Regulation R20 *Subject code:* 3P5EC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech V Semester Regular Examinations, January 2023

COMPUTER NETWORKS

(Computer Science & Engineering)

Maximum Marks: 70 Date:11.01.2023 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Differentiate between LAN, MAN and WAN.
2 What are the advantages of Transmission media?
3 Discuss IEEE 802.3 frame format?
4 Difference between Fast Ethernet and Gigabit Ethernet?
5 What is Multi cast Routing?
6 What are the functions of ICMP?
7 What is the architecture of WWW?
8 How does persistence timer is useful in TCP?
9 What are the concepts of extension header in IPv6?
10 What is the use of classes in IPv4?

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 a) What do you mean by computer network? Classify computer networks and explain them in brief. (5M)
b) Discuss about the various transmission media available at the physical layer. (5M)

OR

12 a) Compare and contrast the OSI and TCP/IP reference models. (5M)
b) Explain Frequency division Multiplexing. (5M)

13 a) Illustrate Routing of Packets within Virtual Circuit Subnet. (5M)
b) Difference between flow control and Error control. (5M)

OR

14 a) What is the significance of data link layer? Explain the design issues of data link layer. (5M)
b) With neat sketch, explain different layers of ATM. (5M)

15 a) Explain Distance Vector routing algorithm with an example. (5M)
b) Describe Dijkstra shortest path algorithm. Also show working of Dijkstra algorithm with the help of an example. (5M)

OR

16 a) Explain in detail about broadcast and multicast routings. (5M)
b) Explain File transfer protocol in Application layer. (5M)

17 a) Write the structure of TCP pseudo header and explain how it is used in checksum calculation. (5M)
b) Explain File transfer protocol. (5M)

OR

18 a) Write briefly about Congestion control in datagram subnets. (5M)
b) Write a brief note on TCP and UDP protocols. Also compare the TCP and UDP Protocols. (5M)

19 a) What is the format of IPv4 header? Describe the significance of each field. (5M)
b) What is the difference between Bluetooth and Zigbee. (5M)

OR

20 a) What is network security? Explain Network Mechanisms and attacks? (5M)
b) What is the deference between IPSec, SSN and VPN? (5M)