KISII UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY SECOND SEMESTER 2022/2023 [JANUARY-APRIL, 2023]

BSLT 124: COMPUTER FOR SCIENCE TECHNOLOGISTS I

STREAM: Y1S2   **TIME: 2 HOURS**

DAY: TUESDAY, 3:00 – 5:00 PM   **DATE: 04/04/2023**

INSTRUCTIONS

1. **Do not write anything on this question paper.**
2. *Answer question ONE and any other TWO questions.*

QUESTION ONE

a. Differentiate the following terminologies

    i.   Half duplex and Simplex   [2 marks]
    ii.   Hard Disk and Hard Drive   [2 marks]
b. Discuss the language translators in computing   [3 Marks]
c. List and explain the categories of operating systems   [4 Marks]
d. Discuss the advantages of low level programming languages in comparison with high level programming languages   [4 Marks]
e. Distinguish between a Wide Area Networks (WAN) and Local Area Network (LAN)   [5 Marks]
f. Discuss the core functions of the operating system   [10 marks]

QUESTION TWO

a. As a computer specialist, your role is to advise the public on suitable and relevant computer resources, list and explain the hardware characteristics considered in selecting a suitable computer.   [5 Marks]
b. List and explain the roles of a computer network in organizations   [5 Marks]
c. With clear illustration, discuss the types of topology in networking   [10 Marks]

QUESTION THREE

a. Outline two main printing technologies and give examples in each case. [4 Marks]

b. The Central Processing Unit (CPU) is considered as the heart of the computer system. Discuss its components [6 Marks]

c.

d. Explain the functions of the following keys on the keyboard [5 marks]

    i.   PRT SC
    ii.   NUM LK
    iii.   INSERT
    iv.   BACKSPACE
    v.   FN

e. Using a diagram, illustrate the structure of a computer system [5 marks]

QUESTION FOUR

a. Convert the value 0.375 decimal number to binary [3 Marks]

b. Discuss the classification of computers according to size [5 Marks]

a. List and explain the major categories of computer storage devices. [6 marks]

b. The following table is a Payroll. The Allowances are 23% of the Basic Pay while the Deductions are 12% of the Gross Salary.

	A	B	C	D	E	F
1	Stationery Supplies Ltd					
2	Name	Basic Pay	Allowances	Gross Salary	Deductions	Net Salary
3	Lewis	12000				
4	Francis	20000				
5	Edwin	15000				
6						.
7	Totals					

    i.   Write down the formula to be inserted in cell C3 to tabulate the allowances for the employees. [1 Mark]

    ii.   Write the formula to calculate the gross pay for all the employees to be inserted in cell D3 [1 Mark]

    iii.   Give the cell reference for the total net salary [1 Mark]

    iv.   Write a function to tabulate individual and total deductions [2 Mark]

    v.   Indicate the formula to calculate the net salary for each employee to be inserted in F3 [1 mark]

QUESTION FIVE

a. Convert the values shown below:
   i. 0.375 decimal number to binary   [3 Marks]
   ii. 8613 octal to decimal   [3 Marks]

b. Differentiate between analog and digital computer giving relevant examples   [2 Marks]

c. List and explain the advantages and disadvantages of Laser Printers

                                                        [4 Marks]

d. List the shortcut keys to perform the following operations

                                                        [3 Marks]
   i. Align the line or selected text to the center of the screen
   ii. Undo Last Action
   iii. Increase selected font +1pts.

e. Explain the term boot as applied to computing   [5 Marks]