

NAME.....ADM NO.....CLASS.....

School.....

Candidates Signature.....

Date.....

**451/1**

**COMPUTER STUDIES**

Paper 1

(THEORY)

July/August 2015

**TIME 2 ½ HOURS**

**LAINAKU PRE-MOCK - 2015**  
*Kenya Certificate of Secondary Education (K.C.S.E)*

**INSTRUCTIONS TO CANDIDATES**

- Write your name and Index Number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided.
- This paper consists of **TWO** sections ;A and B.
- Answer question 16 and any other **THREE** question from section B.
- All workings **MUST** be clearly shown where necessary.

| <b>Section</b> | <b>Question</b> | <b>Candidate's Score</b> |
|----------------|-----------------|--------------------------|
| A              | 1-15            |                          |
| B              | 16              |                          |
|                | 17              |                          |
|                | 18              |                          |
|                | 19              |                          |
|                | 20              |                          |

TOTAL SCORE

This paper consist of 11 printed pages  
Student should check the questions paper to ensure that all the pages are printed as indicated and  
no question are missing

1. Computers can be classified according to size, functionality and purpose.  
(a) Outline **two** examples of smaller microcomputers also known mobile devices(1 mark)

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- (b) What is the function of the following computers?  
i) Workstations (1 mark)

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- ii) Embedded computers (1 mark)

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- iii) Servers (1 mark)

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2. Why is it necessary to have a UPS in a computer laboratory? (2 marks)

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3. a) What do you understand by the term ‘computer crime’ (1 Mark)

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- b) Explain the difference between the following terms in reference to computer crime (3Marks)

- i) Cracking

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- ii) Tapping

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- iii) Hacking

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4. Data security is very important to any institution. Describe any **two** ways in which data can be lost and mention ways on how each can be prevented (2 Marks)

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5. Explain the following sensible safety precautions to take when building your own PC so as to avoid harming your health or computer component. How can one avoid:

(a) Electric Shock ( 1 mark)

.....

(b) Sharp Edges ( 1 mark)

.....

(c) Static charges (1 mark)

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6. a) What is a web search engine? (1Mark)

.....

b) Below is an email address of LainVas company, identify the parts labeled, i - iv (2Marks)

lainvas @gmail . co.ke  
↑            ↑            ↑    ↑  
i            ii            iii iv

.....

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.....

7. a) Explain the function of the following devices in networking: (3 Marks)

i) Bridge

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ii) Gateway

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iv) Repeater

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b)( i) What is the meaning of protocol in networking? (1 Mark)

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(ii) Give two examples of protocols (2 Marks)

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8. Explain how each of the following would affect the suitability of a room for use as a computer laboratory.

(a) Burglar proofed door (1 mark)

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(b) Availability of taps and sinks in the room (1 mark)

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9. Differentiate between single-user and multi-user operating systems giving an example of each. (2 marks)

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10. a) State **two** data representation codes used in computers (1 marks)

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.....

b) Arrange the following data units in ascending order of size (1 mks)  
BYTE, FILE, BIT, NIBBLE

.....

11. a) List **two** methods of gathering data during system developments process. (2 marks)

.....  
.....

b) State and explain **two** types of documentation in program development and give the purpose of each (2mark)

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12. (a) Explain the term nibbles as used in data representation in computers (½ mark)

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(b) Define the term structured programming (½ mark)

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13. (a) Define local area network. (1 mark)

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.....

