

Reg. No. :

--	--	--	--	--	--	--	--	--	--

**Question Paper Code: 94806**

B.E./B.Tech. DEGREE EXAMINATION, MAY 2022

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 and 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 allotted 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)