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## **CS610 Computer Networks**

**Final Term Examination – Spring 2005**

**Time Allowed: 150 Minutes**

**Please read the following instructions carefully before attempting any question:**

- 1. This examination is closed book, closed notes, closed neighbors.**
- 2. Answer all questions.**
  - a. There is no choice.**
  - b. You will have to answer correctly all questions in this examination to get the maximum possible marks.**
- 3. 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.**

**\*\*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: 75**

**Total Questions: 06**

<b>Question No. 1</b>	<b>Marks : 10</b>
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**Given the following technologies, determine which characteristics apply by placing the appropriate place.**

**Question No. 2****Marks : 10****Fill in the blanks.**

1. TCP/IP protocols use the name \_\_\_\_\_ to refer to an internet packet.
2. The process of using a routing table to select a next hop for a given datagram is called \_\_\_\_\_.
3. The translation from a computer's protocol address to the equivalent hardware address is known as \_\_\_\_\_.
4. The \_\_\_\_\_ field in frame header specifies that the frame contains an ARP message.
5. The basic hardware component used to connect heterogeneous networks is known as \_\_\_\_\_.
6. TCP/IP protocol is organized into \_\_\_\_\_ conceptual layers.
7. The Suffix part of a Class 'B' network contains \_\_\_\_\_ octets.
8. 224.49.53.9 is a class \_\_\_\_\_ address.
9. If congestion in a network persists, the entire network can become unusable. This condition is known as \_\_\_\_\_.
10. \_\_\_\_\_ is a measure of the rate at which data can be sent through the network.

**Question No. 3****Marks : 25****Answer the following questions briefly?**

- a) Briefly define the two main points of the "Locality of Reference Principle"?
- b) Briefly define the function of a Network Analyzer with an elaboration of the term "Promiscuous Mode"?
- c) What is the difference between a Bridge and a Repeater?
- d) Name the three Address Resolution Techniques?
- e) Differentiate between Static and Dynamic Routing?

**Question No. 4****Marks : 10**

**Convert the following 32-Bit Binary addresses into their equivalent Dotted Notation?**

**Question No. 5**

**Marks : 10**

**Draw the OSPF Graph for the following network?**

**Question No. 6**

**Marks : 10**

**Given the IP address and subnet mask 192.168.10.0 and**

**255.255.255.224** the maximum number of subnets in the network?

- b) What is the number of hosts?
- c) What are the valid subnets?

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