B.E. INFORMATION TECHNOLOGY THIRD YEAR SECOND SEMESTER (Old) – 2017

THIRD YEAR , SECOND SEMESTER EXAM 2017 (Old)

Network Protocols and High Speed networking

Full Marks:100 Time:3Hrs

Answer five questions

Q.1

a. What do you mean by high-speed network? What are the parameters that determine the speed of high speed networking?

b. At the time of designing a high-speed network what will be your target to achieve? List the different kinds of design issue for high-speed networking.

c. Explain how dynamic multipoint tree and node mobility can affect path routing dynamics.

d. How does CAMs can be used for faster address look up procedure?

(2+3)+(2+4)+(2+2)+5=20

Q.2

a. Discuss the three switching methods used by layer 2 switches in support of high speed network.

b. What is self routing?

c. How does CAC regulate congestion control?

d. Propose a mechanism that virtual circuit switches might use so that if one switch looses all its state regarding connections, then a sender of packets along a path through that switch is informed of the failure.

6+3+5+6 =20

Q.3

a. Is there any possibility that connection oriented protocols will deliver packets out-of-order?

b. Find out the total delay and factors associated with packet switching technique.

c. Suppose N stations are connected to an extended Ethernet LAN operating at the rate of 10Mbps.

c. Suppose N stations are connected to an extended Ethernet LAN operating at the rate of 10Mbps. Assume that the efficiency of each Ethernet is 80%, and each station transmits frames at the average rate of R bps. What is the maximum number of stations N that can be supported if R is equal to 100kbps? If the bridge is replaced with repeater, what is the maximum number of stations that can be supported ?

d. Differentiate between bridges and switches. 3+6+6+5=20

Q.4.

a. Why do you think Source Routing as an important technique for high-speed networks?

b. What is used to prevent switching loops in a network with redundant switched paths?

c. What do you mean by Path Vector Routing ?

d. Differentiate between eBGP and iBGP.

3+5+6+6=20

Q.5

a. Throw some lights why Distance Vector Routing can be considered as a better choice over Link state Routing for Inter Domain Routing.

b. Explain ATM protocol architecture.

c. What is ATM adaptation layer and why it is used?

d. Give the applications of high speed network. 5+5+5+5=20

Q.6. Write short notes on

(i) Spanning Tree Protocol for Bridged LAN

(ii) Limitations of Link State routing

(iii) Little's Formula

(iv) Hour Glass Protocol 5X4=20