NAME …………………………………..……………….. DATE …………………………………

INDEX NO. …………….………..…..……… CANDIDATE'S SIGNATURE …………...…..………..

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
TIME: 2 ½ hours

MBOONI EAST SUB - COUNTY FORM FOUR JOINT EVALUATION TEST 2014

Kenya certificate of Secondary Education

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
JULY/AUGUST 2014
TIME: 2 ½ hours

Instructions to Candidates
(a) Write your name and index number in the spaces provided above.
(b) This Paper consists of two sections A and B.
(c) Answer **ALL** the questions in section A.
(d) Answer **question 16** (compulsory) and any other **THREE** questions from section B.
(e) All answers should be written in the spaces provided.
(f) This paper consists of 12 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

Section	Questions	Candidate's score
A	**1- 15**	
B	**16**	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

1. Give importance of having the following in computer laboratory;- (3marks)

i) Standard furniture in the laboratory

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ii) Antiglare screen/ monitor

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iii) UPS

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2. Distinguish between ROM and RAM (2marks)

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3. Explain the following computer crimes (2marks)

(i) Fraud.

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(ii) Alteration

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4. (a) Define

(i) Firewalls (1mark)

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(ii) Data encryption (1mark)

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5. Differentiate between the following terms as used in word processing (3marks)

(a) Drop Cap and Case

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(b) Superscript and subscript

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(c) Indent and tab

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6. (a) State and explain any **one** type of computer processing file   (1mark)

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(b) List any **two** file organization methods   (2marks)

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7. Describe the following terms as used in internet.

(a) Webpage   (1mark)

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(b) Blog   (1mark)

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(c) Hyperlinks   (1mark)

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(d) Web portal   (1mark)

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8. (a) Give **four** advantages of DTP over a word processor   (2marks)

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(b) Differentiate between the following

(i) Kerning and tracking   (2marks)

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(ii) Margins and column guides   (2marks)

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9. Define the term simulation   (1mark)

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10. Differentiate between baseband and broadband signal as used in networking   (2marks)

    a) Baseband signal

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    b) Broadband signal

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11. Explain how the operating system controls the following resources   (3marks)

    i) Processor

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    ii) Main memory

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    iii) Input and output devices

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12. What is deadlock in reference to operating systems   (1mark)

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13. (a) The most popular type of electronic data storage currently us magnetic disk storage such as hard disk
or Winchester disk. Give reasons as to why they are popular.   (2marks)

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    (b) Outline two advantages of hard disk over floppy disk.   (2marks)

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14. Define the following computer crimes

    a) Piracy   (1mark)

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    b) Industrial espionage   (1mark)

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15. Explain two ways of protecting data and information against unauthorized access (2marks)

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SECTION B (60MARKS)
Answer question 16 and any other three questions

16. (a) list two examples of

   (i) Third generation languages (2marks)

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   (ii) Object oriented languages (2marks)

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(b) Define (2marks)

   i) Object code

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   ii) Source code

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(c) Differentiate between a compiler and an interpreter (2marks)

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(e) A car rental firm leases its cars for Kshs. 2500.00 per day. The manager gives a discount based on the number of days that the car is rented. If the rental period is greater than or equals to 7 days then a 25% discount is given. Write a peudocode to accept a car number and the rental period, and calculate the total amount earned by the company when a car is leased. (7marks)

17. (a) Subtract 0111_2 from 1001_2 (2marks)

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(b) Using two's compliment, subtract 7 from 4 and give the answer in binary notation. (4marks)

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(c) Convert

i) $91C_{16}$ to octal (3marks)

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ii) 377_8 to hexadecimal (3marks)

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iii) 9.625_{10} to binary (3marks)

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18. A school computer laboratory is scheduled to undergo major renovations. The lab is schedule to receive new computer whose specifications are given below:-

Pentium IV 2.8GHz processor
40GB HDD
3 ½ FDD
256MB RAM
56 x CD ROM
17" SVGA TFT monitor

The computers are going to be networked and will be able to browse the internet.

a) Explain what is meant by the terms:- (2marks)

i) FDD

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ii) HDD

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iii) SVGA

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iv) TFT

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b) The computer is to be networked, name one extra device that should be fitted on every computer to enable this to happen (1mark)

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c) The computer is to receive internet facilities through the server on a dial; up system. Name and describe the function of a special device that needs to be connected to the server to complete the connection.

(1mark).

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d) (i) The school has to apply star topology to link up the computer. List two advantages of this type of

topology. (1mark)

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(ii) Name the central device used to connect the computers in this topology. (1mark)

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e) List two other types of topologies that the school could have opted for (1mark)

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f) List four advantages of using a network (2marks)

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g) (i) Data transmission via the internet is done using a mode known as packet switching. Describe this data transmission mode (1mark)

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(ii) Name two other modes of transmission (1mark)

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h) (i) The school's LAN is done using UTR cable. List two advantages of using this type of cable.
(1mark)

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(ii) List two advantages of using fibre cable in networking (1mark)

