Connection: keepalive <cr> <lf>
<cr><lf>

a. What is the URL of the document requested by the browser?
b. What version of HTTP is the browser running?
c. Does the browser request a non-persistent or a persistent connection?
d. What is the IP address of the host on which the browser is running?
e. What type of browser initiates this message? Why is the browser type needed in an HTTP request message?

3. Suppose a process in Host C has a UDP socket with port number 6789. Suppose both Host A and Host B each send a UDP segment to Host C with destination port number 6789. Will both of these segments be directed to the same socket at Host C? If so, how will the process at Host C know that these two segments originated from two different hosts? Discuss and Explain. | 3

4. Suppose that a Web server runs in Host C on port 80. Suppose this Web server uses persistent connections, and is currently receiving requests from two different Hosts, A and B. Are all of the requests being sent through the same socket at Host C? If they are being passed through different sockets, do both of the sockets have port 80? Discuss and explain. | 3

PEC
EXPLORE INNOVATE EXCEL

Punjab Engineering College
(Deemed to be University)
Mid-Term Examination

Sept 2019   Year/Semester: 4th year/1st Sem, 19201

Programme: B.Tech. CSE
Course Name: Computer Networks
Maximum Marks: 30

Course Code: CSN 432
Time allowed: 1½ hours

Notes:

- All questions are compulsory.
- Unless stated otherwise, the symbols have their usual meanings in context with subject. Assume suitably and state additional data required, if any.
- The candidates, before starting to write the solutions, should please check the question paper for any discrepancy, and also ensure that they have been delivered the question paper of right course code.
- Explain steps involved wherever necessary.

Q. No.		Marks
1.	Consider two hosts, A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and suppose the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.	$2 \times 7 = 14$
	a. Express the propagation delay, d_{prop} in terms of m and s.	
	b. Determine the transmission time of the packet, d_{trans}, in terms of L and R.	
	c. Ignoring processing and queuing delays, obtain an expression for the end-to-end delay.	
	d. Suppose Host A begins to transmit the packet at time $t = 0$. At time $t = d_{trans}$, where is the last bit of the packet?	
	e. Suppose d_{prop} is greater than d_{trans}. At time $t = d_{trans}$, where is the first bit of the packet?	
	f. Suppose d_{prop} is less than d_{trans}. At time $t = d_{trans}$, where is the first bit of the packet?	
	g. Suppose $s = 2.5 \times 10^8$, $L = 120$ bits, and $R = 56$ kbps. Find the distance m so that d_{prop} equals d_{trans}.	
2.	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 <cr><lf> are carriage return and line-feed characters (that is, the italized character string <cr> in the text below represents the single carriage-return character that was contained at that point in the HTTP header). Answer the following questions, indicating where in the HTTP GET message below you find the answer.	$2 \times 5 = 10$

```
GET  /cs453/index.html  HTTP/1.1<cr><lf>
Host: gaia.cs.umass.edu<cr><lf>
User-Agent: Mozilla/5.0 (Windows;U; Windows NT 5.1; en-US; rv:1.7.2)
Gecko/20040804 Netscape/7.2 (ax) <cr><lf>
Accept:text/xml, application/xml, application/xhtml+xml, text/html;q=0.9,
text/plain;q=0.8,image/png,*/*;q=0.5<cr><lf>
Accept-Language: en-us,en;q=0.5<cr><lf>
Accept-Encoding: zip,deflate<cr><lf>
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7<cr><lf>
Keep-Alive: 300<cr><lf>
```

Program: B.Tech	Year/Semester: 2022/5th Sem
Course Name: Computer Communication Networks	Course Code: EC2212
Maximum Marks: 25	Time Allowed: 1hr 30min.

- All questions are compulsory.
- The candidates, before starting to write the solutions, should please check the question paper for any discrepancy and also ensure that they have been delivered the question paper of right course code.
- The Candidate should clearly mention his name-sid- course name – course code- date and sign at the top of first page.

S.No.		Questions	Marks
1	(a)	Write the comparative benefits offered by Star Topology over Meshed Topology.	3
	(b)	Conclude the significance of a bus topology in the design process of a Computer Communication Network	2
2	(a)	Discuss the importance of switching techniques used in a Computer Communication Network?	2
	(b)	Compare the switching techniques employed in a Telephone network and an Internet network.	3
3	(a)	Name the layers of the OSI Reference Model and TCP/IP protocol suite which incorporate the port address, IP address and MAC address to the data.	3
	(b)	How would you find out the IP and MAC addresses for your device?	2
4	(a)	Consider a noiseless channel with a bandwidth of 20KHz. We need to send 280 kbps over a channel. How many signal levels are required	2
	(b)	Differentiate between NRZ and RZ line coding techniques with proper diagrams.	3
5		Write the steps implanted in Selective Repeat ARQ and summarize the reasons for preferring Selective repeat ARQ over Stop and Wait ARQ	5