

	FINALTERM 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	1	2	3	4	5	6	7	8	9	Total
Marks										

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 between **E** and **F**, will be least affected to the other computers/traffic on the network

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

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

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

- ▶ 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 means
- ▶ Similar to IGP
- ▶ An address mask is attached with each address

- ▶ Allows classful and classless addresses but not subnetted

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

Static routing is more flexible than dynamic routing.

- ▶ True
- ▶ False

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

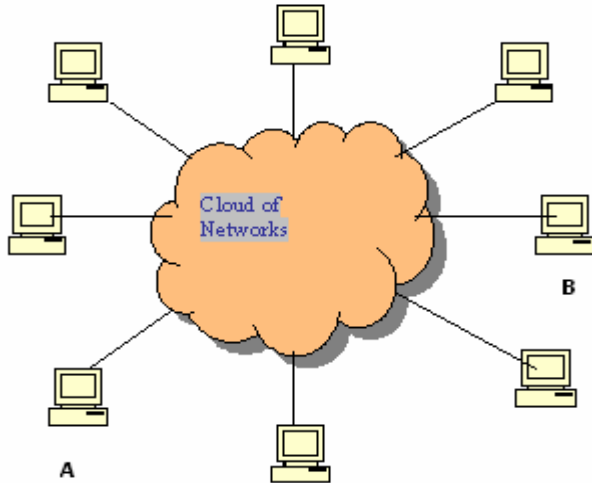
UDP provides connectionless data delivery.

- ▶ 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)



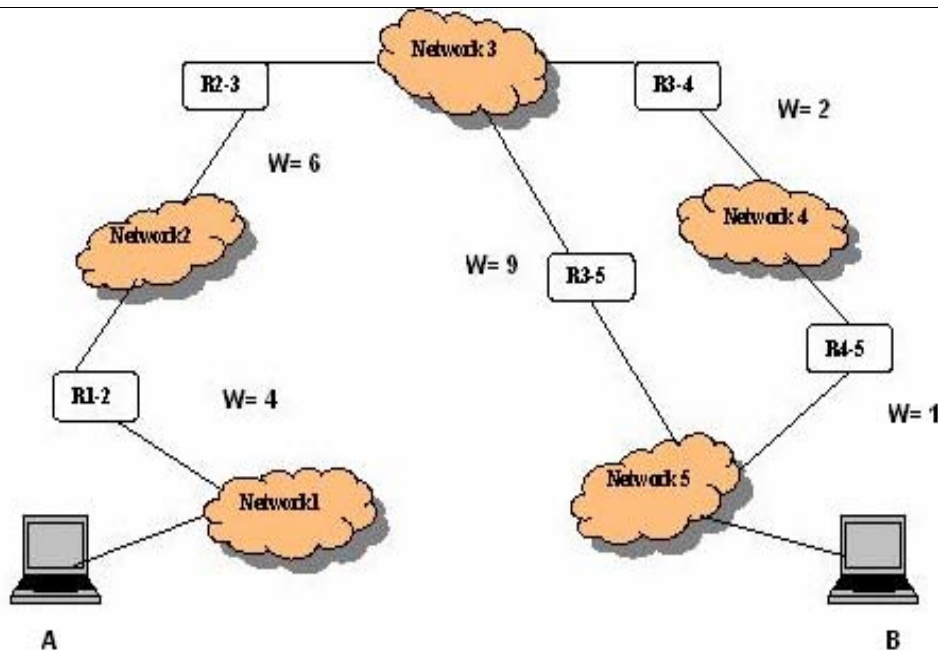
Consider the above figure, in which there is a **cloud of networks** having various networks.

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

Question No: 8 (Marks: 15)



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

Networks1 is connected to **Network 2** through **R1-2**, **Network 2** is connected to the **Network3** through **R2-3** and so on. **W** represents the **weights** between network nodes. **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 bits** to **Host B**.

- Find out which **path** will the datagram be adopting in reaching to the destination **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 datagrams** to reach at the destination.

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

i- 187.199.127.5 , 255.255.255.0

ii- 72.32.10.4 , 255.240.0.0

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

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