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Question Paper Code: 59326

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Elective

Electrical and Electronics Engineering

15UEE926 - PLC & SCADA APPLICATIONS

(Regulation 2015)

Answer ALL Questions

PART A - $(10 \times 1 = 10 \text{ Marks})$

1.	Solenoid is an example		CO1- R	
	(a) Input device	(b) Output device	(c) Safety device	(d) Control device
2.	In a current sinking	DC input module the	e current flows out of the	CO1- R
	(a) Input field device		(b) Output field device	
	(c) Controlling device	2	(d) Heat sink	
3.	contro magnitude, duration a	CO2- R		
	(a) P	(b) PI	(c) PID	(d) Micro
4.	First generation of SCADA communication architecture is also known as			CO2- R
	(a) Monolithic	(b) Distributed	(c) Network	(d) Interconnected
5.	is the approperator and through the process.	CO3- R		
	(a) Input device	(b)HMI	(c) Sensor	(d) Actuator

6.	data to the supervisory system.						
	(a)RTU	(b) PLC	(c)Safety device	(d) Motor			
7.		mbly in PLC whice I/O modules is called a	ch houses the processor	, CO4- R			
	(a) Mother board	(b) Output device	(c) Rack	(d) FRC			
8.		computer application uipment at the supervis	that is used to monitor and sory level.	CO4- R			
	(a) PLC	(b) SCADA	(c) Controller	(d) VLSI			
9.	can motors along with F		the speed of AC induction	CO5- R			
	(a)VFD	(b)Starter	(c)Autotransformer	(d) Relay			
10.	SCADA stands for_	·		CO5- R			
	(a) Supervisory control and data acquisition (b) Sequential control and data acquisition						
	(c)Supervisory current and data acquisition (d)Supervisory control and data authority						
		PART - B (5	x 2= 10Marks)				
11.	Mention the role of	I/O modules in a PLC.		CO1- R			
12.	What is the meaning of Scan time in PLC? CO2- R						
13.	Define SCADA.			CO3- R			
14.	List the features of S	SCADA software.		CO4- R			
15.	Write any two adva	ntages of PLC over rela	ays.	CO5- R			
		PART – C (5 x 16= 80Marks)				
16.		e advantages and disadvover normal controller.	vantages of PLC based	CO1- Ana (8)			
		e procedure for proper c ith suitable examples.	construction of PLC ladder	CO1- Ana (8)			

Or

	(b)	Enumerate the input and output modules of PLC with neat diagram.	CO1- Ana	(16)			
17.	(a)	Explain in detail PID control of PLC with neat diagram.	CO2- U	(16)			
Or							
	(b)	Describe with a neat diagram the basic operation of controlling a robot with PLC sequencer control.	CO2- U	(16)			
18.	(a)	(i) Write short notes on Human machine interface.	CO3- U	(8)			
		(ii) Elaborate the functions of Remote terminal unit.	CO3- U	(8)			
		Or					
	(b)	(i)Explain the working of Intelligent electronic devices.	CO3- U	(8)			
		(ii)Explicate data acquisition system in SCADA.	CO3- U	(8)			
19.	(a)	(i) Explain first, second, third generation of SCADA architecture.	CO4-U	(8)			
		(ii) Briefly explain the energy management system.	CO4-U	(8)			
	Or						
	(b)	(i) Explain automatic substation control based on SCADA.	CO4-U	(8)			
		(ii) List the advantages and disadvantages of SCADA system.	CO4-U	(8)			
20.	(a)	Explain the operation of PLC based speed control of AC motor drive.	CO5- U	(16)			
		Or					
	(b)	Illustrate the application of SCADA in distribution system.	CO5- U	(16)			