CROSSCOUNTRY MOCKS

COMPUTER STUDIES

(MOCKS TRIALS 1-10)

SERIES 1 COMPILATION OF RECENT TOP CROSS-COUNTRY COMPUTER STUDIES MOCKS IDEAL FOR KCSE REVISION PURPOSES.

KCSE MODEL EXAMS TRIALS

SERIES 1

FOR MARKING SCHEMES CALL/WHATSAPP

0707550000 / 0705525657

MWALIMU PUBLISHERS

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 1 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

2 ½ HOURS

Instructions to Candidates

a) *Write your Name, Index number and Admission number in spaces provided above.*
b) *This paper consists **TWO** sections.*
c) *Answer **ALL** questions in section **A**.*
d) *Answer Question 16 and any other **THREE** Questions from Section **B***
e) *All answers MUST be written in the spaces provided on this question paper.*

For Examiner's Use Only

Questions	Maximum Score	Actual Score
1-15	40	
16	15	
17	15	
18	15	
19	15	
20	15	
TOTAL		

SECTION A(40 MARKS)

Answer ALL Questions from this section

1. Due to constant errors duringkeying in of voluminous data, the school secretary has been advised to use document readers instead of keyboard entry.

(a) What is a document reader? **(1 mark)**

b) Name two examples of documents readers and citing example of areas where each one of them is used. **(2 marks)**

2. State two advantages of output displayed on the screen over the printed output on paper. **(2 marks)**

3. Peter checked his Laptop specification and noted that it is stated as Duo-Core CPU.

(a) What is the meaning of the term Duo Core? **(1 mark)**

b) State the characteristics and possible content of the categories of Read Only Memories (ROM) listed below. **(2 marks)**

(i) PROM

ii) EEPROM

4.Explain the meaning of solid state storage media giving **TWO** examples of it. **(2 marks)**

5. (a) Give reason for accepting the terms of End User License during installation of Software. **(1 mark)**

b) Distinguish between copying and installation of a program **(2 marks)**

6. Recent development in computing has seen parallel and serial ports getting replaced by USB ports. Mention **TWO** benefits computer users enjoy from this development. **(2 marks)**

7.Give four differences between present day's computers and the older generation of computers **(2 marks)**

8. Give **THREE** reasons why dust is the main threat to computer safety in the laboratory. **(3 marks)**

9. Explain the meaning of Drag and drop skill as applied when using a mouse. **(2 marks)**

10. Study section of word processing document below and identify any six formatting features used.



Information Communication Technology (ICT) Sector In Baringo County. 1st Of Its Kind.

Information Communication technology (ICT), plays a significant role in the development of Baringo County and contributes to over 60% of the Kenya's Economy. In this digital era, Baringo County prides itself of a number of globally competitive ICT firms and local startup computer institutions.

The ICT sector is in the process of developing integrated systems to run all the County's affairs, which include and not limited to; fleet management, Revenue collection, e-staff management-records management, among others. This will help fast track daily operations for quick decision making. The County's website www.baringo.go.ke is up and running.

All departments are giving information on their current developments to be posted on the website. The ICT center which has been set up at kabamet with the support of World Best Friends(WBF) and Korean International Cooperation

Flagship[1] Projects in the ICT sector.

- ✓ Networking of Baringo County Government offices (structured cabling)
- ✓ Installation of CCTV cameras/security systems

1. Command to expand the territory

(4 marks)

11. **(a)** Explain the term query as used in database **(2 marks)**

b) Name and state the function of any **THREE**action queries **(3 marks)**

12. **E**xplain the use of computers in health care **(3 marks)**

13. Explain four ways in which computers have impacted on production of goods and services.

(2 marks)

14. Give reasons why vehicle manufacturing industries have adopted the use of computer simulation in design and operation of cars and trucks assembly plants. **(2 marks)**

15. You have been appointed to a role of Database Administrator at County Government office in Kabarnet. Outline two responsibilities you are expected to discharge. (2 marks)

SECTION B (60mks)

Question 16 Compulsory And Other Three

16 (a) There are several stages taken during program development.State the stage of in which**:**

(4 marks)

(i) The likely input, processing activities and the expected output is determined

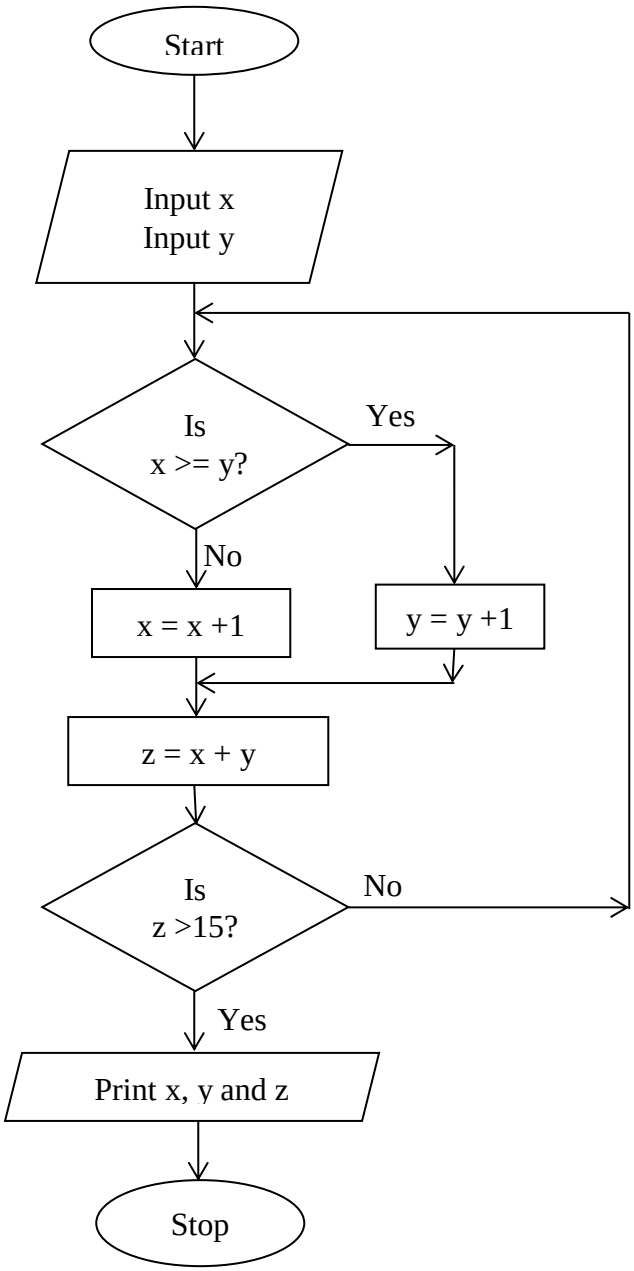
(ii) The programmer would check whether the program does as required.

