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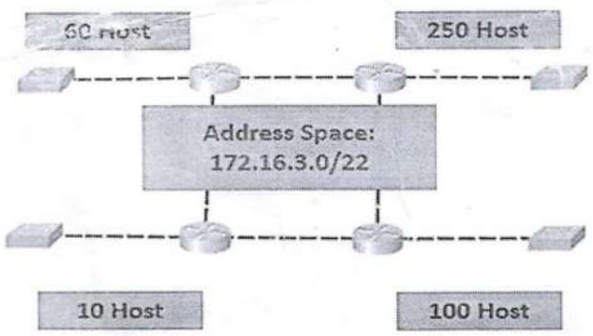
Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science & Engineering
Final Semester Examination, Fall 2024
Course Code: 313, Course Title: Computer Networks
Level: 3 Term: 1 Batch: 62, 63

Time: 2:00 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.	*a)*	Design the subnets with the Network Address, Subnet Mask, and usable IP Range for each department with the given IP and requirements. 	5	CO2
	b)	Find the aggregated address for the following IP addresses. You have to show the step by step process. 192.168.0.0/26, 192.168.0.64/26, 192.168.0.128/26, and 192.168.0.192/26.	5	
2.	*a)*	Analyze the IP usage status and explain transition of IPv4 to IPv6 according to that.	5	CO2
	b)	Differentiate the static NAT and basic Dynamic NAT with appropriate figure	5	
3.	*a)*	Explain 2G network architecture with proper explanation	5	CO4
	b)	Explain the steps to generate key used for encryption and decryption using RSA algorithm	5	
4.	*a)*	Discuss the role of network-assisted congestion control in mitigating congestion in large-scale communication networks	5	CO2
	b)	How VLAN solves the security problem of layer-2 switch	5	