	Course Name:	Computer Networks	Course Code:	CS 3001
	Program:	BS (Software Engineering)	Semester:	Spring 2025
	Duration:	15 minutes	Total Marks:	15
	Paper Date:	06-May-2025	Section	6C
	Exam Type:	Quiz 6 - Chapter 6	Page(s):	2

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Q1. Encircle the correct option: [5 marks] [CLO 3]

1. Which of the following is the multiple access protocol for wired network channel?
   a) CSMA/CD
   b) CSMA/CA
   c) Both
   d) All

2. The data link layer takes the packet from_____and encapsulates them into frame for transmission.
   a) Segment
   b) Frames
   c) Datagram
   d) Message

3. It is possible to detect and correct multiple bit errors on link layer using:
   a) CRC
   b) Ethernet
   c) 2 - D parity scheme
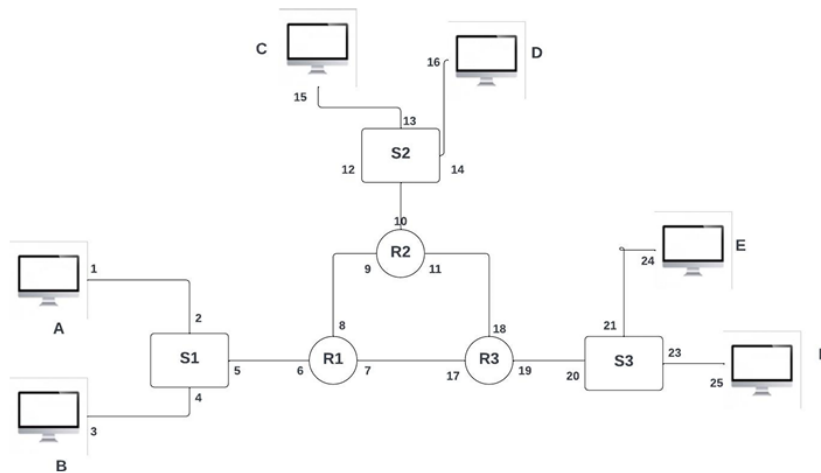   d) None of the above

True/False:

1. Network Layer lies below the data link layer. [T / F]

2. Minimum payload length in frame header is 56 bytes. [T / F]

Question 2: [Marks 10] [CLO 3]

Consider the network scenario given in Figure comprising six end-systems/hosts: A, B, C, D, E and F with MAC addresses: MAC-A, MAC-B, MAC-C, MAC-D, MAC-E, MAC-F and IP addresses: IP-A, IP-B, IP-C, IP-D, IP-E, IP-F respectively. DHCP is enabled for the given network topology. S1, S2 and S3 denote the switches while routers are represented by R1, R2 and R3. Connecting lines depict the network connections (wired) between all the network nodes with individual digits on each end representing the interface number of the connected node.

Furthermore, for IP and MAC addresses of the interfaces, IP-(Interface number) and MAC- (Interface number)format is in use. For example, IP-6 and MAC-6 refers to the IP and MAC addresses of Router1's interface 6.

Part (a): Consider the following ARP table for interface 10 of the router R2 and complete the table with the help of entries given. For each entry, please give a brief reason for your choice. **[4 Marks]**

IP Address	Mac Address	Short Reason
IP-15		
	MAC-D	

Part(b): Consider the following ARP table for interface 19 of the router R3 and specify in the entries given are correct or not. For each entry, please give a brief reason for your choice. **[6 Marks]**

IP Address	Mac Address	Correct Entry?(yes or no)	Short Reason
IP-A	MAC-A		
IP-20	MAC-20		
IP-E	MAC-24		