NAME ……INDEX NO……

SCHOOL……CANDIDATE'S SIGNATURE……

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
JULY/AUGUST -2016
TIME:2 ½ HOURS

KAKAMEGA SOUTH SUB-COUNTY JOINT EXAMINATION - 2016

Kenya Certificate of Secondary Education (K.C.S.E)

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)

INSTRUCTIONS TO CANDIDATES

- Write your **name** and **index number** in the spaces provided above.
- This paper consists of **TWO** sections **A** and **B**.
- Answer **ALL** the questions in section **A**.
- Answer question **16** (Compulsory) and any other **THREE** questions from section **B.**
- All answers should be written in the spaces provided.
- Answer all questions in English

SECTION	QUESTION	CANDIDATES SCORE
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

This paper consists of 12 printed pages students to confirm the same and ensure there are no questions missing

1. Give importance of having the following in computer laboratory (3mks)
   (i) Standard furniture in the laboratory.
   ……
   ……
   (ii) Antiglare screen
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   ……
   (iii) UPS
   ……
   ……
2. Distinguish between ROM and RAM (2mks)
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   ……
   ……
   ……
3. Explain the following computer crimes (2mks)
   (i) Fraud
   ……
   ……
   (ii) Alteration
   ……
   ……
4. (a)Explain the following statements
   (i) Firewalls (1mk)
   ……
   ……
   (ii) Data encryption (1mk)
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   ……
5. Differentiate between the following terms as used in word processing (3mks)
   (a) Drop Cap and Case
   ……
   ……
   ……
   (b) Superscript and subscript
   ……
   ……
   ……
   (c) Indent and tab
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   .

6. (a) Use the table below to answer the question that follows.

Actual character	Symbolic character	Actual character	Symbolic character
A	R	O	A
B	S	P	@
C	Q	Q	+
D	N	R	P
E	L	S	H
F	U	T	$
G	#	U	J
H	!	V	M
I	Z	W	K
J	B	X	%
K	T	Y	;
L	Space	Z	Y
M	C	.	F
N	W	Space	G

What is the meaning to the following message? (1mk)

@PZMRQ;GZHGZC@AP$ RW$ F

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(b) A computer novice to you for expert advice on the printer to use. He wanted to know the difference between impact and non impact printers and TWO examples of each.

What would be your advice?

Difference. (1mk)

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Examples

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7. Describe the following terms as used in internet

(a) Webpage (1mk)

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(b) Blog (1mk)

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(c) Hyperlinks (1mk)

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(d) Web portal (1mk)

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

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(b)Differentiate between the following

(i) Kerning and tracking (2mk)

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(ii)Margins and column guides (2mks)

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9. Explain the term simulation (1mk)

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

(a) Baseband signal

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(b) Broadband signal

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

(i) Processor

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……

(ii) Main memory

……

……

(iii) Input and output devices

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

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

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

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14. The following numbers was entered by a computer user into a system 5.66894 and the first time it displayed 5.66 on the screen, he entered it again and it displayed 5.67;explain the type of errors that occurred during data processing. (2mks)

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……
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……

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

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SECTION B (60 MARKS)

Answer *question 16 and any other three questions.*

16. (a) State any three differences between an Interpreter and a Complier (3mks)

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……

(b)State the stage of program development in which (2mks)

(i) A flowchart would be drawn.

……
……

(ii) The programmer would check whether the program does as required

……
……

(iii)User guide would be written

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……

(iv)The requirement specification would be written

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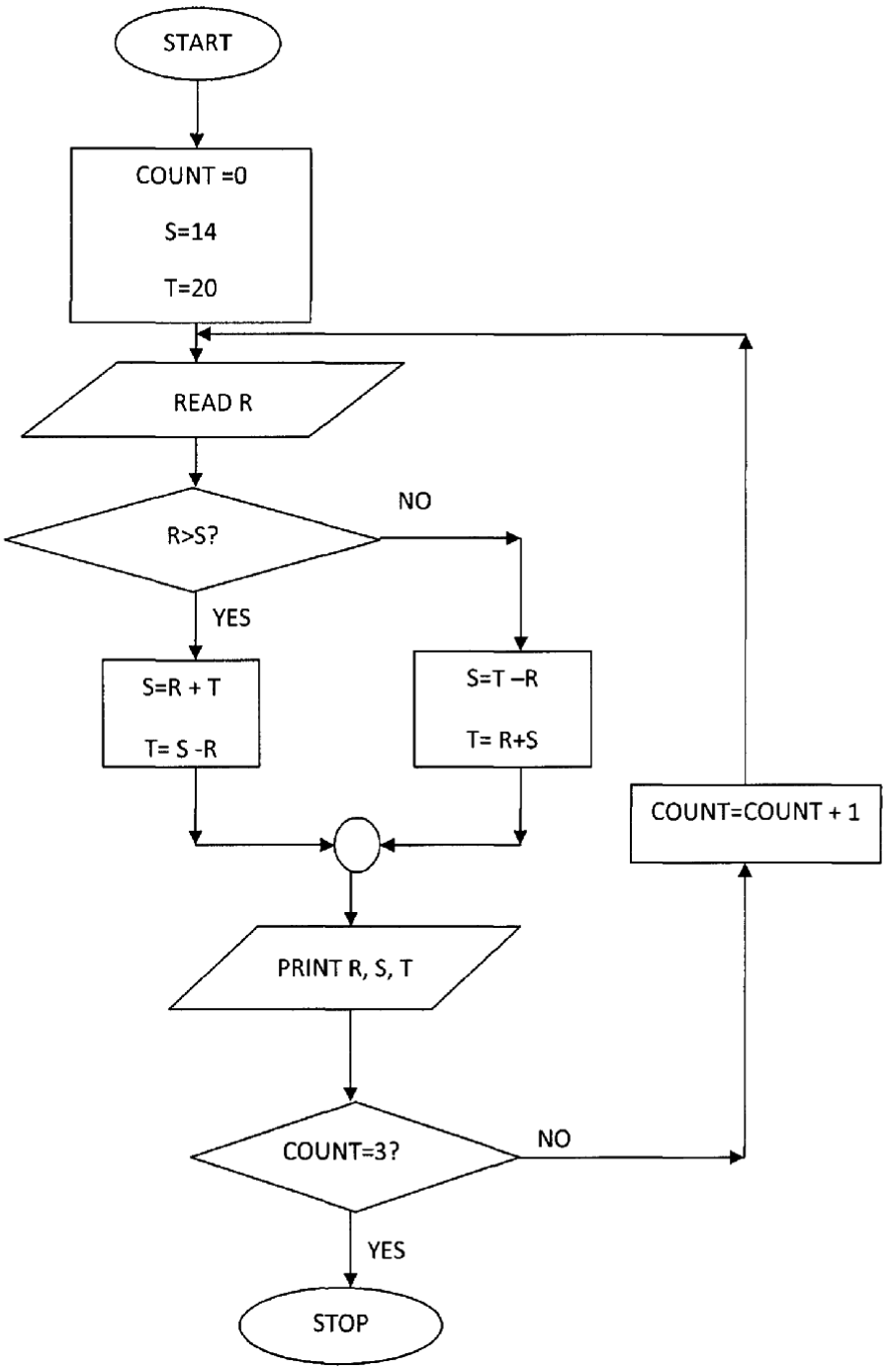
……

