Bangabandhu Sheikh Mujibur Rahman Digital University, Bangladesh
Dept of IoT and Robotics Engineering (IRE)
Semester: July, 2023
Course Code: CSE 114
Course Title: Data Structures and Algorithm Lab

Lab Test

Full marks: 30   Time: 01 hour

1. Write a program that takes an input array representing a binary search tree and performs the   15
   following tasks:

   i.   Construct a binary search tree from the given input array.

   ii.   Print the elements of the binary search tree in inorder, preorder, and postorder
           traversals.

   Implement the necessary functions for constructing the Binary search tree (BST) and perform
   the three different traversals.

2. Write a program that performs the following –   15

   i.   Create a data structure to represent the social network as a graph. You can use an
           adjacency list or adjacency matrix, where each person is a node and friendships are
           edges.

   ii.   Implement a Breadth-first search to find the shortest path between two individuals.
           The shortest path represents the minimum number of connections needed to reach
           one person from another.

   iii.   Find the shortest path between two given individuals.