(iii) The newly developed programis delivered and installed for the user to start using it.

(iv) The requirements specifications would be written

b) List **FOUR** functions of a compiler **(2 marks)**

c) Study the flowchart below and answer questions which follow



c) What is the output expected if the values of x and y are input as x = 1 y = 2 **(3 marks)**

d) Design a pseudo code for the program flowchart above **(6 marks)**

17. i) Give THREE reasons why binary system is used in computers **(3 marks)**

ii) Convert each of the following number systems: **(4 marks)**

a) 26.625_{10} to binary

b) $A3B_{16}$ to Octal

iii) Perform the following operations: **(2 marks)**

$111.11_2 + 111.1_2 - 111.11_2$

iv) Using twos complement, perform the following binary arithmetic leaving your answer in decimal notation $35_{10} - 17_{10}$ **(6 marks)**

18. a) List four attributes considered when designing a file in system development **(2 marks)**

b) Baringo county wants to computerize their services. Explain three factors that made them develop an information system **(3 marks)**

c) State any three roles of an information system analyst **(3 marks)**

d) i) Define the term system implementation **(1 mark)**

ii) Differentiate between the parallel change over giving one advantage and one disadvantage **(3 marks)**

iii) Outline any three areas to be addressed during system implementation **(3 marks)**

19. a) Define the term Data communication **(1 mark)**

b) Describe the following items as used in data communication **(3 marks)**

i) Data signal

ii) Multiplexing

iii) Attenuation

c) Outline any three advantages of Networking **(3 marks)**

d) State two advantages of twisted pair cabling **(2 marks)**

e) i) With examples, differentiate between physical and logical topology **(3 marks)**

ii) The core principles of data/information security are; confidentiality, Integrity and availability. Explain **(3 marks)**

20. (a) Mutai wants to format his laptop so as to install a new operating system.

(i) Which precautions must Mutai take before beginning the format process **(2 marks)**

ii) State **THREE** factors which he should consider when selecting an operating system for his laptop. **(3 marks)**

iii) Briefly explain how operating system manages the computer Memory **(2 marks)**

(b). Why is a desktop publisher preferred in designing documents than a word processor? **(2 marks)**

c) (i) What is a Master page and what is its purpose in Desktop publishing**?** **(2 marks)**

ii) Explain how you would insert header on Desktop Publication. **(2 marks)**

d) Explain the DTP terms below **(2 marks)**

i) Fill

ii) Stroke

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 1 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PAPER 2

Instructions to candidates:

a) This paper has **TWO** questions.

b) Answer all the questions.

c) Type your name and index number at the right-hand corner of each printout.

d) Write your name and index number on the CD – ROM provided.

e) Write the Name and version of software used in each question attempted in the answer sheet.

f) Passwords **should not be used** while saving your work.

g) Make a printout of the answers on the answer sheets provided.

h) Arrange your print outs and stable them together.

i) Hand in all the **printouts** and the CD – ROM provided.

j) This paper consists of **4** printed pages.

k) Candidates should check the question paper to ascertain that all pages are printed and no questions are missing

1.(a) Create and enter the data as in the following spreadsheet for form3N students in Bright Star School in Baringo County and save it as BSSBC. **(14marks)**

	A	B	C	D	E	F	G	H	I
1	**Name**	**English**	**kiswahili**	**maths**	**Biology**	**pyhsics**	**C/Studies**	**Total**	**Average**
2	Sally	60	76	42	76	66	77		
3	Jane	56	45	53	65	45	72		
4	Philip	65	58	47	64	65	46		
5	George	56	66	30	85	48	60		
6	Mary	74	68	59	83	36	57		
7	James	80	72	45	74	54	70		
8	Tina	78	55	37	71	63	56		
9	Subject average								

Using the above information,

(b) Enter appropriate formulas to compute the Average mark in each subject **(3 marks)**

(c) Enter the total marks for each student **(3 marks)**

(d) Enter the Average marks for each student **(3 marks)**

(e) Format the table as follows:

. Set the direction of the labels to 45 degrees **(2marks)**

.Centre vertically all the records **(2 marks)**

(f) Create an embedded bar chart for average mark per subject **(8 marks)**

(g) Add a column of marks for Chemistry and enter the following data for each student :78,56,67,81,72,68,53 starting from Sally down to Tina (**4 marks)**

(h) Filter the data using the Biology column and display only those rows with marks less than 80 **(6 marks)**

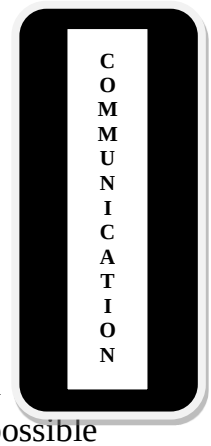
(i) Rank the students starting from those with the highest total mark **(3 marks)**

(j) Print the worksheet, and the graph **(2 marks)**

2. (A) Type the following passage using a word processing package and save as Network software. Answer the questions that follow. **(26 marks)**

NETWORK SOFTWARE

A Computer netwok is a group of computers and other devices connected together by a suitable media. The computer networks have evolved from simple linking of computers on a common transmission media to highly managed and optimized data and information transfer systems. This means that apart from data comunications, the focus is now squarely on how best to utilize network resources.



