National University of Computer and Emerging Sciences, Lahore Campus

Course:	Computer Networks	Course Code:	CS307
Program:	BS(Computer Science)	Semester:	Fall 2019
Duration:	20 Minutes	Total Marks:	15
Date:	4 December, 2019	Quiz:	
Section:	E	Page(s):	1

MAX

15 Assume these.

Name Kanwar Taimoor Roll No. L16-4050

7 4 3 2 1

1) At which layer of the network layer stack do each of the following protocols operate? (Give BOTH layer name and number) [10] 10

Protocol	Layer
HTTP	7 (application)
DHCP	7 (application)
Ethernet	2 (~~ethernet~~)(data link)
DNS	7 (application)
IP	3 (network)
ICMP	3 (network)
UDP	4 (transport
IPv6	3 (network)
ARP	2 (data Link)
FTP	7 (application)

2) What is Encapsulation? Describe the process of encapsulation when a packet moves from Transport layer to Network Layer on a sending host. [5]

S/ Encapsulation is covering the data msg into headers at each respective layer.

Transport layer ⇒ a msg is covered with layer 4 header and thus becomes a packet.

↓ Packet

network layer ⇒ network layer receives a packet and add layer 3 header and thus becomes a ~~data gram~~ frame

↓ frame

data Link layer ⇒ data Link layer recives frame and add layer 2 header thus becomes a data gram.

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Name Aiza Zaheer Roll No. 16L-4363

1) At which layer of the network layer stack do each of the following protocols operate? (Give BOTH layer name and number) [10] 4

Protocol	Layer
HTTP	Application 5 ✓
DHCP	Network 3 ✓
Ethernet	Physical 1 ✓
DNS	~~Transpo~~ Network 3 ✓
IP	Network 3 ✓
ICMP	Transport 4 ✓
UDP	4 ~~Network~~ Transport ✓
IPv6	3 Network ✓
ARP	Physical 1 ✓
FTP	Transport 4 ✓

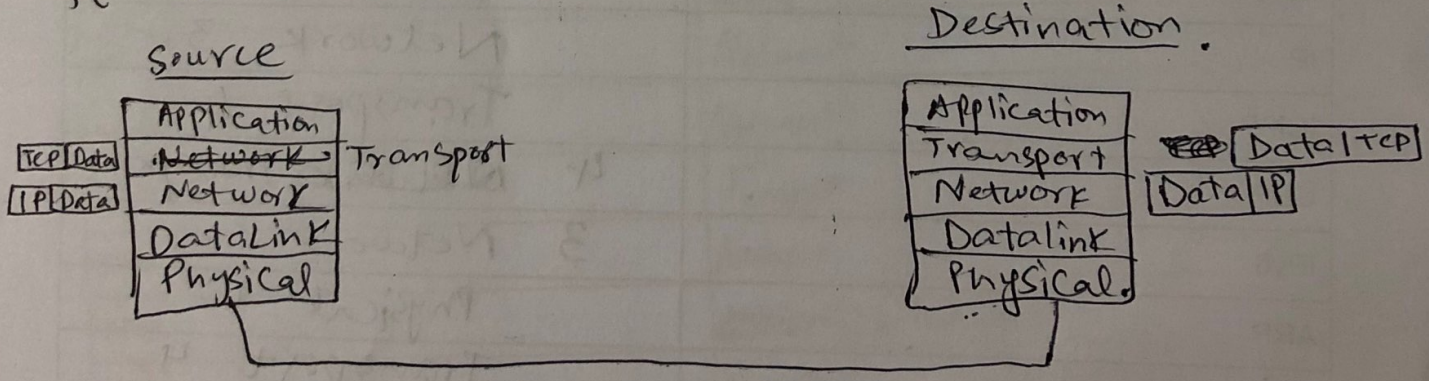
5 Application
4 Transport
3 Network
2 DataLink
1 Physical

5|

2) What is Encapsulation? Describe the process of encapsulation when a packet moves from Transport layer to Network Layer on a sending host. [5]

Encapsulation means to add necessary headers on the packet, so that it reaches the destination address correctly.

When a packet moves from Transport layer to Network Layer, the TCP/UDP headers are added to the packet and it goes to the network layer. At network layer, IP header is added to data packet. Then it goes to further layer and finally at the destination. When that packet reaches destination, it is decapsulated.



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Name Muhammad Hasan Ali Roll No. 16L-9240

1) At which layer of the network layer stack do each of the following protocols operate? (Give BOTH layer name and number) **[10]**

Protocol	Layer
HTTP	~~Transport~~ ~~Network~~ 80
DHCP	Network
Ethernet	Physical
DNS	~~Transport~~ Data Link Layer
IP	Network
ICMP	Network
UDP	Transport 90
IPv6	Network
ARP	~~Network~~ Data link layer
FTP	Transport 20, 21

2) What is Encapsulation? Describe the process of encapsulation when a packet moves from Transport layer to Network Layer on a sending host. [5]

Encapsulation is adding more data to the packet passed by Transport layer to Network layer. In the network layer when sending the packet some data is added the data is ~~sender~~ IP, reciever IP, sender port, reciever port, Checksum and some other data. ~~Then the other side first~~