**Name…………..………………………………………….…….....………Index no…………………/…….**

**School……………………………………………………………Candidate’s signature …...……………**

**Date………………………………………………………………………Adm. No:……….……………….**

**451/1**

**COMPUTER STUDIES**

**PAPER 1**

**(THEORY)**

**TIME: 2½ HOURS**

**July, 2018**

**2018 KEDIJET**

***Kenya Certificate of Secondary Education (K.C.S.E)***

**451/1**

**COMPUTER STUDIES**

**PAPER 1**

**(THEORY)**

**TIME: 2½ HOURS**

**July, 2018**

**INSTRUCTIONS TO CANDIDATES**

* *This paper consists of* ***2*** *sections* ***A*** *and* ***B****.*
* *Answer all the questions in sections* ***A***
* *Answer question* ***16*** *and any other* ***three*** *questions from section* ***B***

**For Examiners Use Only**

|  |  |  |
| --- | --- | --- |
| **Section**  | **Question**  | **Score**  |
| **A**  | 1 - 15 |  |
| **B**  | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
| Total marks |  |

**SECTION A (40 MARKS)**

1. State two practices to be observed in order to ensure the safety of the computer user (2mks)

…………………………………………………………………………………………………………………………………………………………………………………………………………………..

1. State the function of the following keys on the computer key board (2mks)
	1. Insert…………………………………………………………………………………….

 …………………………………………………………………………………………….

* 1. Delete……………………………………………………………………………………

 ……………………………………………………………………………………………..

1. Name three responsibilities that are carried out by a network administration (3mks)

 ………………………………………………………………………………………………………

 ………………………………………………………………………………………………………

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1. List and describe three guidelines that should be followed when conducting an interview during information gathering (3mks)

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1. (a) Define portability as used in software selection (1mk)

 …………………………………………………………………………………………………………………………………………………………………………………………………………

 (b) List four ways of acquiring software in an organization (2mks)

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

(a) Subtract 1102 from 110102 (1mk)

 (b) Find the sum of binary number 101.1012 and 110.1002  (1mk)

 (c) Convert binary number 11010110.10012 into octal number. (1mk)

1. List three uses of DVDs (3mks)

 ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

1. State the function of each of the following

 (a) Network Interface Card (1mk)

 ……………………………………………………………………………………………………

 (b) Modem (1mk)

 ……………………………………………………………………………………………………

 (c) Repeaters (1mk)

 ……………………………………………………………………………………………………

1. How does an operating system manage computer memory (2mks)

 ………………………………………………………………………………………………………………………………………………………………………………………………………………….

1. List four factors to be considered when purchasing an operating system (2mks)

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Write a PSEUDO CODE to compute the area of a circle (2mks)
2. (a) List three ways by which you can provide a common link or relationship between the tables in a database software (3mks)

 ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

 (b) What is referential integrity (1mk)

 ……………………………………………………………………………………………………

1. List four types of publications that ca be designed using DTP software (2mks)

 ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

1. (a) List four stages in data collection (2mks)

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 (b) What is meant by the following (2mks)

1. Reference file

…………………………………………………………………………………………………………………………………………………………………………………………………………

1. Report

………………………………………………………………………………………………………………………………………………………………………………………………………..

1. Explain the following terms (2mks)
	1. Computer fraud

………………………………………………………………………………………………………………………………………………………………………………………………………..

* 1. Alteration

…………………………………………………………………………………………………………………………………………………………………………………………………………

**SECTION B (Answer question 16 and any other three questions from this section)**

1. Study the flowchart below and answer the questions that follow.

Enter :M,N

X=M;y=N

P=y-x; Q=x-y

P>Q?

P=X

Q=Y

P=Y

Q=X

PRINT:P,Q,x,y

 (b) Name the control structure shown in the flow chart (2mks)

 ……………………………………………………………………………………………………………………………………………………………………………………………………………………

* + 1. Assuming the user keys in 8 and 14 when prompted to enter values for M and N respectively, determine the printed values of P,Q,x and y (4mks)

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* + 1. Write a pseudo code that would be used in place of the flowchart.(9mks)

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1. (a) List three advantages and three disadvantages of fibre optic cable (6mks)

 Advantages

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 Disadvantages

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 (b) Describe the following signals and state where each is applied in network communication. (4mks)

 Analog………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

 Digital…………….…………………………………………………………………………………

 ……………………………………………………………………………………………….

 ……………………………………………………………………………………………….

* + 1. Name two types of coaxial cables (2mks)

…………………………………………………………………………………………………………………………………………………………………………………………………………………..

* + 1. (i) Distinguish between microwave and satellite transmissions (2mks)

 …………………………………………………………………………………………………………………………………………………………………………………………………………

 (ii) Give an example of internet protocol (1mk)

 ………………………………………………………………………………………………

 ………………………………………………………………………………………………

1. The information below is maintained by the sales lady at the school canteen. Study it and answer the questions that follow.

 A B C

 1 Item units (kg) value (ksh)

 2 oranges 12 2000

 3 mangoes 13 1000

 4 tomatoes 12 1400

 5 cabbages 15 2500

 (a) Describe the basic data types used in this spreadsheet (4mks)

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 (b) Provide a single formula that would be used to

1. Count the number of items whole units are equal; to 15 (2mks)
2. Sum the values of items whole units are equal to 12 (2mks)

 (c) (i) :List and describe four areas of application of spreadsheets (4mks)

 ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

 (ii) Explain data range legend and axis as used in spreadsheet charts (3mks)

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

19. A computer diskette in drive A has folders for MEMOS for an administrator. Each of these folders is labelled according to the relevant months. The secretary created the folders for each months memo for each of access. Study the table below

|  |  |  |
| --- | --- | --- |
| MEMO 1 | MEMO 2 | MEMO 3 |
| WarningLatenessAssembly | InaccuraciesAuditingFraud | Careless talkInefficientMeeting |

* 1. Assuming that the secondary was working from the diskette, draw the corresponding tree structure (6mks)
	2. (i) The secretary wanted to create a folder to store a memo in Fraud folder. State the path for that folder (2mks)

 ………………………………………………………………………………………………………………………………………………………………………………………………………………

 (ii) Suggest how the secretary can ensure that the work in that diskette is not spoilt (1mk)

 …………………………………………………………………………………………………

 (iii) The content of the file is not viewed by any other person apart from her.(1mk)

 …………………………………………………………………………………………………

(c) (i) List any two devices under the control of the operating system (2mks)

 ……………………………………………………………………………………………………………………………………………………………………………………………………………..

 (ii) Explain how each one of these devices are controlled by the OS

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

1. (a) List and describe four strategies for converting from an old system to a new system (4mks)

 ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 (b) (i) Distinguish between private data and confidential data (2mks)

 ………………………………………………………………………………………………………………………………………………………………………………………………………..

 (ii) What can be done to stop illegal access to a computer laboratory by unauthorized people (3mks)

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

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 (c) (i) List four areas that would be considered in the requirement specification (4mks)

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

 (ii) Name any two areas covered in a feasibility report during system analysis and design. (2mks)

 …………………………………………………………………………………………………………………………………………………………………………………………………………

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