Network software can be classified into two main groups namely:

1. Network operating systems
2. Network protocol

Advantages of computer Networks

- Multiple users can communicate, exchange and share information
- Resource sharing including program, data base, hardware etc. is possible

By definition comunications refers to the transfer of information from one place to another between two individuals using agreed symbols, signs or even human behavior such as nodding. Exchange of information relies on a communication system to convert, amplify and send signal through a common medium. Message, Sender, Medium and Receiver are the essential components of communication systems.

If a system is extended by cascading more communication systems, it is called networked systems.

In case communication involves the sending of information over a significant distance, it must use telecommunications as an aid. By definition, telecommunications refers to the transmission of information between distant locations by some electromagnetic means.

Data communications is defined as the interchange and processing of encorded (digital that is, 1s and 0s) information between distant locations using telecommunications.

Data communications is regarded as the collection and distribution of the electronic representation of information which can be text, voice, graphics or image, from and to remote computing facilities. As information can only be carried to the remote site provided that the information carrier supports that particular type of data transmission, information may undergo data conversion processes if the nature of data signal is incompatible with the characteristics of the signal carrier.

PROTOCOLS

This are set of rules and procedures that govern communication between two different device or people . In computer networking, protocols refer to the rules and technical procedures that govern communication between different computers.

How protocol work

The data transmission process over network has to be broken down into discrete systematic steps. At each step certain action takes place and each steps has its own procedures as defined by network protocol. The co-ordination of protocols must be co-ordinated so that there are no conflicts.

COMPARISON AMONG DIFFERENT TOPOLOGIES

Below are the advantages and disadvantages of various LAN topologies.

Type	Advantage	Disadvantage
Star Topology	Simple and easy to identify fault	Failure of central node causes disaster
Mesh Topology	Immunity to bottleneck and failure problems	Expensive to provide an alternative routing
Bus Topology	Simple to control traffic flow	Only a single communications channel is required to service all the nodes
Ring Topology	Simple to implement	One channel is required to service all

(B) :

i. Centre and double underline the title Computer Software **(2 marks)**

ii. Convert the paragraphs beginning with "By definition communications….." to the end Into hanging indent. **(4 marks)**

iii. Move the paragraph under protocols and paste after the table **(2 marks)**

iv. Insert and center your name, index number and the name of your school as a footer so as to appear © ***name ,index number, and the name of your school***. **(4 marks)**

v. Find and telecommunications and replace with Telephones. **(3marks)**

vi. Insert a picture of a computer and wrap the picture behind the table **(4 marks)**

vii. Spell check your data for grammatical errors **(1 mark)**

viii. Save the data as computer communication **(2 mks)**

ix. Print the document network software and computer communication **(2marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 2 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

(THEORY)

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)*** *Answer all questions in English*

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

QUESTIONS

1. Give importance of having the following in computer laboratory **(3mks)**

(i) Standard furniture in the laboratory.

(ii) Antiglare screen

(iii) UPS

2. Distinguish between ROM and RAM **(2mks)**

3. Explain the following computer crimes **(2mks)**

(i) Fraud

(ii) Alteration

4. (a)Explain the following statements

(i) Firewalls **(1mk)**

(ii) Data encryption **(1mk)**

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

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

(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)**

Examples

7. Describe the following terms as used in internet

(a) Webpage **(1mk)**

(b) Blog **(1mk)**

(c) Hyperlinks **(1mk)**

(d) Web portal **(1mk)**

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

(b)Differentiate between the following

(i) Kerning and tracking **(2mk)**

(ii)Margins and column guides **(2mks)**

9. Explain the term simulation **(1mk)**

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

(a) Baseband signal

(b) Broadband signal

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

(i) Processor

(ii) Main memory

(iii) Input and output devices

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

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)**

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

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)**

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

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)**

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

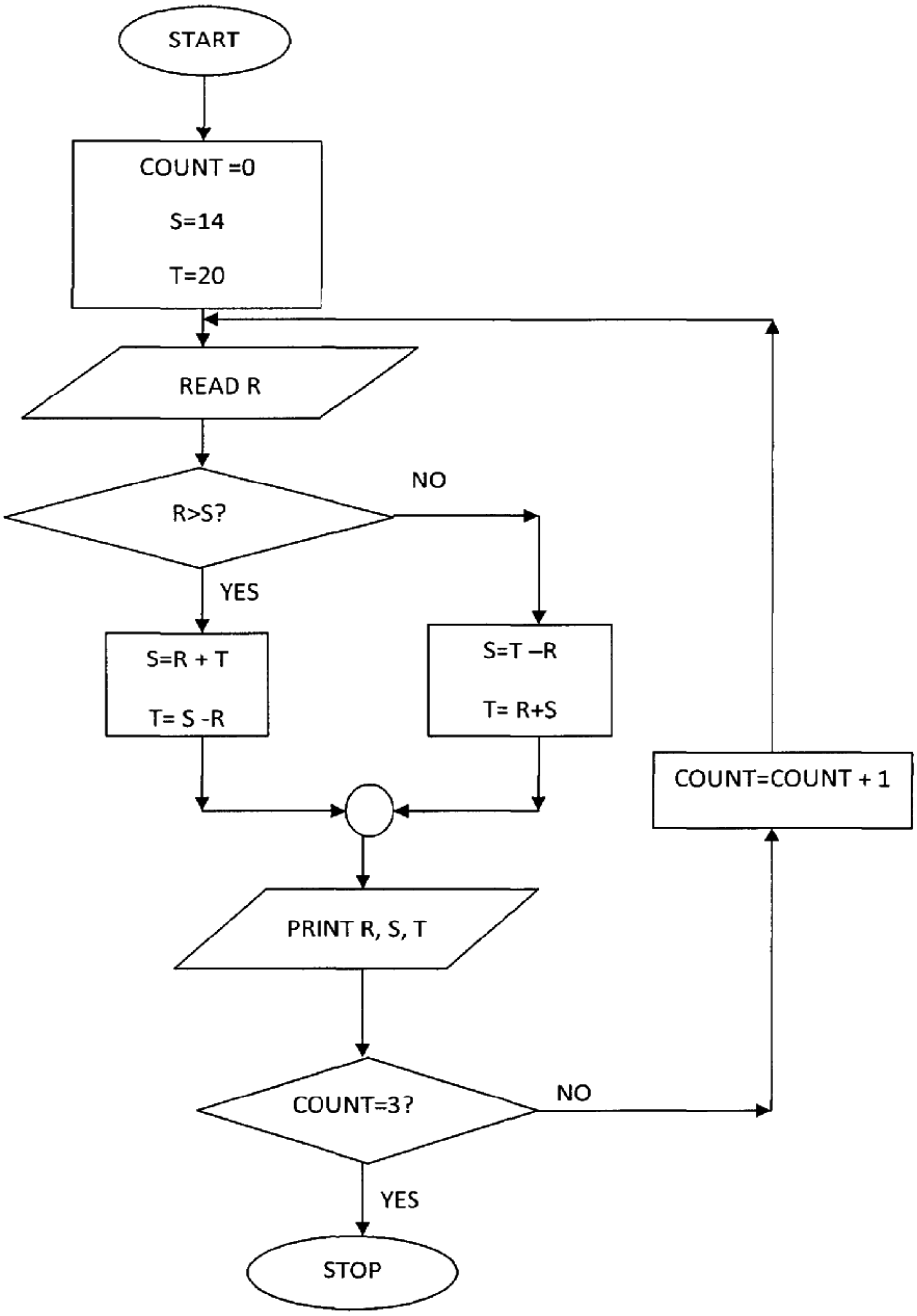
(i) A flowchart would be drawn.

