C **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 54806

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Information Technology

15UIT406- COMPUTER NETWORK

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. A set of rules that governs data communication CO1- R

   (a) Protocols (b) Standards (c) RFCs (d) None of the mentioned

2. Which sub layer of the data link layer performs data link functions that depend upon the type of medium? CO2- R

   (a) Logical link control sub layer (b) Media access control sub layer

   (c) Network interface control sub layer (d) None of the mentioned

3. Which one of the following routing algorithm can be used for network layer design? CO3- R

   (a) Shortest path algorithm (b) Distance vector routing

   (c) Link state routing (d) All of the mentioned

4. Transport layer protocols deals with CO4- R

   (a) Application to application communication (b) Process to process communication

   (c) Node to node communication (d) None of the mentioned

5. The packet of information at the application layer is called _____ CO5- R

   (a) Packet (b) Message (c) Segment (d) Frame

PART – B (5 x 3= 15 Marks)

6.	Mention the different physical media.	CO1- R	
7.	Differentiate Flow control and Error control	CO2- R	
8.	What are the functions of ARP and RARP?	CO3- R	
9.	Define deadlock situation in congestion.	CO4- R	
10.	How is symmetric key different from the public key?	CO5- R	

PART – C (5 x 16= 80 Marks)

11.	(a)	During the communication, how various layers of OSI model exchange information to establish the connection? Describe with the help of suitable diagram	CO1- U	(16)
		Or		
	(b)	(i)What type of errors can be detected by parity check code? How is it implemented? Explain with the help of suitable diagram.	CO1- U	(8)
		(ii) Explain guided media differ from unguided media. Explain the two types of guided media and two types of unguided media.	CO1- U	(8)
12.	(a)	(i) Explain Ethernet protocol.	CO2- U	(8)
		(ii) Explain MAC sub layer protocol and frame structure of IEEE 802.11	CO2- U	(8)
		Or		
	(b)	(i) How does CSMA/CD detect and handle collisions?	CO2- U	(8)
		(ii) Explain the flow and error control mechanism in data link control.	CO2- U	(8)
13.	(a)	(i) Find the class of each IP address give suitable explanation. (a) 227.12.14.87 (b) 193.14.56.22 (c) 14.23.120.8 (d) 252.5.15.111 (e) 134.11.78.56 (f) 000 000 00 1111 0000 11111111 00110011 (g) 10000000 1111 0000 11111111 00110011	CO3- Ana	(8)

		(ii) What is the subnet work address if the destination address is 200.45.34.56 and the subnet mask is 255.255.240.0?	CO3- Ana	(8)
		Or		
	(b)	Explain why routing is very important in networking. Illustrate any one of the routing algorithm used in network.	CO3- Ana	(16)
14.	(a)	Explain in detail about transport layer protocols with neat diagram.	CO4- U	(16)
		Or		
	(b)	(i) How is congestion controlled? Explain in detail about congestion control techniques in transport layer.	CO4- U	(12)
		(ii) Suppose a TCP connection is transferring a file of 5000 bytes. The first byte is numbered 10,001. What are the sequence numbers for each segment if data are sent in five segments, each carrying 1000 bytes?	CO4- U	(4)
15.	(a)	(i) Write a brief note on File Transfer Protocol.	CO5- U	(8)
		(ii) What is cryptography? Describe Symmetric key and Public Key algorithms in detail.	CO5- U	(8)
		Or		
	(b)	Explain in detail about	CO5- U	(8)
		(i) E-mail		
		(ii) DNS	CO5- U	(8)