Reg. No. : | | | | | | | | | | | | |

Question Paper Code: U5C04

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Fifth Semester

Computer Science and Business Systems

21UCB504 - DATA COMMUNICATION AND NETWORKING

(Regulations 2021)

Duration: Three hours | Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1.	Compare LAN and WAN.	CO1- U
2.	For n devices in a network, what is the number of cable links required for a mesh and ring topology?	CO1- U
3.	Assuming a framing protocol that uses bit stuffing, show the bit sequence that will be transmitted over the link when the frame contains the following bit sequence: 11010111110101111101011111110	CO2- App
4.	What do you mean by ARP?	CO1- U
5.	Define : Subnetting and Supernetting	CO1- U
6	Find the class of the following addresses (i) 227.13.14.88 (ii) 100.12.215.60	CO2- App
7	What is meant by congestion?	CO1- U
8	Distinguish between TCP and UDP.	CO1- U
9	Define cryptography.	CO1- U
10	Compare the HTTP and FTP.	CO1- U

PART – B (5 x 16= 80 Marks)

11.	(a)	Explain the OSI reference model with neat diagram.	CO1- U	(16)
		Or		
	(b)	What is network topology? Explain the different network topologies.	CO1- U	(16)

12.	(a)	Explain the protocols in Data link layer	CO1- U	(16)
		Or		
	(b)	Analyze the various types of error .Discuss the various types of detection and correction	CO1- U	(16)
13.	(a)	Explain the Network-Layer Performance.	CO1- U	(16)
		Or		
	(b)	Describe the Dynamic Host Configuration Protocol.	CO1- U	(16)
14.	(a)	(i) Examine the Three Way Handshake protocol to establish the transport level connection (ii) State or interpret in your own words about flow control in TCP and UDP with an example	CO1- U	(16)
		Or		
	(b)	Discuss in detail the various congestion control mechanisms in TCP.	CO1- U	(16)
15.	(a)	Analyze in detail about DNS operation	CO1- U	(16)
		Or		
	(b)	Explain in detail about HTTP operation	CO1- U	(16)