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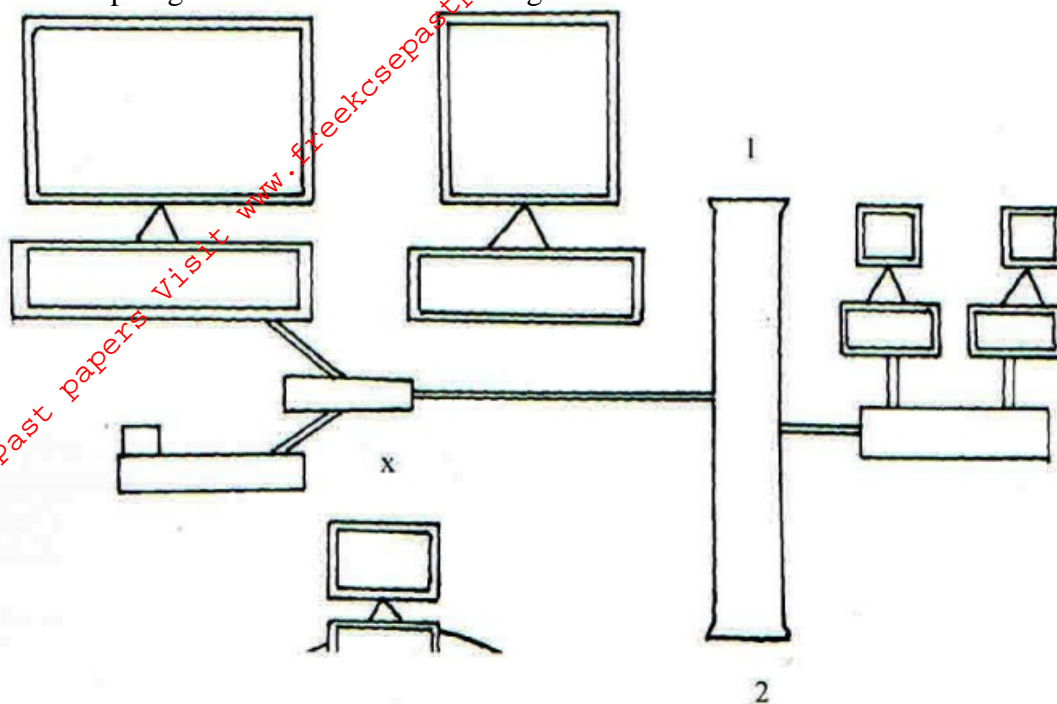
i) Data flows in the school's LAN in a duplex manner. Discuss two other types of data transmission in network giving examples (2marks)

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19. (a) Consider the topologies demonstrated in the diagram below.
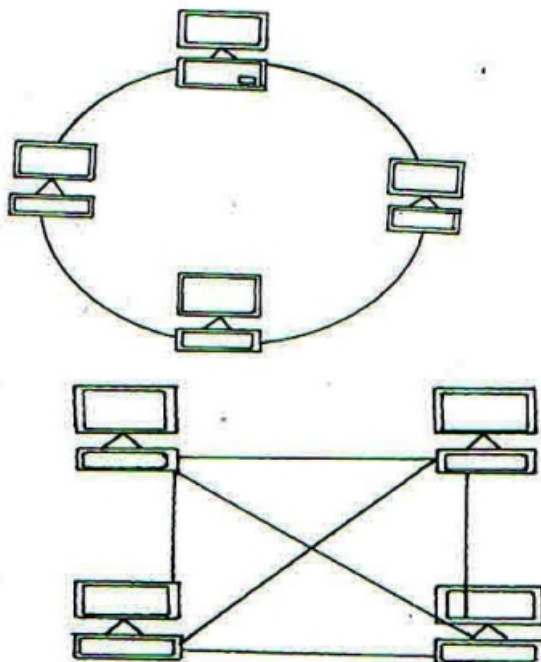
(i) Identify the network topologies   (3marks)

A

....

....

B

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....

C

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(ii) In topology A, identify the network device that should be at the end point 1 and 2   (1mark)

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(iii)Which of the above topologies is likely to be used in a wide area network?   (1mark)

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(iv)Highlight three disadvantages of topology B.   (3marks)

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(v) Identify the device labeled X in topology A   (1mark)

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(b) State two main classes of network software   (2marks)

(c) 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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20. (a) Define the following terms

(i) Database   (½mark)

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(ii) Database management system   (½ mark)

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(iii)Hierarchical database   (1mark)

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(iv)Relational database   (1mark)

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(v) Network database   (1mark)

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(b) List the advantages of using an electronic database system for storage of data over the file approach.

(4marks).

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(c) Study the spreadsheet below and answer the questions that follow

	A	B	C	D
1	WESTERN COMPBOOK CENTRE SALES			
2	*BOOK TITLE*		*PRICE PER BOOK*	*BOOKS SOLD*	
3	DBASE IV		400.00	145
4	LOTUS FOR DUMMIES		460.00	15
5	OFFICE WORD IN 3 DAYS		300.00	65
6	LEARN C++ IN 3 DAYS		700.00	100
7	TEACH YOURSELF PASCAL		700.00	200
8	COMPUTER STUDIES		500.00	300
9	THE CLEVER FOOL COMUTER		300.00	10
10				

i)   Write down the formula that can be used to find the price of the most costly book   (1mark)

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ii) Write down the formula that can be used to determine the total sales for the book titled COMPUTER

STUDIES   (1mark)

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iii) Write down the formula that can be used to determine the average price of the books.   (1mark)

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iv) Write down the formula in cell D6 that can be used to find the new price per book if they went up by a percentage written in cell B 10 and the formula has to be entered only in cell D3 then be copied to others.   (1mark)

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………

v) Write down the output in D7 if in B6 is 10%   (1mark)

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(d) State any four advantages of using an electronic spreadsheet as compared to a traditional worksheet.

(2mark)

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