MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2015/2016

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

WITH INFORMATION TECHNOLOGY

HOMABAY CAMPUS

UCI 101: FOUNDATION OF INFORMATION TECHNOLOGY

Date: 22nd April, 2016   Time: 800 - 10.00am

INSTRUCTIONS:

- **Answer ALL Questions in Section A and any other TWO Questions in Section B.**

SECTION A : COMPULSORY QUESTION (30 MARKS)
QUESTION 1

(a) Define the term Information Technology. State and briefly explain the four phases this field has undergone. (5marks)

(b) Carry out the following calculations:
  (i) Convert $(129)_{10}$ to base 2 equivalent (2 marks)
  (ii) What is the equivalent of $(111001011.1)_2$ to base 10 (3 marks)
  (iii) Write the product of 30 and 12 as a binary number. (3 marks)

(c) Explain the various methods of collecting data. (5 marks)

(d) Explain the meaning of following terms as used in the memory devices of a computer system.
  (i) Non-Volatility-
  (ii) SRAM-
  (iii) DRAM- (6marks)

(d) Identify and briefly explain the functions of ANY three utility programs. (3marks)

(f) Describe the first electronic computer. (3 marks)

SECTION B : ATTEMPT ANY TWO QUESTIONS (20 MARKS EACH)

QUESTION 2

(a) The first electronic digital computers were developed between 1940 and 1945. Thereafter computers started being studied in groups called generations. Expl the characteristics the following generations of computers.

    (i)   Second Generation   **(5 marks)**

    (ii)   Fifth Generation   **(5 marks)**

(b) Discuss how computers are classified based on the data manipulated. **(10marks**

QUESTION 3

(a) Briefly discuss the THREE main TYPES of User Interfaces of an operating syster
                (10marks)

(b) Write short notes about the following personalities.
    (i)   Charles Babbage

    (iii)   Claud Shannon   **(10marks)**

QUESTION 4

(a) State and explain any FIVE disadvantages of a computer system
                (10marks)

(b) Discuss the characteristics secondary memory of a computer system
(10marks)

QUESTION 5

(a) What is a programming language? Discuss any THREE characteristics of _
    (i)   Machine languages
    (ii)   Fourth Generation Languages (4GLs).   **(10marks)**

(b) Your local school's principal wants to buy a computer package for electronic Word Processing. Explain to him how the school is bound to benefit by using the package .
                (10marks)