(b) State any **four** components of a local area network (2 marks)

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14. As regards to communication within a computer network, what do you understand by the following terms:

i) Ethernet topology (1 mark)

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ii) Token ring topology (1 mark)

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15. Briefly explain **two** reasons why organizations need to network their computers.(2 marks)

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(b) List any two characteristics of Structured programming. (1Mark)

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(c) Describe three benefits of structured programming. (3 Marks)

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(d) List four selection control structures used in writing a program (3Marks)

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17 (a) Using six bits, find the two's complement of  $-23_{10}$ . (2 marks)

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(b) Perform the following binary arithmetic giving the answers in decimal notation

(i)  $1110.0111 + 1101001.011$  (1 ½ mark)

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(ii)  $1001011.011 - 111.111$  (1 ½ mark)

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(c) Explain **two** ways in which a computer can represent a positive and negative number (2 marks)

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(d) A particular computer stores numbers in a single 8 - bit word. How would it represent  
0.3125<sub>10</sub>? (2 marks)

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(e) Perform the decimal subtraction  $14_{10} - 6_{10}$  using:  
(i) Regular binary (2 marks)

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.....  
(ii) One's complement of  $6_{10} = 1001$  (2 marks)

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(f) Convert the Hexadecimal number ABCD to octal (2mks)

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18. (a) Briefly describe the following as used in networking. (4Marks)  
(i) Repeaters.

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.....  
(ii) Network hub

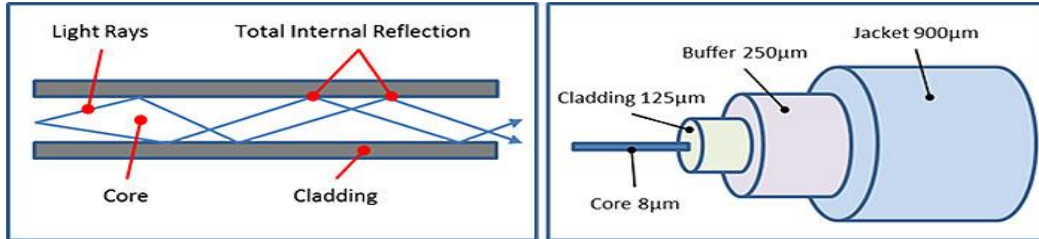
.....  
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(iii) Fibre optic cables

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.....  
(iv) Network Interface Card (NIC)

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.....  
(b) Communication media can be classified into guided media or Unguided media. List any  
**two** examples in each case (2 Marks)



(c) Using an illustration, explain how fibre optic cable transmits data. (4 Marks)



(d) (i) List any **two** hardware devices that make up a bus network. (2 Marks)

(ii) State **two** disadvantages of bus networks. (2 Marks)

(e) Define the term network topology. (1Mark)

19 a) Distinguish between the following types of database models. (6 Marks)

i) Network database:

ii) Relational database:

(b) Explain the following terms as used in system implementation (4 Marks)  
(i) parallel running

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ii) Direct change over

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(c) i) Define the term normalization as used in database design. (2Marks)

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ii) State three purpose of normalization. (3Marks)

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20 (a) State **three** advantages of using computer in education (3 marks)

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(b) Explain **two** ways in which ICT can enhance business (2 marks)

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(c) Briefly explain **two** ways on how information & communication technology (ICT) can be use to reduce the spread of HIV/ AIDS (2 marks)

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(c) Explain the following electronic data processing modes giving relevant examples Where they are used.

(i) Real time processing. (2mark)

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(ii) Distributed data processing. (2mark)

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(d) Explain how computers are used in

(i) Banking (2 marks)

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(ii) Law enforcement (2 marks)

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.....

NAME:.....INDEX NO:.....  
SCHOOL:.....CANDIDATE SIGN:.....  
DATE.....

451/2  
COMPUTER STUDIES  
PAPER 2  
(PRACTICAL)  
JULY/ AUGUST- 2014

TIME: 2 ½ HOURS

**LAINAKU JOINT EXAMINATION 2015**  
*Kenya Certificate of Secondary Education (K.C.S.E)*

COMPUTER STUDIES  
PAPER 2  
(PRACTICAL)  
MARCH/APRIL 2015

TIME: 2 ½ HOURS

Instructions to candidates.

