

Name..... Index No.....  
 School..... Candidates Signature .....  
 Date.....

451/1  
 COMPUTER STUDIES  
 PAPER 1  
 (Theory)  
 JULY/ AUGUST 2009  
 TIME: 2 ½ HOURS

**MANGA JOINT EVALUATION TEST-2009**  
*Kenya Certificate of Secondary Education (K.C.S.E)*

451/1  
 COMPUTER STUDIES  
 PAPER 1  
 (Theory)  
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**Instructions to candidates**

- Write your name and Index No in the spaces provided above.
- Sign and Write the date of the 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 must be written in the spaces provided on the question paper.

**For Examiner’s Use Only**

Section	Question	Candidate’s Score
<b>A</b>	<b>1 – 15</b>	
<b>B</b>	<b>16</b>	
	<b>17</b>	
	<b>18</b>	
	<b>19</b>	
	<b>20</b>	
<b>Total Score</b>		

*This paper consists of 10 printed pages.  
 Candidates should check the question paper to ascertain that  
 all pages are printed and no questions are missing*

**SECTION A (40 marks)**

**Answer all the questions in this section in the spaces provided**

1. What is ABACUS? (1 mark)

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.....

2. Give FOUR features attributed to mainframe computers (2 marks)

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.....

3. Distinguish between the following: (2 marks)

(a) OMR and OCR

.....  
.....  
.....

(b) Power cables and Interface cables

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.....  
.....

4. Outline FOUR features of alphanumeric keys (2 marks)

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.....  
.....

5. Differentiate between the following Ms Word terms: (3 marks)

(a) Hanging indent and Full indent

.....  
.....

(b) Save and Save As

.....  
.....

(c) Insert mode and Type over mode

.....  
.....

6. BAADA YA KUZALIWA MARA YA PILI; TAREHE 02/11/1999, NILIMPOKEA YESU KRISTO KAMA MWOKOZI WA MAISHA YANGU - HATIMAYE, NILIMTEMA MWOVU SHETANI MILELE.

The above text was written and saved in a 3 ½ floppy disk of storage capacity 1.44 MB.

Find:

(a) The number of bits utilized (2 marks)

(b) The amount of space left in the diskette (3 marks)

7. (a) What is a file? (1mark)

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.....  
.....  
.....

(b) Give TWO differences between a file and a folder (2marks)

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.....  
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.....

8. What do the following MS DOS commands do? (3marks)

- (a) MD .....
- (b) CD .....
- (c) TYPE .....
- (d) DIR/W .....
- (e) EDIT .....
- (f) PROMPT .....

9. (a) What is a spreadsheet? (1mark)

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.....  
(b) Outline FOUR components of a worksheet layout (2marks)

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.....  
.....  
.....

10. (a) Identify TWO values of a primary key in databases (2marks)

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.....

(b) Like "J\*" - interpret that syntax in criterion Query generation (2marks)

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.....  
.....

11. Define the following internet terms: (2marks)

- (a) Mosaic .....
- (b) Domain .....
- (c) History .....
- (d) Hypertext .....

12. (a) Distinguish between data privacy and data security (2marks)

.....  
.....  
.....  
.....

(b) My name is Mr. Hacker, who am I? (1mark)

.....  
.....

13. Give the data types of the following fields name examples: (2 ½ marks)

(a) Nyang'au  
.....  
.....

(b) 17th Oct. 2007  
.....  
.....

(c) John or Jane

.....  
.....  
(d) 27 years old

.....  
.....  
(e) 1-2-3-4-5-6-7- ∞

14. The following table shows two cells referencing in Ms Excel — Fill in the missing variables (2 ½ marks)

A1 style	R1C1 style
B2	
	R10C3
E20	

15. <sup>(i)</sup> Livelife @ yahoo . <sup>(ii)</sup> ke . <sup>(iii)</sup> <sup>(iv)</sup> com

The above e-mail address is for Mr. Evans; state the components labeled i-iv (2 marks)

**SECTION B (60 marks)**

**Answer question 16 and any other 3 questions from this section in the spaces provided**

16. The formula for the quadratic expression  $ax^2 + bx + c = 0$  is  $x = -b \pm \sqrt{\frac{b^2 - 4ac}{2a}}$

Mwanafunzi Matis evaluated the two roots as:

$$x_1 = -b + \sqrt{\frac{b^2 - 4ac}{2a}} \quad \text{and}$$

$$x_2 = -b - \sqrt{\frac{b^2 - 4ac}{2a}}$$

and finally equated  $\sqrt{b^2 - 4ac}$  to y

(a) Calculate the two roots using:

i) Algorithm (2marks)

ii) Pseudo-code (3marks)

(b) Draw a flowchart to capture the above problem (5 marks)

(c) Using Pascal programming language, code a program to give a solution to the above quadratic expression (5 marks)

17. (a) Evaluate the following number into binary equivalent (4 marks)  
 $77^9/120_{10}$

- (b) Work out the following binary additions and subtractions (3marks)  
 $00111101011_2 - 100011_2 + 0101011_2 - 11001_2 + 00111_2$

- (c) Convert the following number into denary (4 marks)  
 $111.01011_2$

- (d) Using seven bits find the twos complement of: (4 marks)  
 $29 - 4$

18. (a) Using a diagram, state two merits and two demerits of twisted pair cables (6 marks)

(b) Define the following internetworking terminologies: (3 marks)

i) Half duplex

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.....  
.....  
.....

ii) Multiplexing

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.....  
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iii) X – rays

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(c) Using a diagram, state two merits and 2 demerits of mesh topology (6 marks)

19. (a) How are computers used to control stock in Retail shops? (2 marks)

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.....  
.....

(b) Describe the working of EPOS in Nairobi Uchumi Supermarkets (5 marks)

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(c) Enumerate 2 merits of EPOS described above (2 marks)

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.....

(d) Distinguish between the following communication devices: (6marks)

i) Bridge & NIC

.....  
.....

ii) Switch & Hub

.....  
.....

iii) Routers & Brouters

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.....

20. (a) Imagine after completing your diploma in IT from Gusii Institute of Technology (GIT), you got a job at Nyamira Tokwananie Town- way Communicators (NTTC) as the system analyst — What would be your duties and responsibilities (5 marks)

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(b) Differentiate between job replacement and job displacement (1 mark)

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(c) (i) Explain three ways on how computers have ruined man's health (6 marks)

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(ii) How can we solve the problems explained above? (3 marks)

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