Seat No.:GUJARAT TECHNOLOGIO		Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	CAL UNIVERSITY
		BE- VII th SEMESTER-EXAMINATION – MAY/JUNE- 2012	
Subi	ect c	ode: 170802 Date: 08/06/201	2
•		Name: Industrial Automation	-
•		30 pm – 05:00 pm Total Marks: 7	7 0
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Instr			
		empt all questions.	
		ke suitable assumptions wherever necessary.	
	_	res to the right indicate full marks.	07
Q.1	(a)	Explain generalized Automation and production systems and their classification	07
	(b)	Discuss characteristic of different discontinuous controller mode in detail.	07
	(D)	Discuss characteristic of different discontinuous controller mode in detail.	U/
Q.2	(a)	Explain the Discrete State Process Control with suitable example	07
	(b)	-	07
	(6)	Process Equation	0,
		2. Process Load	
		3. Process Lag	
		4. Self Regulation	
		OR	
	(b)	Define following terms with respect to Process control	07
	. ,	1. Error	
		2. Variable Range	
		3. Control Parameter Range	
		4. Control Lag	
		5. Dead Time	
		6. Cycling	
		7. Controller Modes	
Q.3	(a)	Explain PID controller.	07
	(b)	Explain Architecture and block diagram of PLC	07
		OR	
Q.3	(a)	Explain PI controller.	07
	(b)	Explain Two position control Mode Action By	07
		Electromechanical Design	
		2. Analog Electronics Design	
		3. Digital electronics Design	
Q.4	(a)	Develop a ladder diagram for ON-OFF operation of Motor by using	07
		1. START-NO; STOP-NO push buttons.	
		2. START-NC; STOP-NC push buttons.	
	(b)	Write a ladder diagram for temperature measurement and control jig	07
		OR	
Q.4	(a)	Explain Timer and Counter instructions with timing diagram for PLC	07
	(b)		07
Q.5	(a)	Enlist the types of I/O modules and draw the block diagram of I/O module	07
		separately connected to the PLC.	_
	(b)	Discuss importance of Local Area Networks for DCS	07
. -	, .	OR	~ -
Q.5	(a)	Discuss architecture-hierarchy of DCS at function levels	07
	(b)	Explain roll of Common system components of SCADA	07
