

	FINAL TERM EXAMINATION SPRING 2006 CS610 - COMPUTER NETWORK (Session - 1)	Marks: 60 Time: 120min
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StudentID/LoginID: _____

Student Name: _____

Center Name/Code: _____

Exam Date: Tuesday, August 15, 2006

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

1. Attempt all questions. Marks are written adjacent to each question.
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.
 - c. Write all steps, missing steps may lead to deduction of marks.

****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.**

For Teacher's use only										
Question Marks	1	2	3	4	5	6	7	8	9	Total

Question No: 1 (Marks: 2) - Please choose one

Two computers **E** and **F** are expected to communicate frequently, in a LAN. While designing a **LAN** which of the following is the way through which the traffic **E** and **F**, will be least affected to the other computers/traffic on the

- ▶ Make the two computers in different LAN segment and connect both the segments bridge
- ▶ Make the computer in a single LAN segment
- ▶ Connect both the computers using switch in between
- ▶ Make the two computers in different LAN segments and connect both the via router

Question No: 2 (Marks: 2) - Please choose one

In which of the following **OSI** reference layers, does repeater

- ▶ Physical
- ▶ Data link
- ▶ Network
- ▶ Session

Question No: 3 (Marks: 2) - Please choose one

Which of the following is not true about **OSPF** ?

- ▶ Allows routers introduce routes learned from other
- ▶ Similar to IGP
- ▶ An address mask is attached with each

- ▶ Allows classful and classless addresses but not

Question No: 4 (Marks: 2) - Please choose one

Static routing is more flexible than dynamic

- ▶ True
- ▶ False

Question No: 5 (Marks: 2) - Please choose one

UDP provides connectionless data delivery.

- ▶ True
- ▶ False

Question No: 6 (Marks: 7)

Write the use of token in-case of ring or star topology, how it works?

Question No: 7 (Marks: 10)

Consider the above figure, in which there is a **cloud of** having various networks.

Suppose there are **7 routers** in between **Host A** and **Host B**.

Identify

- How come host **A** knows the **addresses** of all the **routers** between **A to B**?
- What will be the value of the **TTL field** when the source **host A** sends the **7th time** towards the **B**, and the **third router** in the path receives that
- How many times does the source **A** need to send the datagram so that it finally reaches destination host **B**?
- What will be the value of the **TTL field** when the source **host A** sends the **4th time** towards the **B**, and the **second** in the path receives that
- What will be the value of the **TTL field** when the source **A** sends the **datagram first time** towards the **B**, and the **first router** in the path receives that

Question No: 8 (Marks: 15)

Given are the **five networks** connected to each other **routers**

Network 1 is connected to **Network 2** through **R1-2**, **Network 2** is connected to the **Network 3** through **R2-3** and so on. **W** represents the **weight** between network **Host A** belongs to **Network 1** whereas **Host B** belongs to **Network 5**

The **MTU** size of each network is as follows

Network No.	MTU size
1	128bits
2	32 bits
3	64 bits
4	32 bits
5	16 bits

Host A sends a datagram of size **128 bit** to **Host B**.

- Find out which **path** will the datagram be adopting in reaching to the **B** by **Dijkstra's** algorithm.
- Which of the **routers** in the path needs to **fragment** the datagram?
- The original datagram is finally split into **how many** to reach at the

Consider the **IP** addresses and the **subnet** ,

i- **187.199.127.5** ,

ii- **72.32.10.4** , **255.240.0.0**

Find out the following against both of the **IP** addresses

- a. The **network class** in which the **IP address** falls.
- b. The **number of bits** used for **subnetting** .
- c. Total **number of** in the **subnet**
- d. The **network address** of the **subnet**
- e. The **subnet** of the **IP address**.