Reg.No. _____

Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : 14EI3016
Sub. Name : SCADA Systems and Applications

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Write the comparison between SCADA and DCS	CO1	3
	b.	How you choose the SCADA system for particular application	CO1	5
	c.	Describe about different programming languages used in PLC with suitable examples	CO1	12
		(OR)		
2.	a.	Write the procedures for developing ladder diagram	CO2	3
	b.	Write the drawbacks of PLC based control systems	CO2	3
	c.	Illustrate construction, operation and working principle of input module/output module of PLC with wiring connections	CO3	14
3.	a.	Why do some regularity bodies insist that the algorithm used to calculate fluid volumes be printed out by each flow totalizer once a day?	CO1	5
	b.	Describe about implementation of safety instrumented system in SCADA	CO2	15
		(OR)		
4.	a.	How do you calculate a scan interval for SCADA systems explain with example	CO1	5
	b.	With neat sketch and suitable example explain the working principle of real time SCADA system	CO2	15
5.	a.	How the collision is avoided in SCADA communication system	CO2	5
	b.	Describe about full architecture of remote control unit in SCADA system	CO2	15
		(OR)		
6.	a.	What are the types of communication standards ?	CO1	3
	b.	Write short note on different network topology	CO1	5
	c.	Explain in detail about various communication systems used in SCADA	CO2	12
7.	a.	MTU communicates to three classes of machines. What are they?	CO1	5
	b.	Explain in detail about master terminal unit configuration method with neat diagram	CO2	15
		(OR)		
8.	a.	some applications of SCADA require much effort and design to increase the MTU Scanning speed. Why is this important	CO2	5
	b.	Explain in detail about monitoring and controlling of a gas lift system using SCADA.	CO3	15
		Compulsory:		
9.	a.	Describe about architecture and message format of communication protocol used in SCADA system	CO2	20

ALL THE BEST