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

(iii) User guide would be written

(iv) The requirement specification would be written

(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)**

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

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

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

(b) Work out using two's complements

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

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

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

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

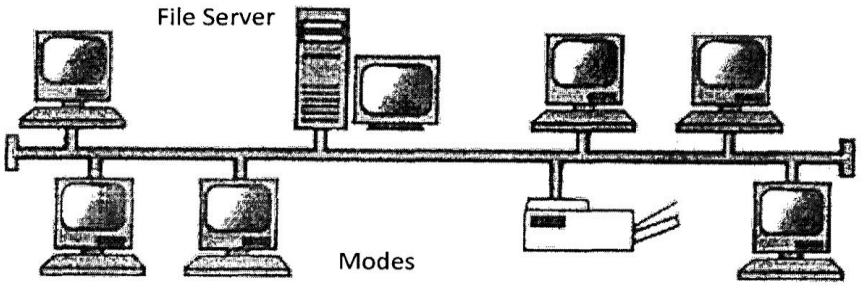
(e) What advantage do the octal and hexadecimal number systems bring in computing? **(1mk)**

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)**

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

Study the figure below and answer the questions that follow.



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

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

Advantages

Disadvantages

(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)**

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

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

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

(a) Digital Camera

(b) Microphone

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

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

(i) Head gear

(ii) Body suit

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

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

(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)**

20.(a)Explain the following terms

(i) Database **(½ mk)**

(ii) Database management system **(½ mk)**

(iii) Hierarchical database **(1mk)**

(iv) Relational database **(1mk)**

(v) Network database **(1mk)**

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

(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)**

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

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

(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)**

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

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

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 2 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PAPER 2

INSTRUCTIONS TO CANDIDATES

- ***a)*** Type your name and index number at the top right hand corner of each print out and your CD
- ***b)*** Write the version of software used for each question attempted
- ***c)*** Write your name and index number on the CD
- ***d)*** Password should not be used while saving in the CD
- ***e)*** Answer ALL the questions
- ***f)*** All questions carry equal marks
- ***g)*** Hand in all printouts and the CD

FOR OFFICIAL USE

QUESTION	MAXIMUM SCORE	STUDENT SCORE
1	50	
2	50	
TOTAL	**100**	

QUESTION 1

Scenario

You have been asked by the cabinet secretary for Transport to create a spreadsheet and a chart to show the number of serious traffic accidents in Kenya over a period of years. You've found the raw statistics at the Kenya Government Website, but now you need to work with the data. In particular, the secretary wants you to create a chart to show;

- For accidents resulting in fatalities, what percentage involved alcohol and what percentage did not
- For accidents resulting in injuries what percentage involved alcohol and what percentage did not
- For accidents resulting only in property damage, what percentage involved alcohol and what percentage did not.

Figure 1 below represents the raw statistics downloaded from the government website.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	TABLE1												TABLE 2			
2		MAJOR TRAFFIC CRASHES												**Fatality**	**Injury**	**Damage**
3		All Crashes						**Alcohol Related Crashes**					**Alcohol**			
4	Year	Total	Fatality	Injury	Damage		Year	Total	Fatality	Injury	Damage		**No Alcohol**			
5	1986	20854	108	7814	12932		1986	987	26	516	445					
6	1987	23625	128	8624	14875		1987	1051	35	520	496					
7	1988	26072	129	8963	16980		1988	1103	27	519	557					
8	1989	26894	127	8888	17879		1989	1018	26	497	495					
9	1990	26640	154	9745	16741		1990	1215	31	595	589					
10	1991	21840	119	9046	12675		1991	951	27	496	428					
11	1992	21835	121	9359	12355		1992	847	21	439	387					
12	1993	21471	110	9564	11786		1993	853	29	461	363					
13	1994	19851	118	9172	10569		1994	773	16	416	341					
14	1995	16581	132	8939	7524		1995	686	12	412	262					
15	1996	13285	117	7913	5240		1996	655	17	408	230					
16	1997	12445	131	7642	4686		1997	633	9	387	237					
17	1998	11542	113	7016	4413		1998	744	17	457	270					
18	199	10567	90	6570	3907		1999	676	12	408	256					
19	2000	11094	116	6846	4132		2000	651	15	422	214					
20	2001	10848	133	6125	4590		2001	468	15	270	183					
21																
22																
23																
24																

(a) Use suitable application software to capture the data in figure 1.Format the data accordingly

