



Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Quiz_1, Spring – 2025

Course Code: CSE225, Course Title: Data Communication

Level: 2 Term:2 Batch: 65 & Section C

Time: 40 Minutes

Marks: 15

Answer ALL Questions

[All portions of each question must be answered sequentially]

- a. Suppose, you are a network engineer work for *Daffodil Computers Limited (DCL)* and your responsibility to design network infrastructure for the company. The **DCL** has three branches in different cities, each with having 25 employees. The company wants to ensure the network is reliable, secure, scalable, and fault tolerant with near about 99% uptime. Which network topology would you choose for the company? Besides, analyze the possible benefits and limitation of your topology and use the appropriate diagram if necessary. **5 Marks**
- b. A customer service representative is using a chat application to communicate with a client who has a problem with their product. The chat application allows the customer service representative to send text messages, images, video and audio clips to the client, and vice versa. **Examine the transmission mode** (simplex, half-duplex or full-duplex) that is appropriate for this scenario. **3 Marks**
- c. What are **addresses** used in OSI model? Compare and contrast among these addresses. **3 Marks**
- d. What is the difference between *De factor* & *De jure*? **2 Marks**
- e. Relate the following to **one or more layers** of the OSI model **2 Marks**
 - i) Acknowledging received data
 - ii) Encryption of usernames and passwords
 - iii) Define ways to access the different types of media
 - iv) Decides how signals represent 0s and 1s