## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-V • EXAMINATION – SUMMER 2013

•		Ode: 151704 Date: 25-05-2	013
_	: 10	Name: Industrial Control Systems .30 am - 01.00 pm Total Marks	: 70
instru	1. 2.	s: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Differentiate between open-loop and closed-loop system, taking the example of an oven.	07
	(b)	*	07
Q.2	(a)	Which are the programming languages used for PLC? Draw and explain a ladder diagram program for any one industrial application/process.	07
	(b)		07
	(b)		07
2.3	(a)	Make comparison of feed forward control and feedback control on various aspects. Based on suitable example, Justify that the stability of feedback system is not disturbed by addition of feed forward control.	07
	(b)	· · · · · · · · · · · · · · · · · · ·	07
Q.3	(a) (b)	Discuss the term SCADA .Explain hardware elements of its in detail.	07 07
Q.4	(a) (b)		07 07
Q.4		Explain digital PID algorithm in detail. Classify and compare it also. List out the selection criteria for control valves and explain in brief.	07 07
<b>).</b> 5	(a) (b)		07 07
Q.5	(a) (b)	Explain the self- operating controller with the help of an example	07 07

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