Save this file as **AutoAccidents1**. **(22mks)**

(b)

(i) Delete columns Fand G **(1mk)**

(ii) Type the label"**Total**" in cell A21, "Average" in cell A23, "**Lowest"** in cell A24. **(1mk)**

(iii) Insert functions in row 21,22,23 and 24 to get the sum number of crushes that occurred in the reported years **(1mk)**

(iv) To avoid confusing the number of accidents in each year with the total of the accidents over the whole range of years, change the labels in cells B4 fro **Total** to **Numbers** **(1mk)**

(v) Format all the numbers in range B5:120 so that a comma separator at the thousand's place.(Example:3,789 instead of 3789). **(1mk)**

(vi) Save this file as **Auto Accidents2**. **(1mk)**

(c) (i) The data in this table has different sections. To make it easier to tell what each section is about, merge and center the following ranges so that the labels are centered over corresponding data;

B2:12 **(1mk)**

B3:E3

F3:13

(ii) Edit the text in B2:12 to make it read:

MAJOR TRAFFIC CRASHES IN KENYA **(1mk)**

(iii) In order to visually separate data on all crashes from those that were alcohol-related: Create an outline border around the cells in the B 3:E21,and around cells in range F3:21. **(1mk)**

(i) To increase readability, make all of the sections labels in the B2:14 range bold **(1mk)**

(ii) To make the labels look neat and tidy, adjust the width of the column A through column 1 to fit their contents **(1mk)**

(iii) Save this files as **Auto Accidents 3** **(1mk**

(d)

(i) You will use **Table 2** (the grey shaded table to the right of Table) to analyze the crashes that involved alcohol vs. crashes that did involve alcohol. Use cell references and formulae to fill in the fatality, injury and damage values for:

(a) Alcohol related crashes **(1mk)**

(b) Non alcohol related crashes **(1mk)**

(ii) Create a **Blue** outline border around the cells in the range L5:P21 **(1mk)**

(iii) Save this file as **Auto Accidents 3** **(1mk)**

(e) Use table 2 data (range M2:P4)to

(i) Create a 100% Stacked Column chart with 3D effect **(1mk)**

(ii) Title the chart "Alcohol vs.**Non Alcohol Related Crashes**" **(1mk)**

(iii) Place the legend at the bottom **(1mk)**

(iv) Place the chart: directly under Table 2 and directly to the right of Table 1 .Resize the chart to fit inside the empty blue box.(i.e the boundary outline created in question d)ii above. **(1mk)**

(v) Save this file as **Auto Accidents4** **(1mk)**

(f) Change page set up so that:

i. It has a landscape orientation **(1mk)**

ii. It is scaled/resized to fit on one page by one page(i.e on one page only) **(1mk)**

iii. It has 1 inch margins all round (left,right,top and bottom) **(1mk)**

iv. Customize the header so that it; has your full name in the left section. Your index number in the section and current date in the right section **(1mk)**

v. Save this file as AutoAccidents5 **(1mk)**

(g) Print the spreadsheet **(1mk)**

Your finished products should resemble the one in figure 2 below.

QUESTION 2

Witu Company is an organization that has employed several workers .In order for it to monitor the performance of its workers and the different duties assigned to its workers, the company needs a database to organize the information required.

(a) Create a database file and name it records 2016 **(2mks)**

(b) (i)Using the table below create the appropriate fields and split the data into two tables ,one for storing employees records and the other for storing employment records and give them appropriate names **(8mks)**

EMPLOYEE NO.	NAME	DEPARTMENT	MARITAL STATUS	SALARY	AGE
2213	JOHN CLAY	TRANSPORT	MARRIED	8,000.00	35
2214	ROSE JOHNS	CUSTOMER CARE	MARRIED	10,000.00	40
2215	PETER ROGERS	HEALTH	MARRIED	50,000.00	45
2216	JED OTIENO	FINANCE	SINGLE	20,000.00	25
2217	VINCENT JED	TRANSPORT	SINGLE	8,000.00	20
2218	ALLAN LIMO	CLEANING	SINGLE	4,000.00	22
2219	PETER OLOO	MARKETING	MARRIED	80,000.00	35
2220	HUSSEIN KIMAN	FINANCE	SINGLE	15,000.00	26
2221	ROBERT KIBANI	SECURITY	SINGLE	5,000.00	28
2222	JANE LESSOS	SECRETARY	MARRIED	6,000.00	31
2223	LUCY OJWANG	CUSTOMER CARE	MARRIED	8,000.00	30

(ii) Create screens for each table for inputting the data in the table above **(12mk)**

(iii) For each of the tables, choose the most appropriate primary key **(2mks)**

(iv) Create a relationship between the two tables **(2mks)**

(c.) Create a query to display the files Name, Department and Salary for those employees who earn more than 10,000.00.Save as experts **(5mks)**

(d)

(i)Generate a tabular report with landscape orientation from the table to display the fields in the following order **(5mks)**

EMPLOYEE NO., NAME, SALARY, DEPARTMENT, AGE

(ii) Sort records in the report in alphabetical of the name field **(2mks)**

(ii) Compute the total of salary for all the employees and place it below the salary column. Save as **Expenses** **(5mks)**

(iv) Create a query to display the workers years of birth and save it as YOB **(3mks)**

(e) Print the two **tables ,experts, expenses** and **YOB** **(2mks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 3 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

(Theory)

INSTRUCTIONS TO CANDIDATES

a) *Write your name and index number in the spaces provided above.*
b) *This paper consists of **TWO** sections **A** & **B**.*
c) *Answer ALL the questions in section A.*
d) *Answer question **16** and any other **THREE** questions from section **B**.*
e) *All answers should be written in the spaces provided on the questions paper.*

For Official Use Only

Section	Question	Candidate's score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
Total score		

SECTION A (40 MARKS)

Answer all the questions in this section in the spaces provided

1. State **one** function of each of the following.

(a) peripheral devices **(1 mark)**

(b) system software **(1 mark)**

2. Explain **two** effects of power instabilities in the computer laboratory. **(4 marks)**

3. Describe future trends in microcomputers in relation to:

(a) hardware **(2 marks)**

(b) software **(2 marks)**

4. A form one student in a certain school attempted to switch on her computer. After a while, she realized that the computer had failed to load the GUI desktop despite the monitor being well connected and having been switched on.

