Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science & Engineering
Final Semester Examination, Spring 2025
Course Code: CSE321, Course Title: Computer Networks
Level: 3 Term: 1 Batch: 64

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)*	State the technology that is used for transition from IPv4 to IPV6. How would you configure a device to use both IPv4 and IPv6 addresses simultaneously during the transition period?	5	CO2
	b)	You are given a Class A IP address: 10.0.0.0/8. A router receives a data packet with the destination IP address of 10.1.2.3. i) Explain the process the router follows to forward this packet to its destination. ii) What role does the subnet mask (in this case, /8) play in the forwarding decision? iii) If the router does not have a direct route to the destination, what would happen to the packet, and what additional process would be involved?	5	
2.	*a)*	Compare and contrast the roles of the LLC and MAC sub layers in ensuring the reliable transmission of data over a shared medium. How do these two sub layers work together to ensure smooth data transfer?	5	CO2
	b)	How VLAN does solves the drawbacks of Link layer Switch.	5	
3.	*a)*	What is the primary goal of confidentiality in information security, and how do encryption algorithms like AES and RSA help achieve this goal.	5	CO4
	b)	What are the potential disadvantages of Asymmetric Cryptography, especially in comparison to Symmetric-Key Cryptography? How do these disadvantages impact performance and scalability?	5	
4.	*a)*	Differentiate between Ad-Hoc and Infrastructure communication mode of Wireless communication system.	5	CO4
	b)	Using the structure of UMTS, draw a simplified diagram showing the main components and their interconnections. Label each component clearly.	5	