Exam.Code:0922
Sub. Code: 6840

1058

B.E. (Information Technology) Fourth Semester

ITE-473: Computer Networks

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Section.

x-x-x

1.

a) How is the minimum size of Ethernet frame determined?

b) How does an FDDI node determine whether it can send asynchronous traffic and synchronous traffic?

c) What are the advantages of allowing persistent TCP connections in HTTP?

d) Why is UDP pseudo header included in UDP checksum calculation?

e) Mention the advantages of error correction by receiver as compared to error detection.

f) What is the network address in a class A subnet with the IP address of one of the hosts as 25.34.12.56 and mask 255.255.0.0?

g) What is PDP?

h) State the function of bridges.

i) What is the difference between port address, physical address and logical address?

j) What is SNMP?

(1*10 = 10)

Section A

2. Explain the differences between OSI model and TCP/IP model? (10)

3. In a digital communication system a 32 symbol signal is used in transmission. Each symbol is transmitted in a 5 μsec time slot with equal probability.

a) Calculate the symbol rate of the 32 symbol signal.

b) Calculate the information content of a symbol.

c) Calculate the required bandwidth (in kHz) and the capacity (in kbps) of the transmission medium to transmit the 32 symbol signal.

d) Consider that the 32 symbol signal is applied to a binary encoder and a binary signal is obtained at the output of the encoder. Calculate the required bandwidth (in kHz) and the capacity (in kbps) of the transmission medium to transmit the binary signal.

(2.5*4 = 10)

4. a) Briefly compare the synchronous and asynchronous transfer modes in the following aspects: a) Which one is suitable for constant bandwidth channels and which one for variable (or dynamic) bandwidth channels? b) Which one is subjected to waste of bandwidth and which one uses the bandwidth efficiently? (6)

b) Discuss the problems encountered in applying CSMA/CD algorithm to wireless LANs. (4)

P.T.O.

Section B.

5. Discuss the Random Early Detection mechanism and derive the expression for drop probability. (1

6. Explain the RIP algorithm in detail with a suitable example. (1

7. Write short notes on the following: a) Multi Media b) SNMP (5*2 = 1

X-X-X