State **two** likely causes to the above problem and give **two** possible solutions**(4 marks)**

5. The table below was created using a spreadsheet program. Use it to answer the questions that follow.

NAME	**CAT1**	**CAT2**	**CAT3**	**TOTAL**
Noah Ojwang'	46	76	67	
Mohamed Ali	54	67	45	
Jepkosgei Pauline	76	34	76	
Atieno Oyoo	56	85	85	
Wafula Joan	87	78	48	
Karanja Emily	59	86	73	
Dennis Mayanja	39	67	82	
Asha Abdi	67	56	39	
Omukhobero Jared	28	59	68	
AVERAGE				

(a) State a formula that can be used to calculate the total for Karanja Emily**(2 marks)**

(b) It is required that the number of students whose total score is above 200 marks be determined. Write the expression that can be used to accomplish this. **(2 marks)**

6.Explain **two** application areas of video conferencing. **(2 marks)**

7.Explain **two** ways in which ICT has contributed to the pollution of the environment. **(2 mks)**

8.The secretary of a certain institution uses a computer connected to a network to carry out her duties. She realized that some of the information on her computer had been interfered with despite having logged it off before taking her break. She approached the network administrator to assist in identifying the person who may have accessed the computer and tampered with the information.

(a) Describe the method which the network administrator may employ in order to identify the person. **(1 mark)**

(c) Name any other measure which the network administrator could use in order to prevent unauthorized access to her computer. **(1 mark)**

9.A manager of a certain company wishes to replace its old batch processing system for preparing customer accounts by a real time processing.

(i) Describe **three** main areas that should be evaluated to justify replacement. **(3 marks)**

(ii) A feasibility report has been accepted by the project steering committee. A system analyst now has to investigate the existing system in detail to find out how it works. Describe **two** methods of fact finding that should be used. **(4 marks)**

(iii) State **two** factors that should be considered when selecting a programming language to be used in constructing the system. **(1 mark)**

10.A computer studies form one student was requested to format his diskette in Windows XP Operating System environment. Instead, he selected and formatted the hard drive by mistake.

(a) Explain why the student had to format his diskette. **(1 mark)**

(b) Explain a possible consequence of the mistake made by the student. **(1 mark)**

(c) Describe **two** situations when the computer user will be required to format a storage media. **(1 mark)**

11.Some devices have a combination of input and output functionality. State **two** such devices. **(1 marks)**

12. State **two** disadvantages of Random Access Memory. **(1 mark)**

13. One way in which computing technology has impacted positively on society is the ease of communication through the e-mail. State **two** disadvantages of e-mail. **(1 mark)**

14.A student was using a spreadsheet program to prepare his budget. He created a formula to enable him calculate the total amount but after applying the formula, the following error was displayed: #Name? Explain the cause of the error and give a solution. **(1 mark)**

15. Describe **two** features of desktop publishing software that makes it more suitable for producing a school magazine than a word-processing software. **(1 mark)**

SECTION B (60 MARKS)

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

16. (a) State the function of the following symbols as used in the flowchart.

(i)  **(1 mark)**

(ii)  **(1 mark)**

(b) To maintain a strategic fit Safaricom is introducing a tariff called the mega tariff that will lower costs to Safaricom to Safaricom calls and calls to other networks. Calls to Safaricom networks will be charged according to the time of the day as listed below:

-Between 8am to 12 noon – 6 Ksh

-Between 12 noon to 8pm-0.8 Kshs

-Between 8pm to 1 am -4Kshs

-Between 1 am to 8am- 1Kshs

Internal calls to other networks are charged at a fixed rate of Kshs 7 between 8am to 8pm and Kshs 5 the rest of the day. International calls are charged at a rate of Kshs 25 between 8am to 8pm and Kshs 35 for the rest of the day. All calls are charged per minute usage.Mr. Wasswa Baale a business man who makes both internal and international calls would like to make maximum use of this tariff.

(c) Write a pseudo code that would show him know the charges of calls with an appropriate label when he the inputs type of call and the time where appropriate. Use a 24 hour clock. **(7 marks)**

(d) Design a flowchart for the pseudo code in 16(a) above. **(6 marks)**

17. **(a)**Bidii secondary school uses a computer based system to process student marks. While entering marks a teacher made the following mistakes; typed 150 instead of 50, I0 instead of 10 and typed a student's admission number as 2A34 instead of A234.

Describe **three** validation checks that would have been built into the system to control such errors. **(6 marks)**

(b) With the aid of a diagram, describe multiprogramming mode as used in computer data processing. **(5 marks)**

(c) Using diagrams describe the following database models:

(i) hierarchical; **(2 marks)**

(ii) network. **(2 marks)**

18 **a)**A company in town A wishes to link its offices that are spread across the city through wireless or fibre optic network media.

(i) State **three** advantages of using wireless over fibre optic network media**.(3 marks**)

(ii) Outline **two** wireless communication devices. **(2 marks)**

b) **(i)** Differentiate between Ethernet and token ring topology. **(2 marks)**

(ii) List **two** advantages and two disadvantages of mesh network topology. **(4 marks**)

(c) Describe the following computer network configurations.

(i) Peer-to-peer **(2 marks)**

(ii) Client-server **(2 marks)**

19. **(a)** The growth and widespread use of computers and its related technologies has led to job displacement, creation and replacement. Define the following terminologies.

(i) Job displacement **(1 mark)**

(ii) Job creation **(1 mark)**

(iii) Job replacement **(1 mark)**

(b) Natural language processing is an area of computer systems evolution.

