

09 JUN 2023

Reg. No.

Question Paper Code

11850

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

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

	<i>Marks, K-Level, CO</i>
1. What is data link layer?	2,K1,CO1
2. Define CSMA /CD protocol.	2,K1,CO1
3. Distinguish between adaptive and non-adaptive routing.	2,K2,CO2
4. What are the types of bridges?	2,K1,CO2
5. Define Interchangeability.	2,K1,CO3
6. Express about a typical HART signal.	2,K2,CO3
7. Summarize the benefits of Foundation Field bus over HART.	2,K2,CO4
8. Give the advantages of Foundation Field Bus.	2,K1,CO4
9. Differentiate radio and wireless communication.	2,K2,CO5
10. Give the types of cables used in communication system.	2,K1,CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain about OSI model with neat diagram.	13,K2,CO1
OR	
b) Explain about packet switching and message switching in detail.	13,K2,CO1
12. a) (i) Describe the concept of Hub and Switch.	7,K2,CO2
(ii) Explain the importance of Routers in an internet.	6,K2,CO2
OR	
b) Explain bridges and gateways in detail.	13,K2,CO2
13. a) Classify the various HART commands and corresponding functionalities and explain any two in detail.	13,K2,CO3
OR	
b) With neat sketch explain the general FIELD BUS architecture.	13,K2,CO3

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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14. a) With neat sketch explain the architecture of PROFIBUS protocol stack. 13,K2,CO4
OR
b) With neat sketch explain the structure of MODBUS protocol. 13,K2,CO4
15. a) (i) Briefly explain about 10BASE-T. 7,K2,CO5
(ii) Compare the features of thin and thick Ethernet. 6,K2,CO5
OR
b) (i) Discuss about the ISA standards in detail. 7,K2,CO5
(ii) Explain the features of radio MODEM in detail. 6,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) Describe Media access protocol in detail. 15,K2,CO1
OR
b) Describe about the RS 232 configuration with neat diagram. 15,K2,CO2