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:**	**5**
Section:	**E**	**Page(s):**	**1**

Name_____ Roll No._____

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	Application Layer (5/7)
DHCP	Application Layer (5/7)
Ethernet	Data link layer (2)
DNS	Application Layer (5/7)
IP	Network Layer (3)
ICMP	Network Layer (3)
UDP	Transport layer (4)
IPv6	Network Layer (3)
ARP	Data link layer (2)
FTP	Application Layer (5/7)

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

The term encapsulation refers to a process in which protocol information is added to the data when it passes through the layers.
Transport layer breaks the received data stream from upper layers into smaller pieces. Next, it creates a header for each data piece. This header contains all necessary

information about the piece that the transport layer in remote host needs to reassemble the data stream back from the pieces. Once header is attached, data piece is referred as segment. Once segments are created, they are handed down to the network layer for further processing. Network layer creates a header for each received segment from transport layer.