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Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Final Examination, Spring 2023

Course Code: CSE 313, Course Title: Computer Networks

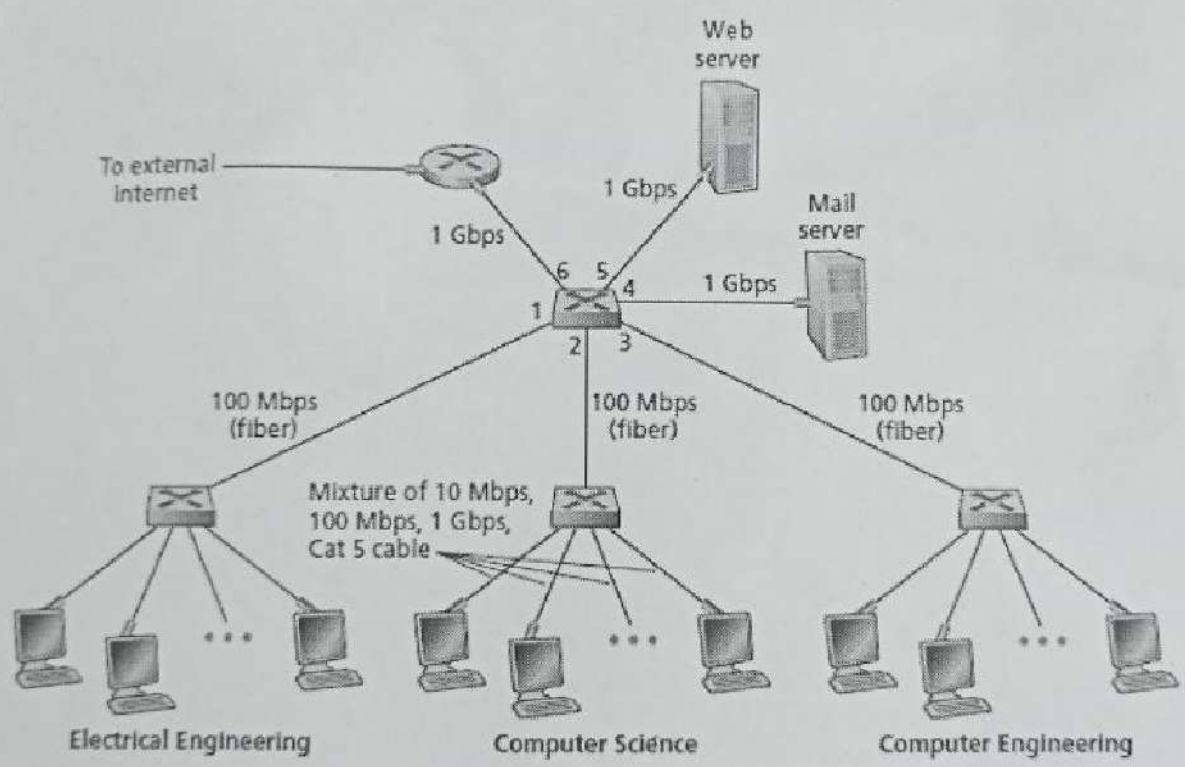
Level: 3 Term: 1 Batch: 58 and 59

Time: 2 Hrs **Marks: 40**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	Consider the below diagram and answer the following (a + b) questions:		CO2

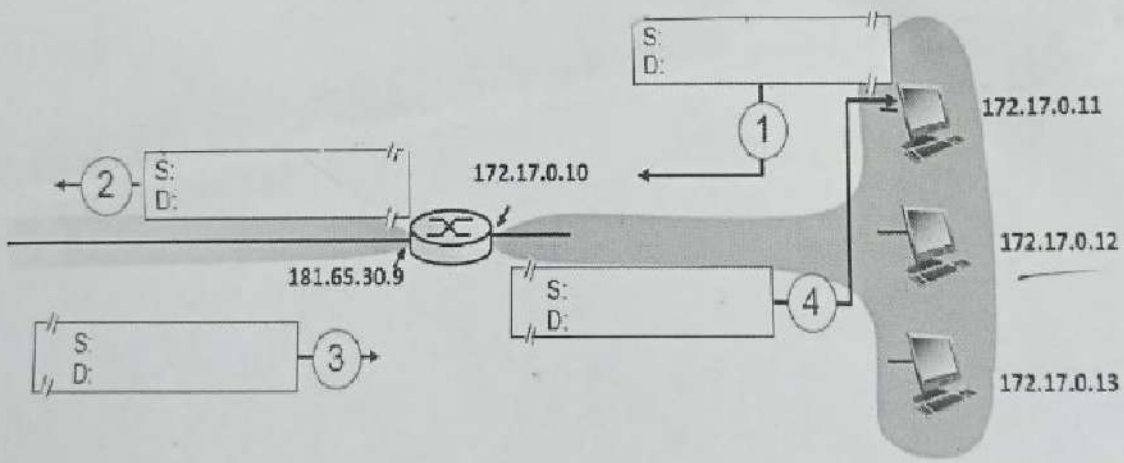


5

a)	Suppose you are a network administrator of Computer Science department. If you are instructed to configure your department's network in such a manner that no broadcasted packets will go to the other departments, then how you will configure that? Do you need any additional networking devices for this configuration? You are advised to minimize your configuration cost also. Explain your answer in details with proper justification. Also mention the other advantages that your networking plan will give.	7	

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	b)	The switch that is connected to the router is called the main interconnecting switch. We know that switch doesn't need any kind of configuration from the network administrator. Then how this switch will know that Computer Science department is connected through the interface no 2 of that switch? Explain the Self Learning process with suitable switch table.	5	
	c)	Between the Pipelined Protocols GBN and SR, which one is more efficient? Compare them in details with appropriate diagram.	6	
2.	a)	Suppose an organization has four departments to manage. These are sales and purchase department with 128 computers, development department with 60 computers, accounts department with 16 computers and management department with 4 computers. If the network administrator has IP 172.160.0.0, identify the Network Address, Broadcast Address, Usable IP range and subnet mask for each department.	7	CO3
	b)	Consider the following scenario. If the host with IP address **172.17.0.12** wants to send a packet to the IP address **138.56.27.7**, solve the network address translation process with translation table according to the diagram. 	5	
3.	a)	Suppose you want to connect with the Wi-Fi network of your nearest area. In how many different ways your mobile can scan the wireless medium? Compare the scanning processes with suitable diagrams.	5	CO4
	b)	In Wireless LAN technology, every node can transmit simultaneously. So there is a huge chance of collisions of the packets. Explain the RTS-CTS exchange technique for avoiding the collisions of the packets with proper diagram.	5	

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