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RM-7061

B. E. III (Sem. VI) (CO) Examination

May / June – 2010

Computer Netwrok - I

Time : 3 Hours] [Total Marks : 100

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. E. 3 (Sem. 6) (CO)

Name of the Subject :

☛ Computer Netwrok - 1

☛ Subject Code No. : 7 0 6 1 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

(2) Use **separate** answer sheet for **separate** section.

(3) Make assumption whenever required.

(4) Numbers on the **right** indicate marks.

SECTION – I

Q:1 Attempt following

A 1 Hamming distance between 000111 and 010011 is 1

(a) 1
(b) 2
(c) 3
(d) 4

2 Routers functions in _____ . 1

(a) Physical, data link and network layer.
(b) Physical & Data link layer
(c) Data link & Network
(d) Network & Transport

3 Which concept of a network measures frequency of failure and natural recovery time after a failure? 1

(a) performance
(b) reliability
(c) security
(d) feasibility

4 In which routing method do all the routers have a common database? 1

a. Distance vector
b. Link state
c. Link vector
d. None of the above

5 Optimal number of levels for an N router subnet is _____ in Hierarchical routing. 1

6 _____ keeps track of all mobile hosts who are visiting the network in case of mobile routing. 1

7 Flow control is useful while controlling Congestion. True/False? 1

8 Improper routing algorithm can cause Congestion problem. True/False? 1

9 What is out of order caching policy to control congestion? 2

B In routing algorithm, if metric used is delay, how a router measures delay? 5

C What is importance of infinity value in Distance vector routing if metric is hop count? What is infinity value set to? Why? 5

Q:2 A What should be size of sender window and receiver window, for go back n ARQ? Why? Justify. Explain with example 8

OR

A In selective repeat ARQ, what should be size of sender window and receiver window? Why? Justify. Explain with example 8

B Discuss Congestion control in Datagarm subnets. 7

Q:3 **Attempt any THREE from the following:** 15

1 What should be size (in terms of bits) of sequence number in Stop and Wait protocol. Why?

2 Generate CRC code for 1101011011, where divisor polynomial, $G(x)= x^4+x+1$.

3 Explain Sliding Window Protocol for flow control having window size of 4. Discuss expansion and compression of window at both ends with proper example.

4 Discuss congestion prevention policies.

SECTION - II

Q. 4 (A) Do as directed. 10

1. To interface a computer terminal with a modem the required physical layer standard is _____.

2. FDDI is a _____ network.

3. Twisted pair have maximum segment is _____.

4. _____ Method is used for error detection and correction.

5. Define piggybacking.

6. _____ is a bit-oriented protocol for communication over point-to-point and multipoint links.

7. Shortest path is a dynamic type of routing algorithm (True/False)

8. Gateway functions in _____ OSI layer.

9. Switching at the physical layer in the traditional telephone network uses the _____ technique.

10. _____ is the topology with the highest reliability.

(B) Flooding algorithm can be used to measure the best time to reach to any node in the network. Justify. 4

(C) What are different persistence methods when a station finds a channel busy? 6

Q.5 (A) Explain guided transmission media and its type. 8

OR

(A) Explain un-guided transmission media and its type. 8

(B) What is a hidden station and exposed station problem? Explain the solution to prevent hidden station problem. 7

Q. 6 Attempt any THREE from the following: 15

1 Explain Telephone network in detail.
2 Discuss the architecture of a Frame Relay
3 Explain Multicast Routing.
4 Discuss different networking and inter-networking devices with their functionality.