Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER 2013

Subject Code: 161702 **Date: 27-05-2013**

Subject Name: Process Control

Time: 10.30 am - 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)**	List out and discuss different control objectives.	**07**
	(b)	Discuss linearization and concept of linearity with an example.	**07**
Q.2	**(a)**	Draw and explain process and instrumentation elements of a typical feedback loop.	**07**
	(b)	Define controlled and manipulated variables and discuss checks to be made to select them.	**07**
		OR	
	(b)	Discuss different desired features of a feedback control algorithm.	**07**
Q.3	**(a)**	How can we determine tuning constants that give good control performance?	**07**
	(b)	Discuss Ziegler Nicholas method and its advantages.	**07**
		OR	
Q.3	**(a)**	Discuss cascade control design criteria.	**07**
	(b)	Explain implementation issues in cascade control.	**07**
Q.4	**(a)**	Explain feed forward control with example.	**07**
	(b)	Discuss application of ratio control.	**07**
		OR	
Q.4	**(a)**	Discuss override control in detail.	**07**
Q.4	**(b)**	Explain selective control with example.	**07**
Q.5	**(a)**	Explain PD control mode in detail.	**07**
	(b)	Explain PI control mode in detail.	**07**
		OR	
Q.5	**(a)**	Define proportional band, rate gain and dead time.	**07**
	(b)	Discuss multi position control mode in detail.	**07**

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