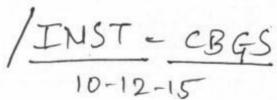
Sem-VII Process Automation / INST - CBGS



QP Code: 6006



(3 Hours)

[Total Marks: 80

				1
N.B. :		(1)	Question no. 1 is compulsory	1
	. 4	(2)	Attempt any three questions from the remaining five questions.))
		(3)		
		e de la composition della comp		20
1.	An		swer the following:-	
	1	(a)	Explain redundancy used in DCS. Justify the same	
		(b)	What is SIL? What are its levels and significance with process safety?	
		(c)	Give the specifications of PLC. Name its vendors.	
		(d)	SCADA is a real time system. Explain.	
2.	(a)	Wha	it is automation? Give its significance.	5
070			lain types of automation.	5
	27.112		lain the need of DCS integration with PLC. Also explain the methods of	10
	, ,		gration.	
3.	(a)	Compare PLC, DCS and SCADA.		10
	(b)	(b) Prepare PLC ladder diagram for Stirred Tank Heater for the given sequence of pro-		10
			(i) Fill the tank upto high limit.	
			(ii) Heat and stir the liquid for 29 min.	
			(iii) Empty the tank upto low limit.	
			(iv) Repeat from step-1	
		The	hard ware has the following types of switches	
			(i) Start PB in NO, STOP PB in NC	
			(ii) NO type of limit Switches	
		Dra	w GUI, do I/o listing and ladder diagram. Select remaining hardware that is	
		nece	essary.	
		· C:	1166	10
4			e different types of DCS displays. State significance of each type.	10
	(0) Wh	at is scan interval of SCADA? Give the factors that affect scan interval.	10
5	. (a)	Exp	lain memory organization in PLC.	
		7	isin general protocol structure used for communication between MTU and RTU	10
		- 45.00	CADA. Give an example	10
		1		
6	. (a	Wh	at are protections layers? Explain their significance with reference to SIS.	10
_	(5) Wh	at is MES? Explain MES and ERP integration.	10