Charotar University of Science and Technology
Devang Patel Institute of Advance Technology and Research
Department of Computer Science & Engineering
Academic Year: 2021-22 [5th Semester]

CS352 Computer Networks
Assignment: 1

Sr. No	Question	Marks
1	Explain DNS system with diagram	5
2	Explain Mail architecture in detail	5
3	Explain difference between SMTP and POP3 protocol	2
4	Draw and explain the HTTP message format	5
5	Draw sequence diagram of cookie management system	2
6	Draw sequence diagram of HTTP with persistence connection	2
7	Draw sequence diagram of HTTP with non-persistence connection	2
8	Draw sequence diagram to represent the 3way handshaking of HTTP protocol	2
9	A client want to access the two various resources within the same connection. What will be the total response time to access both the resources?	2
10	A user want to access the 3 various resources from the server. Assume that the connection which is established between client and server is HTTP with persistence connection then what will be the total response time to access all the 3 resources?	2
11	If the propagation delay in a network is 20ms and router is free to entertain the packet immediately but takes 15ms to decide the proper path to forward the packet from one end to other end. The how much time a user need to wait for the response?	2
12	Draw a sequence diagram to represent the working of proxy server with conditional get method.	3
13	What is socket? List out the socket primitives and explain each.	4
14	List out elements of transport protocol and explain any 2 in detail	4
15	Explain the traversing of packet with respect to the layers of OSI reference model. Consider the scenario as two end systems are connected through a single router.	2
16	Explain the traversing of packet with respect to the layers of OSI reference model. Consider the scenario as two end systems are connected through a single switch.	2
17	List and Explain types of Delay	3

18	Draw and Explain TCP packet header in detail.	5
19	Write the difference between symmetric connection release and asymmetric connection release.	2
20	Explain the problems faced during the establishment of connection at the Transport layer.	4
21	What is buffer? Why buffer is required at transport layer? Explain the types of buffer in detail.	5
22	Explain dynamic buffer allocation in detail	5
23	Distinguish between upward multiplexing and downward multiplexing at transport layer.	2
24	Explain crash recovery mechanism of transport layer.	4
25	Draw the state diagram of TCP connection management system.	4
26	List and explain the TCP timers.	4
27	Explain slow start problem at transport layer.	4
28	Draw and Explain UDP packet header in detail.	4

Due Date for Submission: 6/9/2021

Note:

- **All the students have knowledge regarding the above mentioned questions.**
- **You need to write the assignment in a notebook and then you need to upload the scan copy of that in Microsoft teams.**
- **Batch A Students will write the answers of following questions**
  - **1, 4, 7, 10, 13, 16, 19, 22, 25**
- **Batch B Students will write the answers of following questions**
  - **2, 5, 8, 11, 14, 17, 20, 23, 26**
- **Batch C & D Students will write the answers of following questions**
  - **3, 6, 9, 12, 15, 18, 21, 24, 27, 28**