National University of Computer and Emerging Sciences, Lahore Campus

	Course Name:	**Computer Networks**	Course Code:	CS 3001
	Program:	**BS (Software Engineering)**	Semester:	Spring 2024
	Duration:	**15 minutes**	Total Marks:	15
	Paper Date:	**19-March-2024**	Section	BSE-6A
	Exam Type:	**Quiz 3 - Chapter 3**	Page(s):	2

Student Name   **Roll No.**   **Section:**

Q1. <u>Encircle the correct option:</u>   [5 marks] [CLO 3]

1. Which of the following is false with respect to TCP?
   a) Connection-oriented
   b) Process-to-process
   c) Transport layer protocol
   d) Unreliable

2. What is the header size of a UDP packet?
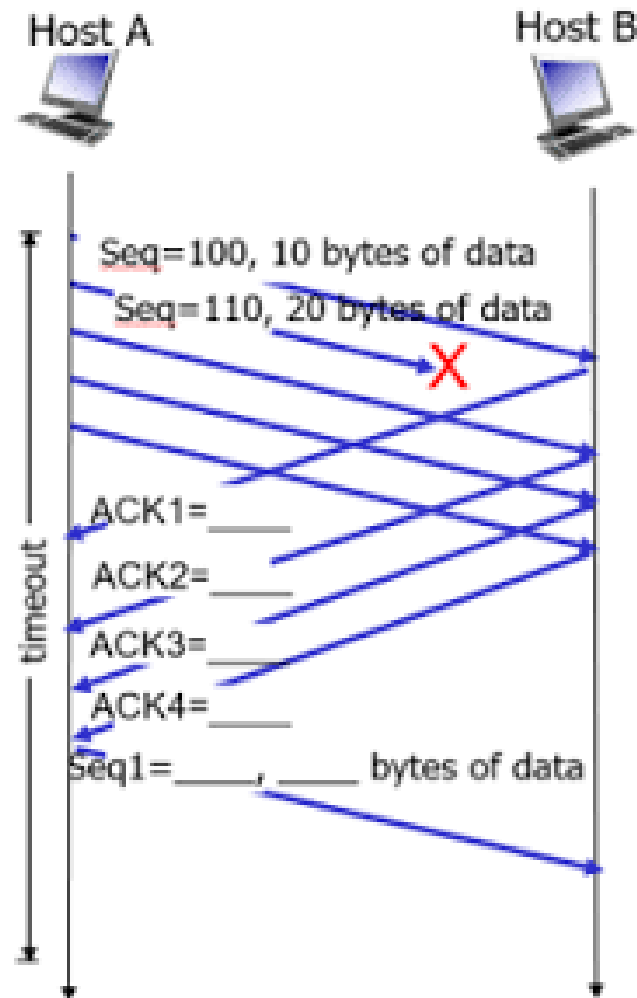   a) 8 bytes
   b) 8 bits
   c) 16 bytes
   d) 20 bytes

3. Which TCP mechanism is responsible for preventing a fast sender from overwhelming a slow receiver?

   a) Congestion Control
   b) Slow start
   c) Congestion avoidance
   d) Flow control

True/False:

   i. Selective Repeat uses cumulative acks [T / F]

   ii. UDP is frequently utilized in situations where minimizing delay is crucial, and a certain level of data loss is acceptable. [T / F]

Question 2

Look at the network communication scenario using TCP fast as shown in the following figure. The first packet Seq=100 arrives at the B successfully, but the second packet Seq = 110 with length 20 bytes was lost. **[8 + 2 = 10 Marks] [CLO 3]**

Host A   Host B

Seq=100, 10 bytes of data
Seq=110, 20 bytes of data   X

timeout

ACK1=_____
ACK2=_____
ACK3=_____
ACK4=_____
Seq1=_____, _____ bytes of data

a) What are the values of ACK1, ACK2, ACK3, ACK4 and SEQ1 respectively? Fill in the blacks in the diagram.

b) How many bytes are transmitted in the final segment shown in diagram. Name the event that caused the transmission.