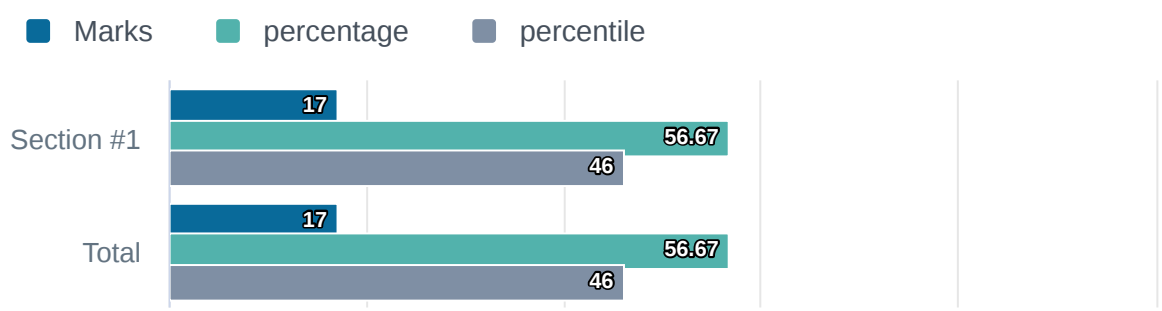
Mercer | mettl

IT694_Computer Networks_March2022

Overall Summary

17 Marks Scored out of 30	56.67 % 45.6 percentile out of 125 Test Takers	1h Time taken of 1hr

Marks Scored



Attempt Summary

Distribution of questions attempted in a total of 5 question(s).

This shows the correctness of questions attempted by the test taker

Correct	2 Ques	12/12 Marks
Incorrect	0 Ques	0/0 Marks
Partially Correct	2 Ques	5/12 Marks
Not Attempted	1 Ques	0/6 Marks

Question-Wise Details

Section 1
Section #1

5	1h	17/30
question(s)	Time taken	Marks Scored

Q. 1

Question 1

Time taken: 12m 43s

Marks Scored: 3/6

Briefly describe the commands supported by HTTP. HTTP can in principle be implemented on top to either TCP or UDP sockets. Give the relative merits and demerits of both implementations in terms of HTTP performance and complexity.

Response:

--> Http works on reques respond structure. Http is the application layer protocol which uses TCP as transfer layer protcol.It involves transfer of webpages from webserver to web browser.

--> While we request a page from our web browser, our web browser requests the webserver for the webpage and the webserver respond by sending the IP address of the webpage.

-->If we use UDP, how can we do this because UDP is stateless protocol if we refresh the page and go to another web page it will cause trouble for us.UDP is a stateless protocol and less reliable because we don't know where we have to send our request.

Words : 107

Max marks: **6**

EVALUATOR'S NAME	MARKS	EVALUATION COMMENTS	LAST MODIFIED ON
	3.0	1. http commands not written 2. demerits not written	07:46 PM Mar 25, 2022

Q. 2

Question 2

Time taken: 10m 4s

Marks Scored: 6/6

Suppose N packets arrive simultaneously to a link at which no packets are currently being transmitted or queued. Each packet is of length L and the link has transmission rate R.

a. What is the average queuing delay for the N packets?

b. Now suppose that N such packets arrive to the link every LN/R seconds. What is the average queuing delay of a packet?

Response:

a.)

queing delay for 1st packet=0

queing delay for 2nd packet=L/R

queing delay for 3rd packet =2*L/R

for nth packet=(N-1)*L/R

average delay: (0+1+2 + ...(N-1))*(L/R)/N

=(N(N-1)/2*N) * L/R {sum of arithmatic progression}

=((N-1)/2)*L/R

b.)

Since N packets are arriving then the average queuing delay will be same as 1 packet delay as ((N-1)/2)*L/R

Words : 60

Max marks: **6**

EVALUATOR'S NAME	MARKS	EVALUATION COMMENTS	LAST MODIFIED ON
	6.0		04:29 PM Mar 24, 2022

Q. 3

Question 3

Time taken: 20m 5s

Marks Scored: 6/6

What are the five layers in the Internet protocol stack? What are the principal responsibilities of each of these layers? Be very brief.

Response:

Five layers of Internet Protocol stack

1. Application Layer
2. Transport Layer
3. Network Layer
4. Link Layer
5. Physical Layer

--> Application Layer

Application layer is responsible for communication between applications running at different ends. Communication can be via messages, request and respond , ecetra

Some protocols used at application layer are: HTTP, FTP, DNS

--> Transport Layer

Transport Layer collects data from application layer and transfer it to the network layer. It collects data from one end and transfers it to another end point. End points are socket with unique identifier called port numbers.

Protocols used at transport layer: TCP and UDP

-->Network Layer

Network Layer is responsible for transfering data from one system to another in the network. The protocol used for transferring is Internet Protocol

This protocol uses IP adresses for identifying the system.System are identified by IPv4 and IPv6.

--> Link Layer

Several devices are present while transferring the data from one system to another system, these devices are routers, switches, bridge ecetra. Link layer is responsible for communication between these devices.Network Inteerface card(NIC) is used for communication.

--> Physical Layer

The physical layer is responsible for breakinfg the frame into bits for transmitting over the physical line.Physical medium such as Cables are used for transmitting the data.

Words : 208

Max marks: **6**

EVALUATOR'S NAME	MARKS	EVALUATION COMMENTS	LAST MODIFIED ON
	6.0		04:29 PM Mar 24, 2022

Q. 4

Question 4

Not Attempted

Assuming that the root and TLD servers are always *iterative* and other lower level servers are *recursive*, write down the queries and responses for resolving *iter.ipr.res.in* from *lab1.daiict.ac.in*.

Response:

Words : 0

Q. 5

Question 5

Time taken: 14m 36s

Marks Scored: 2/6

Briefly describe the stop and wait protocol. In particular, explain how the *packet loss* and *acknowledgement loss* is handled by the protocol. Derive the *efficiency* of stop & wait when the round trip time is RTT, transmission time is Tt, and the propagation time is Tp.

Response:

Stop: When the sender stop sending the chunks in the network comes under the stop protocol.
Wait: The time required by the reciever to join in the network/to request a information from the server is called wait.

When the data is transferring in the network the sender waits for the acknowledgement given by the user before sending another data. If the data packet is loss then the user will send the request for the data packet.

Words : 76

Max marks: **6**

EVALUATOR'S NAME	MARKS	EVALUATION COMMENTS	LAST MODIFIED ON
	2.0	packet loss, ack loss, efficiency formula missing	11:04 PM Mar 25, 2022