(i) Differentiate between natural language processing and voice input/output**.(2 mks)**

(ii) State any **two** difficulties of implementing natural language processing. **(2 marks)**

(c) **(i)** Explain **three** ways in which computers and related technologies can increase stress in the workplace. **(3 marks)**

(ii) Suggest **two** ways in which computer related stress in the workplace can be minimized. **(2 marks)**

(d) State any **three** examples of Internet use that may be considered morally wrong. (3 marks)

20 **(a)**Using two's complement, perform the following arithmetic operations in 8-bit notation. . **(4 Marks)**

(a) 33_{10}- 26_{10}

(b) 12-3_{10} **(4 marks)**

(c) Work out the decimal equivalent of the following binary numbers.

(i) 101.11_2 **(2 marks)**

(ii) 111.101_2 **(2 marks)**

(c) Using an illustration, explain how data is represented on a magnetic media. **(3 marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 3 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

Paper 2

(Practical)

INSTRUCTIONS TO CANDIDATES

a) *Indicate your name and Index number at the top right hand corner of each print out*

b) *Write your Name, and Index Number on the CD / Removable storage medium provided*

c) *Write the **name** and the **version** of each S/W used for each question attempted in the answer sheet provided.*

d) *Answer **all** the questions*

e) *All questions carry equal marks*

f) *Passwords **should not be used** while saving in the CD/Removable storage medium*

g) *All answers **must** be saved in the CD / Removable storage medium*

h) *Make a printout of answers on the answer sheet provided.*

i) *Arrange your printouts and tie/staple them together.*

*j) hand in all the **printout** and the CD/removable storage medium used*

k) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing

QUESTIONS

1. Jumia sales and marketing company sells products J, K, L. The table below shows an extract of a spreadsheet for the company`s salespersons and their respective sales in shillings for each product.

	A	B	C	D	E	F	G	H
1	**SALES PERSON**	**PRODUCT J**	**PRODUCT K**	**PRODUCT L**	**TOTAL SALES**	**POINTS**	**CATEGORY**	**TOTAL PAY**
2	Jackline	4,000.00	6,230.00	7,500.00				
3	Mary	4,500.00	6700.00	8,000.00				
4	Cantona	5,678.00	10,000.00	7,800.00				
5	Janeth	3,200.00	4,000.00	9,600.00				
6	Maxwell	8,000.00	7,005.00	8,900.00				
7	Nambwa	9,800.00	9,670.00	10,000.00				
8	Kedeki	2,700.00	3,400.00	2,300.00				
9	**TOTAL**							

(a) **i)** Using a spreadsheet package enter the above information and save it as **SALES_TABLE.** **(9 marks)**

(ii) Format the worksheet to appear as it is. **(4 marks)**

(b) **(i)** Type a formula:

I at cell B9 to compute the total sales for product J; **(1 mark)**

II at cell E2 to compute the total sales for Thomas . **(1 mark)**

(ii) Apply the formulae to the appropriate cells. **(2 mark)**

(c) A Salesperson earns points for the sales of each product based on the following criteria;

- 1 point for every shs. 50 for product J,
- 2 points for every shs.65 for product K
- 3 points for every shs.40 for product L

(i) Type a formula in cell F2 to compute the total points earned by Thomas; **(3marks)**

(ii) Apply the formula in (c) (i) to the rest of the salespersons. **(1 mark)**

(d) A salesperson is categorized based on points earned as follows.

POINTS RANGE	CATEGORY
Over 1300	Gold
1101-1300	Silver
Up to 1100	Bronze

Those salespersons attaining a Gold category earn a promotion.

(i) Type a formula in G4 to determine Cantona's category. **(5 marks)**

(ii) Apply the formula in (d) (i) to other appropriate cells. **(1 mark)**

(iii) Type a formula at G10 to determine the number of Sales who will earn a promotion **(4 marks)**

(e) Each salesperson earns a total pay of Shs 20,000 plus 2% commission of their total sales. Using absolute referencing, determine the total pay for each salesperson if the value 2 is entered in cell B12. **(5 marks)**

(f) Create a bar chart showing product J and L sales person. Insert appropriate labels on the chart. **(9 marks)**

(g) Rename the worksheet containing the data as **SalesData** and the chart sheet as **SalesChart**. **(2 marks)**

(h) Print the following: **(3 marks)**

(i) **SalesData**;

(ii) **SalesData** showing the formulae;

(iii) **SalesChart**.

2. ERICK owns houses for rent. The Table below is a record of his tenants' rent payments.

Tenant ID	Tenant Name	House Number	Month	Amount(Ksh)
2019	Maureen	A1	January	3,000
2022	Wekesa	A2	January	4,000
2038	Mary	B1	January	4,500
2059	Mark	B2	January	4,500
2070	Matildah	C1	January	4,000
2090	Maureen	A1	February	3,000
3030	Wekesa	A2	February	4,000
3040	Mary	B1	February	4,500
3025	Matildah	C1	February	4,000
3050	Alice	C2	February	3,500
3055	Wekesa	A2	March	4,000
3090	Alice	C2	March	3,500

(a) Create a database file that can be used to store the above data.
Name the file **Rent.** **(2 marks)**

(b) Create two tables, one to store tenant details and another to store tenant rent payments. Name the tables '**Tenants**' and '**Payments**' respectively. **(9 marks)**

(c) Create a relationship between the two tables. **(3 marks)**

(d) Design a form to be used to enter data into each of the two tables. **(7 marks)**

(e) Enter the information given into the two tables. **(9 marks)**

(f) Create a report showing the amount Erick received from each tenant, the total for each month and the total amount he received over the three months. The report should be title 'Rent income'. Save the report as '**Income**'. **(8 marks)**

(g) **(i)** Create a query named '**Statement**'to extract Wekesa's records of rent payment. **(3 marks)**

(ii) Create a report '**Tenant Statement** 'showing Wekesa's rent payment history.The report should be title 'Tenant Statement'. **(4 marks)**

(h) Print the two tables and the two reports **(4 marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 4 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

TIME: 2 ½ HRS

Instructions to candidates

1. *This paper consists of TWO sections; A and B*
2. *Answer all questions in sections A.*
3. *Answer question 16 and any other THREE questions from section B.*

