

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R), MAY 2023

(2020 SCHEME)

Course Code : 20CST286

Course Name: Introduction to Computer Networks

Max. Marks : 100

Duration: 3 Hours

PART A

(Answer all questions. Each question carries 3 marks)

1. Define the terms Unicast, Broadcast and Multicast Protocol in Computer Network.
2. How two separate Ethernet network segments are connected?
3. Compare and contrast the network hardware components switch and hub.
4. Define piggybacking. Mention its use.
5. Define Flooding. Give the different types of flooding in Computer Network
6. List out the techniques for achieving good QoS.
7. A computer administrator need to check the MAC card of the system is working properly or not. Suggest him an IP address that will help to resolve the above problem.
8. Find the IP class, network id and host id for the following IP address 122.10.10.20
9. Map the following protocols HTTP, FTP and UDP to the layer which it belongs to in Computer Network.
10. How congestion controlling is performed in TCP protocol?

PART B

(Answer one full question from each module, each question carries 14 marks)

MODULE I

11. a) What is computer networks? Discuss any three applications of computer networks. (5)
- b) Define the following (9)
 - i) Layers
 - ii) Protocol
 - iii) Interface

OR

12. With neat sketch compare ISO OSI reference model with TCP/IP model. (14)

MODULE II

13. Explain different Multiple Access Protocols. (14)

OR

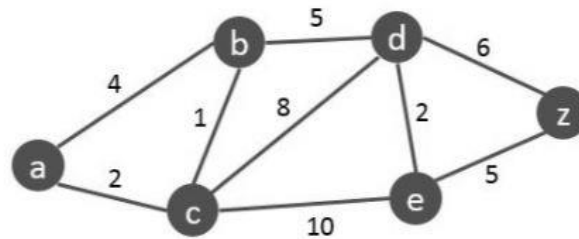
14. Explain the working of Go-Back-N protocol with a neat sketch and narrate how packet loss is detected. (14)

MODULE III

15. a) Explain the count to infinity problem in Distance Vector Routing. (7)
 b) Compare and contrast adaptive and non - adaptive routing algorithms. (7)

OR

16. Solve using Dijkstra algorithm and estimate the minimum cost from Node a to Node z and find out the path for the transmission of packets



(14)

MODULE IV

17. a) Compare and contrast IPV4 and IPV6 with examples. (7)
 b) As a network administrator, state the protocol in network layer that help to allocate logical address to the machine during booting process. Explain the working of protocol. (7)

OR

18. a) Explain different classes of IP address with suitable examples. (7)
 b) Compare and contrast BOOTSTRAP protocol and DHCP protocol. (7)

MODULE V

19. a) A naive user wishes to send an audio message as email content to his friend residing apart from him. Mention the protocol that can be used for the above stated scenario and explain its working. (7)
 b) With neat sketch explain User Datagram protocol. (7)

OR

20. a) Discuss the protocol which helps the user to deliver email at the recipient side with its working. (7)
 b) Explain the FTP and MIME protocols with necessary figures. (7)
