

Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Computer Science and Technology
100 level 1st Semester Examination – Jul./Aug. 2016
CST102-2 Introduction to Computer Science and Technology



Instructions to candidates

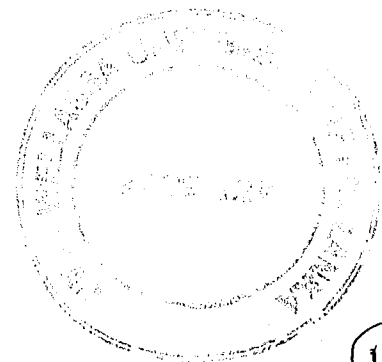
Duration: Two (02) hours

Number of questions: Four (04)

Answer all the questions

Mark allocation: 100

- 1.
- a. Write a short note about Operating Systems with an example. (8 mark)
 - b. Compare high and low level computer programming languages. (8 mark)
 - c. Describe the uses of the following.
 - i. Bootstrap program
 - ii. Application software (6 mark)
- 2.
- a. Describe two(02) usges of hexa decimal number system in computer science. (2 mark)
 - b. Convert the following.
 - i. 1989_{10} to binary
 - ii. 589_{10} to octal
 - iii. 348_{10} to hexadecimal
 - iv. 1111101010_2 to decimal
 - v. 101110101_2 to octal
 - vi. 1111001010_2 to hexadecimal
 - vii. FCF_{16} to binary
 - viii. DCF_{16} to octal
 - ix. AAD_{16} to decimal
 - x. 456_8 to octal
 - xi. 777_8 to hexadecimal
 - xii. 654_8 to decimal (12 mark)



c. While giving all the necessary steps perform the following arithmetic operations using 2's complement.

i. $56 + (-100)$

ii. $(-65) + (-25)$

(6 mark)

3.

a. Explain three(03) computer programming language translators.

(9 mark)

b. Write short note on ASCII, BCD, EBCDIC and Unicode.

(8 mark)

c. Define De Morgan's Law and prove it using a truth table.

(7 mark)

4.

a. Elaborate pseudo code with an example.

(6 mark)

b. Draw a flowchart for Snakes and Ladders Game between two players.

(10 mark)

c. Explain the use of algorithms in computer programming.

(8 mark)

d. Mention an emerging technology in computer science and explain it briefly.

(10 mark)