NAME…….. INDEX NO……....

SCHOOL…….. CANDIDATES SIGNATURE…….

DATE……..……

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
JULY/AUGUST 2013
TIME: 2½ HOURS

KIRINYAGA CENTRAL DISTRICT JOINT EXAMINATION - 2013

Kenya Certificate of Secondary Education
COMPUTER STUDIES
PAPER 1
(THEORY)
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

- This paper consists of **TWO** Sections **A** and **B**
- Answer all questions in Section **A**
- Answer question **16 (compulsory)** and any other **THREE** question in section **B**
- All answers should be written in the space provided in the question paper

FOR OFFICIAL USE ONLY:

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

This paper consists of 12 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 space provided.

1. (a) Distinguish between Optical scanners and Magnetic ink scanners. (2mks)

(b) Differentiate between hardware and software portability. (2mks)

2. (a) Explain the difference between digital signal and analog signal in data communication. (2mks)

(b) Give **two** ways in which computers are used in communication industry. (2mks)

3. (a) Name **two** special purpose memories found either inside or outside the microprocessor. (2mks)

(b) Distinguish between an accumulator and an address register. (2mks)

4. Differentiate between formatting and editing as used in word processing. (2mks)

5. (a) Distinguish between a paste board and a printable page. (2mks)

(b) Differentiate between a margin guide and a column guide as used in D.T.P. (2mks)

6. (a) Define the term normalization as used in a database design. (1mk)

(b) Explain **two** objective of normalization. (2mks)

7. Describe **two** methods used to secure data in a database. (2mks)

8. Explain the meaning of the following terms as used with DTP. (4mks)

(i) Crop.

(ii) Embedded object.

(iii) Master page.

(iv) Tool box.

9. Make a clear difference between a Website and Web portals. (2mks)

10. State **two** advantages of using wireless transmission media to connect to the internet. (2mks)

11. (a) What is a protocol? (1mk)

(b) Write the following in full:
TCP/IP, HTML, HTTP and FTP. (2mks)

12. Make a clear difference between Log file and Firewall. (2mks)

13. Explain the meaning of the terms below as used in data security and controls. (3mks)

(i) Information security.

(ii) Fraud.

(iii) Eavesdropping.

14. Make a clear difference between the following information gathering methods. (2mks)

(a) Observation.

(b) Questionnaire.

15. Explain the importance of control structure in program development. (1mk)

SECTION B (60 MARKS)

Answer question 16(compulsory) and any other THREE questions from this section.

16. Mwangi deposits 8500 shillings in a microfinance company at an interest rate of 15% per annum. At the end of each year, the interest earned is added to the deposit and the new amount becomes the deposit of that year.

(a) Write an algorithm for a program that would track the growth of the deposits over a period of five years. (6mks)

(b) Draw a flowchart for above algorithms. (7mks)

(c) List **four** Selection Controls used in writing a program. (2mks)

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17. (a) Define the term network topology and explain the **two** types of topology. (5mks)

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(b) Define the following terms as used with network. (4mks)

(i) Routers _____

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_____

(ii) Repeaters _____

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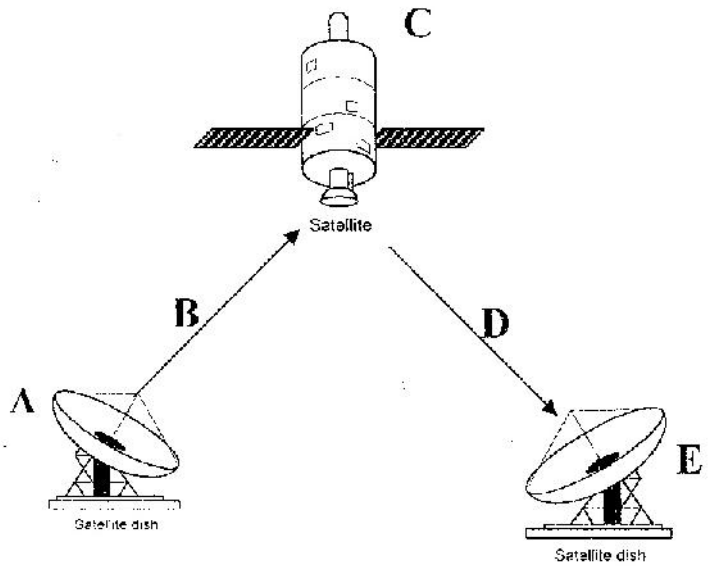
(c) Name the parts labeled **A**, **B**, **C** and **D** in the diagram **below.** (2mks)



A _____

B _____

C _____

D _____

(d) Explain the meaning of the following terms as used in signal transmission. (2mks)

(i) Attenuation _____

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_____

(ii) Noise _____

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(e) State **two** advantages of using fiber optic cables. (2mks)

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18. (a) (i) Define the term spreadsheet. (1mk)

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(ii) Give **two** examples of spreadsheet packages available in the market today. (2mks)

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(iii) Explain the following terms as used in spreadsheet.
What IF analysis. (2mks)

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Cell. (1mk)

Formula. (1mk)

Pie-chart. (1mk)

(b) Distinguish between the following sets of terms used in spreadsheet.

(i) Worksheet and workbook. (2mks)

(ii) Filtering and sorting. (2mks)

(c) State **one** way in which a user may reverse the last action taken in a spreadsheet package. (1mk)

(d) Distinguish between a Formula and a function as used in spreadsheet. (2mks)

19. (a) Describe each of the following data processing methods and give an example of where used. (6mks)

(i) Online processing _____

_____

(ii) Batch processing _____

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(iii) Real-time. _____

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(b) Make a clear difference between: (6mks)

(i) Logical file and physical file _____

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(ii) Master file and back-p file. _____

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(iii) Random and indexed sequential file organization methods. _____

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(c) An organization is facing threats to data integrity. Explain **three** of how the threats can be minimized. (3mks)

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20. (a) Give **two** reasons why data and information in a computer system needs to be converted to other number systems other than binary. (2mks)

(b) Explain **two** reasons for use of binary in digital technology. (2mks)

(c) Using ones complement, subtract 17 from 28. (5mks)

(d) Using BCD coding system convert 796 to binary. (5mks)

(e) Differentiate Database administrator and web administrator. (2mks)

(f) (i) Define the term accreditation as used in education. (2mks)

(ii) Explain **two** factors you would consider before enrolling for an ICT course in a college. (2mks)