- a) Indicate your name and index number at the top right hand corner of each printout.
- b) Write your name and index number on the CD provided.
- c) Write the name and version of the software used for each question attempted.
- d) Answer **all** questions.
- e) All questions carry equal marks.
- f) Passwords should not be used while saving.
- g) Make a print out of the answers on the answer sheet.
- h) Hand in all the print out and the CD.

*This paper consist of 4 printed pages.  
Candidate should check the question paper to ascertain all pages are printed as indicated  
And no questions are missing.*

1. a) Enter the data below into a worksheet and save the file as ‘Marathon Exam’ (10 mks)

| ADM. NO. | Name          | English | Maths | Biology | Chemistry | Physics | History |
|----------|---------------|---------|-------|---------|-----------|---------|---------|
| 6058     | Victor Okale  | 78      | 62    | 72      | 56        | 72      | 90      |
| 6020     | John Mwangale | 58      | 72    | 50      | 48        | 40      | 82      |
| 5080     | Peter Mutai   | 80      | 56    | 82      | 42        | 95      | 72      |
| 5040     | Mark Kamau    | 50      | 78    | 77      | 70        | 83      | 68      |
| 6060     | James Jaro    | 60      | 66    | 90      | 50        | 58      | 74      |

b) Use appropriate formula to;

i) Get the total score for each student (2 ½ mks)

ii) Calculate mean score for each student (2 ½ mks)

iii) Obtain the mean for each subject (3mks)

c) Format the worksheet as follows (4mks)

- i. Borders : Outline is double line, inside is single line
- ii. Subject heading : align 90°
- iii. Marge the cells above all the subjects headings and type the title ‘SUBJECT’
- iv. Mean score : One decimal place

f) Copy the contents of the worksheet to a blank worksheet (2 mks)

g) Insert a blank column after every subject and put the title “Grade” in the inserted columns (3 mks)

h) Use the grading system below to generate subject grades for all students (9mks)

| Mean score      | Grade |
|-----------------|-------|
| score ≥ 75      | A     |
| 60 ≤ score < 75 | B     |
| 50 ≤ score < 60 | C     |
| 45 ≤ score < 50 | D     |
| Score < 45      | E     |

i) Create a column chart to compare students mean score. Remove all the gridline and place data labels on top of every bar (10mks)

j) Print the two worksheets and the bar chart (4mks)

2. a) Produce the publication as shown in the sample.....(15 marks

**West glory center** 4th April 2015  
Volume 1, Issue 1

# Mwangaza paper

## General Philosophy

The project is an essential part of the course. It represents practical work that you have done largely under your own direction, relevant to the field of business computing and information management, and draws upon the knowledge gained from other modules on the course.

You have only, a limited, time in which to carry out

General philosophy of knowledge

**WORKING HOURS**  
**ALL DAYS**  
6.00 A.M TO 10.00 P.M  
5.30 a.m TO 11.30 p.m

**Special points of interest:**

- Briefly indicate your comment hear

**Kawempe international oil company**

**Employees data**

| Department | Depart Code       | Location |
|------------|-------------------|----------|
| 1001       | Accounting        | Nakuru   |
| 2002       | Research          | Litich   |
| 3001       | Sales & Marketing | Jinja    |
| 4007       | Operations        | Tororo   |

b) West glory center, size 16.....(1 mark)

b) Mwangaza paper, Times new Romans size .....(2 marks)

c) Insertion of two clip art .....(2 marks)

placement in relation to the triangle..... (1mark)

d) Underlining relevant, business and limited.....(1 mark)

e) working hours....size 20..... (1mk)

Caps... 1/2 mark a.m, p.m.....( 1 mk)

All days underlined.....(1mk)

Fill pattern for working hours is 5%.....(1mk)

Border line style (square dot).....(1mk)

Our offices...centered at the bottom.....(1mk)

f) Table..... (10 mks)

Text direction..... (2mks)

Shading of titles..... (1mk)

Bolding of titles..... (1mk)

Typing..... (5 mks)

Border..... (1mk)

g) Printing the document..... (2 mark)

(50 mks)