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CS610 Computer Networks

Mid Term Examination – Spring 2005

Time Allowed: 90 Minutes

Please read the following instructions carefully before attempting any of the questions:

1. Attempt all questions. All Questions carry Different Marks.
2. Do not ask any questions about the contents of this examination from anyone.
   - ***a***. If you think that there is something wrong with any of the questions, attempt it to the best of your understanding.
   - ***b***. If you believe that some essential piece of information is missing, make an appropriate assumption and use it to solve the problem.
3. Exam is Closed Book. No handouts or extra material is allowed in exam hall other than rough sheet which will be provided by the examiner.

****WARNING: Please note that Virtual University takes serious note of unfair means. Anyone found involved in cheating will get an `F` grade in this course.**

Total Marks: 100 **Total Questions: 10**

Question No. 1 **Marks : 03**

A popular LAN Technology that uses a shared Bus Topology.

- Star
- CSMA
- WAN
- Ethernet
- Multicast

Question No. 2 **Marks : 03**

An electronic device that connects LAN segments.

- Ethernet
- NIC
- 10Baset
- Bridge
- 10Base5

Question No. 3 **Marks :30**

[15 + 15 Marks]

For the packet switched network below:

a. **Determine the routing table.**
b. **Determine the collapsed routing table using default route.**

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Question No. 4 **Marks : 03**

A form of addressing in which a set of computers is assigned one address.

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- Broadcast
- Multicast
- Packet Switch
- Bandwidth
- CRC

Question No. 5 **Marks : 10**

Draw and label all the components for a 10Base5 Network.

Question No. 6 **Marks : 03**

A network technology that uses Collision Avoidance.

- Bridge
- CRC
- Broadcast
- WAN
- Wireless LAN

Question No. 7 **Marks : 15**

[15 Marks]

Assume a 10Mega Byte file must be transmitted across a network. Ignoring delays caused by waiting for access and other overhead, how long will it take to send the file across?

a. **Ethernet (10Mbps)**
b. **Fast Ethernet (100Mbps)**
c. **Token Ring (16Mbps)**
d. **Local Talk (230Kbps)**
e. **ATM (155Mbps)**

Question No. 8 **Marks : 15**

Draw an example of 'Cycle of Bridges' with the segments. (At least 6 segments)

Question No. 9 **Marks : 15**

[15 Marks]

As discussed in the lecture, each ATM Switch rewrites or switched the Label. Assuming the sending computer 'S' uses a VPI/VCI value of 3 and the receiving computer 'R' uses a VPI/VCI value of 6, use a table containing the old VPI/VCI, the Interface and the new VPI/VCI to complete the tables for each of the switches below?

Question No.10 **Marks : 03**

Formal name for Thick Ethernet.

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- Star
- TDM
- Bandwidth
- Network Analyzer
- Broadcast