GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2160807 Date: 27/10/2 Subject Name: Digital Control System			
1	ime:	: 10:30 AM to 01:00 PM Total Marks: 70	
11	astruc	 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
Q.1	(a)	Comparison between digital Control System & analog control system with block diagram.	07
	(b)	Explain the process of Signal conversion and coding.	07
Q.2	(a) (b)	What is Aliasing? Explain it by waveforms. Write a short note on PID Controller.	07 07
	(b)	OR Write a short note on Digital Temperature Control System.	07
Q.3	(a) (b)	Write a short note on Digital Position Control System. Explain Practical Sample and Hold Circuit. OR	07 07
Q.3	(a) (b)	Explain the effect of High Gain on the Control system. Which are the Limiting factors for High Gain? Explain BIBO stability in detail.	07
Q.4	(a) (b)	Explain Properties of Z-transform. Design Phase Lag compensator using root locus plot.	07
Q.4	(a) (b)	OR Design Phase Lead Compensator using frequency response plot. Explain Sampling and Quantization effect in detail.	07 07
Q.5	(a) (b)	Explain the reconstruction of analog signal. Explain the relation between transfer function and state space model for a discrete time system.	07 07
Q.5	(a) (b)	OR Explain the Controllability and Observability. Explain the design Specification & configuration of basic digital control system.	07 07
