Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Semester Final Examination, Fall 2020 @ DIU Blended Learning
Course Code: CSE112, Course Title: Computer Fundamentals
Section: O-2
Teacher: FS   Modality: Open Book Exam
Date: Saturday, 19 December 2020   Time: 09:00 am - 01:00 pm
Four Hours (4:00) to support online open/case study based assessment, Full Marks: 40

Directions:
- **Students need to go through the CASE STUDY shown in this exam paper.**
- **Analyze and answer specific section based on your own thinking and work.**
- **Do not share as this will be treated as plagiarism by Blended Learning Center.**

1. (a) What is meant by algorithm? Identify the important characteristics of an algorithm. — 5

   (b) In a class, teacher divide the students in some groups where there are four students in each group. They have different weights in the group. Now prepare an algorithm for finding the smallest weights of a group of students. — 5

2. (a) State the rules for drawing flowcharts in problem solving. — 5

   (b) Sketch a flowchart using **ladder if** selection for finding the operational output of a simple calculator where operations are +, -, * and /. — 5

3. (a) State the **if** selection, **if..else** selection and **switch..case** selection in C with purpose, flow diagram and program code. — 5

   (b) After the final examination, students obtained several marks out of 100 in each course. There are four grades depending on the obtained marks. For marks greater than 75% grade is A, between 60% to 74% grade is B, between 50% to 59% grade is C, between 40% to 49% grade is D and otherwise "Fail". Prepare a C program for finding the above grades of the students using **switch .. case** control statement. — 5

4. (a) Explain how goto statement works. Give an example. 5

   (b) Prepare a complete C program to find the smallest number among three 5
       given numbers from a user.