**Class Test #4**

**CS 414: Computer Communication Networks**

Department of Electrical (Electronics) Engineering

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| **Instructor** | **Muhammad Aqeel Aslam** | **Name** |  |
| **Duration** | **45 Min** | **R.No** |  |
| **Marks** | **50** | **Class** |  |
| **Date** | **17/12/13** | **Section** |  |

Q1. Consider the following string of ASCII characters that were captured by Wireshark when the browser sent an HTTP GET message (i.e. this is the actual content of an HTTP GET message). The characters *\r \n>* are carriage return and line-feed character. Answer the following questions,(12)

GET /cs453/index.html HTTP/1.1\r\n Accept: \*/\*\r\n Accept-Language: en-us\r\n User-Agent: Mozilla/4.0 (compatible; MSIE 8.0; Windows NT 6.0; Trident/4.0; SLCC1; .NET CLR 2.0.50727; Accept-Encoding: gzip, deflate\r\n If-Modified-Since: Tue, 13 Jun 2006 16:13:58 GMT; length=3505\r\n Host: gaia.cs.umass.edu\r\n Connection: Keep-Alive\r\n

1. What is the URL of the document requested by the browser?

A1a. .

\_\_\_\_\_.

1. What version of HTTP is the browser running?

A1b.

1. Does the browser request a non-persistent or a persistent connection?

A1c.

1. What is the IP address of the host on which the browser is running?

A1d. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Q2. **True or false.**(8)

1. A user requests a Web page that consists of some text and two images. For this page, the client will send one request message and receive three response messages?

A2a.

1. Two distinct Web pages (e.g., [www.mit.edu/research.html](http://www.mit.edu/research.html) and [www.mit.edu/students.html)](http://www.mit.edu/students.html)) can be sent over the same persistent connection?

A2b.

1. With non-persistent connections between browser and origin server, it is possible for a single TCP segment to carry two distinct HTTP request messages?

A2c.

1. The Date: header in the HTTP response message indicates when the object in the response was last modified?

A2d.

Q3. For a communication session between two hosts, which host is the client and which is the server?(3)

A3. .

Q4. What information is used by a process running on one host to identify a process running on another host?(3)

A4. .

Q5. Why do HTTP, FTP, SMTP, POP3 and IMAP run on top of TCP rather than UDP?(3)

A5.

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Q6. The following question deal with CRC error decoding.(8)

1. Give a message M = 10101101101 determine the CRC using the polynomial P = x5 + x4 + x2 + 1.
2. What is the transmitted message T?
3. How does the receiver check whether the message T was transmitted without errors?

Q7. The following question deal with CRC error decoding.(8)

1. Give a message M = 101011110101110 determine the CRC using the polynomial P = x5 + x4 + x2 + 1.
2. What is the transmitted message T?
3. How does the receiver check whether the message T was transmitted without errors?