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



(i) What would be the output if the following values were input 40,20,15,1 (2mks)

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(ii) Write a pseudo code for the flowchart in question 16c) (8mks)

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17. (i)Differentiate between sequential file organization and serial file organization (2mks)

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(ii)Identify two limitations serial file organization brings to data processing (2mks)

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(b)Work out using two's complements

(i) 57_{10}-29_{10} (3mks)

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……
……
……

(ii) 11001_2+(-111101_2) (3mks)

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(c) Find the BCD equivalent of 37_{10} (2mks)

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(d) Explain two reasons why Twos complements is more popular in representing negative numbers in computer systems (2mks)

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(e)What advantage do the octal and hexadecimal number systems bring in computing? (1mk)

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18. (a)A computer user was using a network link to access computer outside a LAN. When he could not access the contents of a particular computer he guessed the password and was allowed to access.

(i) Name the likely computer crime he was committing (2mks)

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(ii) Describe two intervention measures which the network administrator of the intruded network could be used to detect and curb the crime? (2mks)

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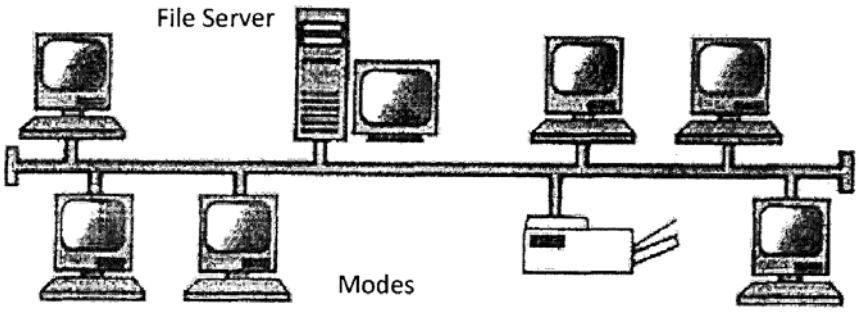
Study the figure below and answer the questions that follow.



(b(i)Identify the network topology depicted in the diagram above (1mk)

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(ii)State two advantages of the above network topology (4mks)

Advantages

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Disadvantages

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(c)A new journalist has a digital camera attached to a laptop, a microphone and a high speed broadband internet connection for reporting back to the broadcasting house.

(i) Identify this type of internet service at work for this journalist (1mk)

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(ii) List down any two advantages of using this kind of internet service (2mks)

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(iii) What is a broadband connection? (1mk)

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(iv) How were the devices listed below used by the journalist? (2mks)

(a) Digital Camera

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……
……
……

(b) Microphone

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19. (a) What is Virtual reality (2mks)

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(b)Explain the following interactive equipment used in virtual reality (2mks)

(i) Head gear

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(ii)Body suit

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(c)(i) What is Artificial Intelligence? (2mks)

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(ii)Explain three components of an experts system (6mks)

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(d)Most computerized security systems make use of Biometric analysis ,name three physical features of human beings that can be considered in this analysis (3mks)

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20. (a)Explain the following terms

(i) Database ($^1/_2$ mk)

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(ii) Database management system ($^1/_2$ mk)

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(iii) Hierarchical database (1mk)

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(iv) Relational database (1mk)

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(v) Network database (1mk)

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(b)List four advantages of using an electronic system for storage of data over the file approach (4mks)

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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	BOOKTITTLE	*PRICE PER BOOK*	*BOOKS SOLD*	
3	DBASE IV	400.00	145	
4	LOTUS FOR DUMMES	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(1mk)

……

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(ii) Write down the formula that can be used to determine the total sales for the book titled COMPUTER STUDIES (1mk)

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

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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. (1mk)

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……

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

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(d)State any four advantages of using an electronic spreadsheet as compared to a traditional worksheet (2mks)

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