**COSC 103**

**CHUKA**                                                                                    **UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATIONS FOR THE AWARD OF DEGREE OF BACHELOR OF EDUCATION ARTS (PRIMARY OPTION)**

**COSC 103: INTRODUCTION TO COMPUTER APPLICATIONS**

**STREAMS:  BED (ARTS)  SB**                                               **TIME: 2 HOURS**

**DAY/DATE:   WEDNESDAY 31/03/2021**                          **8.30 A.M. – 10.30 A.M**

**INSTRUCTIONS: Answer question ONE and any other TWO questions**

**QUESTION ONE (30 MARKS)**

(a).   Discuss two differences between computer processor and computer software.
(2 marks)

(b).   Explain the difference between a file and a folder in a computer system.      (3 marks)

(c).   Explain the differences between the following terms:
   (i)      Bit and Byte                                                                        (2 marks)
   (ii)     Impact and non-impact printer                                          (2 marks)
   (iii)    LAN and the Internet                                                        (2 marks)

(d).   State the use of the following keyboard short cuts in windows operating system. (3 marks)

   (i)      CTRL + C
   (ii)     CTRL + S
   (iii)    CTRL + V

(e).   Explain three measures a computer user is required to take to ensure security of data stored in a computer system.                                                        (3 marks)

(f).   Explain the difference between spreadsheet software and word processing software.
(3 marks)

(g).   Convert $235_{10}$ to its binary equivalent.                                          (3 marks)

(h).   Given the data in the excel sheet in the cells C3, D3, E3, F3 and G3. Write both the formula and function for computing the average.                         (3 marks)

(i).   Explain two functions of the operating system software in a computer system.   (4 marks)

**QUESTION TWO (20 MARKS)**

(a)  Safari land Ltd is in the process of computerizing the operations of its firm. Explain **three** general considerations that the management would prefer when purchasing computer software.                                                                                    (6 marks)

(b) Software can be classified into **two** major categories. State and explain these categories.
                                                                                                 (4 marks)

(c) Describe the following terms as used in computing:
   (i)   Computer hardware                                                    (2 marks)
   (ii)  Computer software                                                    (2 marks)
   (iii) Input  device                                                        (2 marks)

(d)     Explain the four types of computers in relation to their computing power.   (4 marks)


**QUESTION THREE (20 MARKS)**

(a) Explain the three major differences between main memory and hard disk in a computer system.                                                                               [6 marks]

(b) Perform the following number conversions.                                [6 marks]
       (i).   $100111.011_2$ to decimal equivalent
       (ii).  $533_{10}$ to its binary equivalent

(c)    Fred is the head of a local Network consulting company. His company has won a contract to design and develop a network for a middle level college in Chuka. Explain four benefits the college will gain by implementing the network.                             [8 marks]


**QUESTION FOUR (20 MARKS)**

(a).   State the difference between a decimal number and a binary number.        [2 marks]

(b).   Discuss four uses of computers in a learning institution that would encourage every student to have basic computing skills.                                          [4 marks]

(c).   Using a well labeled diagram, discuss the five major hardware units in a computer system. Show how they interact.                                                   [6 marks]

(d).   Discuss four security precautions that one should take in online shopping and in any other online activities.                                                          [8 marks]


**QUESTION FIVE (20 MARKS)**

(a).   Discuss five symptoms of a computer infected with a virus.               [5 marks]

(b).   Explain the importance of passwords in computing and possible ways of keeping your passwords safe.                                                                  [6 marks]

(c).  Given Microsoft Excel worksheet below, use it to answer the following questions.

|   | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | Name | Maths | Eng | Kisw | CRE | | | |
| 2 | James | 48 | 89 | 65 | 89 | | | |
| 3 | Mary | 54 | 76 | 68 | 80 | | | |
| 4 | Korir | 17 | 88 | 76 | 86 | | | |
| 5 | John | 99 | 60 | 65 | 58 | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |

Use the information above to answer the questions below.

(i). Write a formula and function that will calculate the average score for Mary.

[3 marks]

(ii). Write two functions in MS Excel that would compute the highest score and lowest score in Maths. [3 marks]

(iii). Write a function in MS Excel to compute the average score for Eng. [3 marks]

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