Reg. No.												

Question Paper Code	12615

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Sixth Semester

Electronics and Instrumentation Engineering

20EIPC601 - INDUSTRIAL COMMUNICATION NETWORKS

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Define transmission modes.	2	K1	CO1
2.	What is the difference between active hub and passive hub?	2	K1	CO1
3.	Point out the limitations of RS-232.	2	K1	CO2
4.	Tabulate the AS-i Sensor Network Characteristics.	2	K2	CO2
5.	Distinguish between interchangeability and interoperability.	2	K2	CO3
6.	List the HART commands.	2	K1	CO3
7.	List any two applications of MODBUS and PROFIBUS.	2	K1	CO4
8.	Define PROFIBUS protocol stack.	2	K1	CO4
9.	Differentiate radio and wireless communication.	2	K2	CO5
10.	Define baud rate.	2	K1	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Write short notes on TCP/IP layer protocol. Also compare TCP/IP with OSI.	13	K2	CO1
		OR			
	b)	Explain about OSI model with neat diagram.	13	K2	CO1
12.	a)	Explain bridges and gateways in detail.	13	K2	CO2
		OR			
	b)	Describe about the RS 485 configuration with neat diagram.	13	K2	CO2
13.	a)	With neat diagram explain the structure and elements of HART communication systems.	13	K2	CO3
		OR			
	b)	Write the communication services in FIELDBUS Message Specification and explain it.	13	K2	CO3

14.	a)	With neat sketch explain the structure of MODBUS protocol.	*13*	*K2*	*CO4*
		OR			
	b)	List different types of layers in PROFIBUS and explain each in detail.	*13*	*K2*	*CO4*
15.	a)	Draw the schematic of radio modem configuration and explain in detail.	*13*	*K2*	*CO5*
		OR			
	b) i)	Explain the topology used in the Ethernet.	*7*	*K2*	*CO5*
	ii)	Examine 10 Base-2 Ethernet in detail.	*6*	*K2*	*CO5*

PART - C (1 × 15 = 15 Marks)

16.	a) i)	Describe communication function blocks in PROFIBUS.	*7*	*K2*	*CO4*
	ii)	Discuss about the ISA standards in detail.	*8*	*K2*	*CO5*
		OR			
	b) i)	Briefly explain the features of MODBUS.	*7*	*K2*	*CO4*
	ii)	Compare the features of thin and thick Ethernet.	*8*	*K2*	*CO5*