valve characteristics. Also draw the shape of valve plug according to application.	07 07
Q.2	(a) (b)	What is valve actuator? Explain any two valve actuators. Why valve positioner is required with control valve? Explain with diagram any one valve positioner.	07 07
	<b>(b)</b>	OR Discuss the selection criteria for control valve.	07
Q.3	(a)	What is the function of pressure relieving device? Explain any two pressure relieving devices.	07
	<b>(b)</b>	Explain split ranging control valve.  OR	07
Q.3	(a) (b)	Explain pressure switch and proximity switch.  Derive the Transfer Function of Field Controlled DC Servomotor.	07 07
Q.4	(a) (b)	Explain electromechanical relay with its characteristics.  Draw and explain the reed relay.	07 07
Q.4	(a)	What are the Rated characteristics of contactors? Explain application of contactors.	07
	<b>(b)</b>	Explain with diagram the hybrid stepper motor.	07
Q.5	(a) (b)	Design the gear train for mechanical system.  What is the slip in an induction motor? Explain with diagram the operation of induction motor.	07 07
Q.5	(a) (b)	OR  Explain various types of cam-follower mechanism in details.  Explain in detail the backlash in gears.	07 07

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