**Lab Manual 3**

**Trace 1**

**Q1:** SNMP, DNS, TCP and HTTP

**Q2:** Receive Time – Sending Time = 4.718993 – 4.694850 = 0.024143

**Q3:** Second get request was not successful. The corresponding response packet has 404 status code and ‘Not Found’ status phrase which indicates that the second get request was not successful.

**Q4:** Browser is using HTTP 1.1. Server is also using HTTP 1.1.

**Q5:** Acceptable languages are en-us (English US) and en (English) with quality factor of 0.5.

**Q6:** Computer IP Address: 192.168.1.102. Server IP Address: 128.119.245.12.

**Q7:** Computer MAC Address: 00:08:74:4f:36:23. Server MAC Address: Cannot be known.

**Q8:** Sending Port No: 4127. Receiving Port No: 80. Port 80 is used by web servers that use HTTP.

**Q9:** First response by the server: 200 OK. Second response by the server: 404 Not Found.

**Q10:** Last Modified: Tuesday, 23rd September 2003, 05:29:00 GMT

**Q11:** 439 bytes

**Trace 2**

**Q1:** No “IF-MODIFIED-SINCE” line in the first HTTP GET request.

**Q2:** Yes, the server explicitly sent the contents of the file. The contents of the file can be see and the size of the file is 371 bytes.

**Q3:** “IF-MODIFIED-SINCE” line can be seen. IF-MODIFIED-SINCE: Tuesday, 23rd September 2003, 05:35:00. This information tells the server to send the requested file only if it has been modified after Tuesday, 23rd September 2003, 05:35:00.

**Q4:** Status Code: 304. Status Phrase: Not Modified. The server did not return the contents of the file because the file was not modified at the server i.e. the browser already had an up-to date version of the requested file.

**Trace 3**

**Q5:** One

**Q6:**  Packet No: 8

**Q7:** Packet No: 14

**Q8:** Status Code: 200. Status Phrase: OK.

**Q9:** 4 TCP segments were needed. Packet Number are 10, 11, 13 and 14.

**Trick Question:** The response packet has a size of only 490 bytes because the rest of the data is in the additional 3 TCP packets. The Packet Number 10, 11, 13 and 14 have 1460, 1460, 1460, 436 bytes in their respective payloads. This adds up to 4816 bytes which is not equal to 4500 bytes. The additional 316 bytes are padding bytes that are added in the TCP payload so that the number of payload bytes becomes a multiple of 4.