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Daffodil International University
Faculty of Science & Information Technology
Department of Computer Science and Engineering
Class Test 2, Summer, 2025
Course Code: CSE321, Course Title: Computer Networks

Time: 40 Minutes **Marks: 15**

1. A network administrator simplifies an IPv6 address 2001:0db8:0000:0000:0000:8a2e:0370:7334. What would be the simplified version and explain the simplification rule applied? **2**

2. An organization has devices using IPv6 that need to communicate with each other, but they are separated by an IPv4-only network. Explain which transition strategy would work best and why. **2**

3. Port Address Translation (PAT) allows only one device at a time to access the internet using a single public IP. True or False? **1**

4. Explain how PAT works to address the limited public IP address issue **3**

5. A computer with IP address 192.168.1.15 and MAC address 00:1A:2B:3C:4D:5E needs to send a packet to another computer with IP address 192.168.1.20 and MAC address 00:6F:7A:8B:9C:AD. Both computers are on the same Ethernet network. Show the ARP request and reply packets encapsulated in Ethernet frames. **3**

6. Explain two fundamental processes that switches use to manage network traffic. **4**