

Assignment 1 Part B Solutions

Question 17: What is the web browser being used by the sender? (1 mark)

Firefox/3.6.3 or Mozilla/6.9

Question 18: What is the web server software being used in the remote server? (1 mark)

Microsoft-IIS/8.0

Question 19: Is protocol offloading being used at the client? (1 mark)

No. OS leaves the header checksum blank (zero) for the NIC to compute and fill in as the packet is sent. A checksum of 0 typically indicates that protocol offloading is in use. In this case the checksums are computed

Question 20: How many routers are there between the client and server? (1 mark)

64 (Start TTL) – 56 = 8

Question 21: What is the raw TCP sequence number of...

a. the packet initiating the TCP connection (1 mark)

3851697578

b. the acknowledgement from the server for the above packet? (1 mark)

2747564191

Question 22: In frame 4, what are the values of the 8 TCP flags (CWR to FIN) as a single 8-digit binary number? (1 mark)

00011000 (ACK and PSH flags set)

Question 23: In frame 4, the GET request is for a JavaScript file resource. What is the address of the web page that requested this JavaScript file resource? (2 marks)

http://ai.bcd.com See HTTP Referer

Question 24: How long should the received JavaScript file be considered fresh? (2 marks)

101 No cache-control in GET. Server sets Cache-Control: max-age=101

Question 25: What is the initial value of the window scale shift count indicated by...

a. the client? (1 mark)

7

b. The server? (1 mark)

5

Question 26: The GET packet from the client to the server has an advertised window size of 46. What is the true value window size in bytes? (2 marks)

$5888 = 46 \times 2^7$

Question 27: How many bytes are lost totally while transmission is indicated in the pcap file? (2 marks)

1448

Question 28: How many duplicate acknowledgments are sent by the client regarding the missing bytes? (2 marks)

4

Question 29: In which frame is the lost frame retransmitted? (2 marks)

38

Question 30: In which frame does the receiver indicate that all missing frames have been received? (2marks)

39

Question 31: From frame 1 to 3 (inclusive), how many frames have incorrect TCP checksum value?
(2 marks)

0