**Name…………………………………...................……. Index Number……………………/……..**

**451/1**

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

**Date………………………………………..**

**Computer Studies**

**Paper 1**

**(THEORY)**

**June/July 2016**

2½ hours

**Kenya Certificate of Secondary Education**

**Computer Studies**

**Paper 1**

**(THEORY)**

2½ hours

**INSTRUCTIONS TO CANDIDATES**

*Write your name and index number in the spaces provided above.*

*Sign and write the name of examination in the spaces provided above.*

*This paper consists of* ***TWO*** *sections;* ***A*** *and* ***B.***

*Answer* ***ALL*** *the questions in section* ***A****.*

*Answer question* ***16*** *and any other* ***THREE*** *questions from section* ***B****.*

*All answers should be written in the spaces provided on the question paper.*

***For official Use Only***

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| --- | --- | --- |
| **Section** | **Question** | **Candidates Score** |
| **A** | 1-15 |  |
| **B** | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
| **TOTAL SCORE** |  |

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*This paper consists of 10 printed pages*

**SECTION A- *Answer all the questions in this section***

1. What is a computer drive? (1 Mark)

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1. Mr. Osanoa computer technician in one of the schools used speech method to store students oral answers to an exam into a computer
2. What is a speech input? (1 Mark)

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1. State one advantage and one disadvantage of using this kind of input. (2 Marks)

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1. In reference to ALU, explain the meaning of logic operations and give an example of this processing operation. (2Marks)

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1. a) Identify the four types of storage media shown below (2Marks)



 I ii iii iv

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b) Compare the storage device (i) and (iii) above (1Mark)

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1. a) Define the term firewall (1 Mark)……………………………………………………………………………………………………………………………………………………………………………………………………………………

b) State three ways of ensuring efficient backup of data (2Marks)

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1. a) Outline the three program control structures (1½Marks)

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1. Give three types of selection construct (1½Marks)

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1. Define the term encapsulation as applied in object oriented programming (2Marks)

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1. i) What is Hypertext Mark Up Language? (1Mark)

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ii) Why should a program be documented in each and every stage?(1Mark)

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1. A student was reading through a daily newspaper on different types of data communication media. As a computer student, how will you assist him define the term data communication media? (1Mark)

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1. i) Differentiate between share level security and user level security as used in network security.

 (2Marks)……………………………………………………………………………………………………………………………………………………………………………………………………………………

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ii) What are the differences between Token ring topology and Ethernet topology?

 (2Marks)

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1. i) Describe the term biometric analysis (1Mark)

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1. Give two uses of spreadsheets in a government office concerned with carrying out national census

(2Marks)

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1. i) A student at Sunshine secondary school was working with a computer using the windows operating system. After sometime he started experiencing the following problems.
* The computer failing to load the Operating system during the booting process
* The computer hangs now and then
* Abnormal restarting
* Display a blue screen with the message such as fatal exception error has occurred.

What could be the cause of the above problems? (2Marks)

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ii) A student was advised by the teacher to buy integrated software over separate software. What do you think could be the advantages of this? (2Marks)

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1. a) What is a deadlock? (1Mark)

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b) Explain the term plug and play (1Mark)……………………………………………………………………………………………………………………………………………………………………………………………………………………

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c)Differentiate between a program file and a data file (1Mark)……………………………………………………………………………………………………………………………………………………………………………………………………………………

1. i) State two factors you would consider when designing a file (1Mark)

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ii) List down three factors you need to consider during file conversion (3Marks)……………………………………………………………………………………………………………………………………………………………………………………………………………………

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1. State two limitations of language processing (2Marks) ……………………………………………………………………………………………………………………………………………………………………………………………………………………

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**SECTION B** (60 marks)

*Answer question* ***16*** *and any other* ***three*** *questions from this section in the spaces provided.*

16. (a) State the importance of the following in programming

1. Assembler (1mk)

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1. Compiler (1mk)

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1. A form four class sat for an exam in eight subjects. A student must get an average of 50% in all subjects in order to pass. A report is required that will show the name, marks obtained by each student per subject, the average mark and whether the student has passed or failed.

 (i) **Write** a pseudocode used to solve this problem. (6mks)

(ii) Draw a flow chart for this report. (7mks)

1. (a)(i)State any THREE standard coding schemes used in computing and electronic systems.

(1½marks)

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(ii) Convert 31210 using any TWO of the above mentioned coding schemes. (2 marks)

(iii) Using TWOs compliment, perform the following arithmetic leaving your answer inbinaryform

 (2marks)

1010 - 1310

(iii) Use one’s compliment to solve the following sum: -1810+1210 (2 ½ marks)

 (b) (i) Explain the difference between the terms **browser** and a **search engine** with an example of each (3marks)

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(ii) What is the use of the **favorites** feature of an Internet browser? (1 mark)

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 (iii) What do the following abbreviations stand for? (3 marks)

***i.URL***..…………………………………………………………………………………………………

**ii. ISP**..…………………………………………………………………………………………………

**iii. WWW**..……………………………………………………………………………………………

1. (a) Differentiate between the following as used in word processing (6marks)

(i) An **indent** and **a tab stop**

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(ii) **Margins** and **gutter**

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 (iii) **Footnotes** and **Endnotes**

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(b) A History teacher directed all students to present their work in double space format. Outline the procedure for double spacing a document. (3marks)

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 (c) Owili, a form Four student, formatted a document to four columns. Explain how this was achieved in word processing (3marks)

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(d) Ndwiga printed documents with paper layout as shown below.

B

A

1. Identify the layouts. (1mark)

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1. Explain when each layout should be applied (2marks)

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1. (a) Computer students visited KASSUJET TV station in the city and noticed that the News presenter in the studio was communicating in real time with other four reporters through a web cam and a microphone connected to a notebook PC nearby. The live images of the other reporters were projected on a white board mounted in the studio.

(i) Describe this type of communication. (2 marks)

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(ii) State any TWO advantages and ONE disadvantage of this type of communication. (2 marks)

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(b) Currently there is a shift in technology towards digital from analog. State any THREE advantages of digital technology over analog technology. (3 marks)

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(c) (i) Documentation is usually not considered as a programming stage. Why is this so? (2 marks)

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(ii) Differentiate between internal and external documentation. (2 marks)

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(ii) State THREE types of documentation that are available at the end of the programing project. (3 marks)

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1. Martina Lotino went to the supermarket and bought the items shown in the picture of the spreadsheet given below:
2. (i) What is the name of the **active sheet**? (1 mark)

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

 (ii) By looking at the above picture, give the **reference of an active cell**. (1 mark)

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

 (iii) What function did the examiner use to **copy** the above picture on this examination paper? (1 mark)

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

 (b) (i) A cell can contain a formula. **Name** the other TWO items which a cell can contain. (2 marks)

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

 (ii) Now, Julieta , a new employee, has just joined the company and does not know the difference between a formula and a function. You are required to explain this to her in the space provided below. Support your explanation with an example of each. (4 marks)

Formula:…………………………………………………………………………….…………………

Example:…………………………………………………………………………….…………………

Function:…………………………………………………………………………….…………………

Example: …………………………………………………………………………….…………………

 (c) (i) Write the **formulae** that must be typed in the following two cells: **D5, D7** (2 marks)

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(ii) Write the function that must be typed in cell **D9**: (2 marks)

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 (iii) The bill total in cell D9 amounts to Ksh.860 Martina has a Ksh.1000 note. Write the formula that calculates the change in **D12**. (2 marks)

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