



Daffodil International University
Department of Computer Science and Engineering

Faculty of Science & Information Technology

Midterm Exam Examination, Fall 2020 @ DIU Blended Learning Center

Course Code: CSE112 (Day), Course Title: Computer Fundamentals

Section: O-2

Instructor: FS Modality: Open Book Exam

Date: Thursday, 5 November, 2020 Time: 09:00am-01:00pm

Four hours (4:00) to support online open/case study based assessment

Marks: 25

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) Identify the characteristics of Computer those are completely unique compared to human beings. [2]
- b) Mention the components that create the basic structure of a computer. Draw the diagram to validate your answer. [1.5+1.5]
- c) Write an algorithm and flowchart to calculate the tax of an employee of ABC company. If the yearly income of an employee is less than Three Hundred Thousand taka then the program will show “No Tax”, otherwise calculate tax as 5% of the yearly income. [2.5+2.5]
- d) Express the following number in Floating Point Arithmetic: [2.5]
.000000110111
- 2 a) Convert the following numbers: [1.5 × 3]
i. $(165.34)_8 = (?)_2$
ii. $(AD8)_{16} = (?)_2$
iii. $(5334)_6 = (?)_4$
- b) Do the following binary operations: [3]
i. 110101×110
ii. $101011 \div 100$

- c) Subtract 68 from 97 in (R-1)'s/1's complement method. [2]
- d) The range of floating point is larger than the fixed point arithmetic - explain. [2]
- e) What is the important feature of 5th generation computer? [1]