Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 94806

B.E./B.Tech. DEGREE EXAMINATION, NOV 2023

Fourth Semester

Information technology

19UIT406- COMPUTER NETWORK

(Regulations 2019)

Duration: Three hours   Maximum: 100 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1.	Illustrate Network Devices with its types	CO1- U
2.	Draw the diagram for any two topologies in the network and explain their functionalities	CO1- U
3.	Write the difference between pure aloha and slotted aloha	CO2- U
4.	Define Error correction and Error detection.	CO2- U
5.	What is meant by logical addressing?	CO3- U
6.	Draw the sketch of IPv4 packet header	CO3- U
7.	What are the services provided by transport layer protocol?	CO4- U
8.	What are the techniques to improve QOS?	CO4- U
9.	Name four factors needed for a secure network.	CO5- U
10.	List the protocols used in the application layer	CO5- U

PART – B (5 x 16= 80Marks)

11. (a) Apply the concept of TCP/IP models in any social media application and explain in detail about TCP/IP Layers and Architecture of the Protocol with neat diagrammatic representation   CO1-App (16)

Or

(b) Apply the concept of ISO/OSI layers in any social media application and clearly explain their layers ad its functionalities in detail with neat diagrammatic representation   CO1-App (16)

12. (a) A bit stream 1101011011 is transmitted using the standard CRC method. The generator polynomial is x^4+x+1. What is the actual bit string transmitted? Apply CRC checker and find whether there is any error in data transmission   CO2-App   (16)

Or

(b) Apply the error correction techniques for the given inputs data bits to be transmitted is 1011001 and number of redundancy bits = 4 and Determining the even parity bits for alotted 11 bits.   CO2-App   (16)

13. (a) Explain in detail about the types, key principles and methodology of routing protocols in network layer with neat diagrammatical representation   CO3-U   (16)

Or

(b) Explain in detail about the circuit switching and packet switching with neat diagrammatical representation   CO2-App   (16)

14. (a) Compare the QOS in terms of Integrated Services and Differentiated Services. And also list out the algorithm in traffic shaping with neat diagrammatical explanation   CO4-Ana   (16)

Or

(b) Examine the Three Way Handshake protocol to establish the transport level connection. And also Analyze in detail about various Services provided by the Transport Layer   CO4-Ana   (16)

15. (a) List out various Components, Features and types in cryptography and also Explain in detail with neat diagrammatical representation   CO5- U   (16)

Or

(b) List out various Protocols in Application layer and explain any two protocols in detail with neat diagrammatical representation   CO5- U   (16)