

## **Daffodil International University**

Department of Computer Science & Engineering Fall 2024

Quiz 2

Course Title: Data Structure Course Code: CSE123

Time: 40 minutes Marks: 15

## Answer all the questions:

1) You are given the following infix expression:

$$A + B * (C ^D - E) ^F + G / H) - I$$

- (a) Convert this infix expression to postfix notation using the stack-based algorithm. Show each step of the stack and the output as the algorithm proceeds.
- (b) After converting the infix expression to postfix, evaluate the resulting postfix expression using a stack, assuming the following values for the operands:

$$A = 5, B = 2, C = 3, D = 2, E = 6, F = 1, G = 8, H = 4, I = 7$$
[6+4]

2) Following is a linked list having four nodes. Each node has a data part containing a character type data and two pointers pointing to its two neighbor nodes. Show the code segments line-by-line to implement this linked list in C language.

