

## 433-522 Internet Technologies

### *Practice Exam*

**Question 1:**

Give two examples to explain why wireless computing does not necessarily mean mobile computing and mobile computing does not necessarily mean wireless computing.

**Question 2:**

Briefly explain one of the main reasons why coaxial cables can be preferred to a twisted pair.

**Question 3:**

Why do we need two keys and the public-key algorithms when we can simply use symmetric-key algorithms with one key?

**Question 4:**

What is a Message Digest? Briefly explain.

**Question 5:**

What is bit stuffing? Explain briefly in the context of the Data Link Layer.

**Question 6:**

Compare Go-Back-N and Selective Repeat elementary Data Link protocols, what is the main trade-off between the two?

**Question 7:**

Briefly explain the relative strengths and weaknesses of contention and contention free protocols in the MAC sublayer.

**Question 8:**

Briefly explain how the basic Bit-Map collision-free protocol works.

**Question 9:**

Increasing the bandwidth given a frame size is accepted as a perfect strategy to improve the Ethernet performance. State why this statement may not be true.

**Question 10:**

What is a routing algorithm in the context of the Network Layer?

**Question 11:**

What do adaptive routing algorithms take into account in comparison to non-adaptive ones?

**Question 12:**

A Class A network uses a subnet mask of 255.254.0.0. How many subnets are available in the Class A network if it uses this mask? Note that a Class A network has a 24 bit host field.

**Question 13:**

What does a transposition cipher do?

**Question 14:**

What is perceptual coding in the context of Audio Compression? Name one example technique.

**Question 15:**

What is UDP? Briefly explain.

**Question 16:**

What is a Remote Procedure Call? Give one reason why it cannot be implemented under all circumstances using UDP.

**Question 17:**

What is DNS and why do we need it?

**Question 18:**

What is IMAP and why do we need it while we can use POP3?

**Question 19:**

What is the difference between a plugin and a helper application in the context of the WWW?

Q20 is not covered in this semester.

**~~Question 20:~~**

~~List 3 protocol operations provided by SNMP Version 1, and briefly explain the purpose of each of these protocol operations.~~