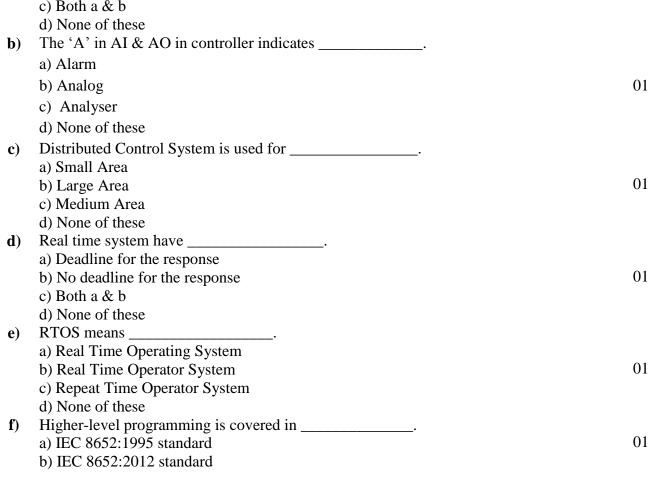
Enrollment No: Exam Seat No: C.U.SHAH UNIVERSITY Summer Examination-2018							
Subje	ect Name : Control System Archite	cture					
Subject Code: 4TE08CSA1		Branch: B.Tech (IC)					
Seme	ster: 8 Date: 24/04/2018	Time: 02:30 To 05:30	Marks: 70				
(3	 Instructions written on main answ Draw neat diagrams and figures (i Assume suitable data if needed. Attempt the following questions:		yed.	(14)			
a)b)	Which of the following supports Fu a) PLC only b) DCS only c) Both a & b d) None of these The 'A' in AI & AO in controller in		O) structure?	01			
c)	a) Alarmb) Analogc) Analyserd) None of theseDistributed Control System is used	for		01			

Q-1





Q-3 Q-4	a)b)a)b)	Attempt all questions Describe the applications of DCS in power plant industry. Write a note on 'Isolation and protection in automation system'. Attempt all questions Explain with diagram the hardware structure of controller. Write a note on 'Hierarchical structure of automation'. Attempt all questions	(14 07 07 (14 07 07
	b) a)	Attempt all questions Describe the applications of DCS in power plant industry. Write a note on 'Isolation and protection in automation system'. Attempt all questions Explain with diagram the hardware structure of controller.	(14 07 07 (14 07
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Q-3		Attempt all questions Describe the applications of DCS in power plant industry.	(14 07
Q-3	a)	Attempt all questions	(14
Q-3			
		typical RTU.	
	b)	State the differences between DCS and SCADA. Draw the hardware structure layout for	07
	a)	Explain typical SCADA system and its hierarchy.	07
Atter Q-2	npt a	ny four questions from Q-2 to Q-8 Attempt all questions	(14
	n)	Give the full form of SCADA.	01
	m)	State the advantage of using DCS in industry.	01
	l)	When DCS is preferred over PLC in industry?	01
	k)	What do you mean by RTU?	01
	j)	b) Hard wire subsystem c) Both a & b d) None of these Which structure of controller is more preferred hardware or software?	01
	i)	b) Discrete c) Both a & b d) None of these Programmable control system is also called a) Soft wire subsystem	01
	h)	c) Profibus d) None of these Hybrid is a combination of which process? a) Continuous	
	g)	 d) None of these Which of the following communication protocol supports both analog and digital? a) HART b) Modbus 	01
		1\	



	b)	Write note Hazard and Operability Studies (HAZOP).	07
Q-6		Attempt all questions	(14)
	a)	Explain briefly hybrid control strategy.	07
	b)	List various components required in instrumentation sub-system for input switching instrumentation devices and explain their input/output relationship.	07
Q-7		Attempt all questions	(14)
	a)	Explain various displays available within DCS system.	07
	b)	State the advantages and disadvantages of Centralized I/O (CIO), Remote I/O (RIO) and Fieldbus I/O (FIO).	07
Q-8		Attempt all questions	(14)
	a)	Explain different types of programming structure available in DCS.	07
	b)	Write a note on Alarm management in DCS	07