FOR EXAMINERS USE ONLY

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

SECTION A (40 MARKS)

ANSWER ALL QUESTIONS IN THIS SECTION

1. Differentiate between cold booting and warm booting in computing **(2mks)**

2. Define parallel processing **(1mk)**

3. **(a)** Mention any **TWO** reasons why command-based operating systems are not common in today's business computer systems. **(2mks)**

(b) Explain any **THREE** functions of an operating system with respect to memory management **(3mks)**

4. Differentiate between partitioning and formatting as used in disk management **(2mks)**

5. Name the type of scanner used to capture data from the following document format below **(1mk)**



6. Computer output can now be in form of spoken words in digitized speech. An example of such application is spell learning devices for children. State ONE advantage of speech output. **(1mk)**

7. Mention any **TWO** features that are considered before buying a main memory module. **(2mks)**

8. A technician recommended a computer in the principal's office needs upgrading of the CPU. State any TWO reasons that may have necessitated the upgrading of the CPU. **(2mks)**

9. State **TWO** reasons why secondary storage is preferred to main memory in data storage.**(2mks)**

10. (a) State **ONE** advantage of relational database model over flat files **(1mk)**

(b) State **TWO** uses of primary keys in a database **(2mks)**

(c) A database requires data to be defined by assigning data types to fields for purposes of consistent storage.Describe any **FOUR** data types that can be allowed in Ms Access. **(4mks)**

(d) Define the term macro as used in databases **(1mk)**

11. State any **ONE** reason why USB interface cables are widely used in computing devices **(1mk)**

12. A company is considering replacing some of its software, including its word processing package, and to acquire an integrated software package. State **TWO** advantages for the company in using in tegrated software rather than separate packages. **(2mks)**

13. (a) State **TWO** types of DTP software **(2mks)**

(b) List **FOUR** page formatting features in DTP **(2mks)**

14. (a) Explain the meaning of "what if analysis" in spread sheets **(2mks)**

(b) The table below shows items consumed by some students for breakfast in a given day.

	A	B	C	D	E	F
1			ITEM COST			
2	NAME		SAUSAGE	TEA	BANANA	TOTAL COST
3			15.00	10.00	5.00	
4	Charles		1	1	2	35
5	Amoit		2	4	2	80
6	David		3	1	2	
7	Okello		2	1	2	50

(i) Using an expression, find the total expenditure incurred by David **(2mks)**

(ii) State what you would obtain from the expression = Count IF (F4:F7, ">45") **(1mk)**

15. Define the following terms as used in relation to operating systems **(2mks)**

(i) Folder

(ii) Drive

SECTION B (60 MARKS)

ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS FROM THIS SECTION

16. (a) State any THREE advantages of using Object Oriented programming for writing programs **(3mks)**

(b) In a computer contest with 40 entries, three papers are tested and the final marks awarded according to the average of the papers. The final marks are then ranked to get position 1, 2 and 3 who are awarded trophy, cash and scholarship, trophy and cash, and cash respectively

Write a program pseudocode and flowchart that will prompt for the name, school and marks for each paper then compute the final marks and rank and display the students name, school, final marks position and award.

a) Pseudocode **(5mks)**

b) Flowchart **(7mks)**

17. (a) With the aid of a well labeled diagram, describe control and feedback model in a system **(4mks)**

(b) Distinguish between the following terms as used in system development **(4mks)**

i. Hard system and soft system

ii. Operational feasibility and technical feasibility

(c) State **THREE** ways in which organizations manage system entropy **(3mks)**

(d) Explain any **TWO** reasons for system maintenance **(1mk)**

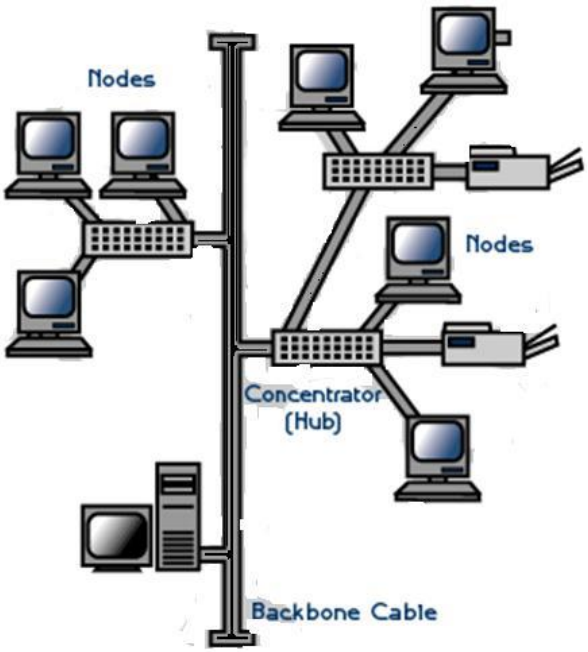
(e) Briefly explain **THREE** ways in which computers can be used in motor vehicle manufacturing companies **(3mks)**

18. (a) Distinguish between the following terms as used in data communication **(4mks)**

i. Guided transmission and unguided transmission

ii. Multiplexing and demultiplexing

(b) Below is a diagram of a network topology.



i. Name the above topology **(1mk)**

ii. State **ONE** advantages and **ONE** disadvantage of using the topology named above **(2mks)**

(c) (i) State **TWO** ways in which users in an organization can be a security threat to data in an information system. **(2mks)**

(ii) Define cyber terrorism **(1mk)**

(d) A school intends to set-up an e-mail.

L**ist FOUR** activities likely to be provided by the e-mail facility. **(2mks)**

(e) Define the following terms as used in the internet. **(2mks)**

(i)Internet blog

(ii) Webportals

(f) Kenya publishing and printing company wishes to employ an ICT professional to assist in making publications .State the suitable ICT professional the firm could employ **(1mk)**

19. (a) (i)List and explain the THREE types of errors that can occur during data collection stage of data processing cycle **(3mks)**

(ii) Distinguish between master file and transaction file **(2mks)**

(iii) Define real time processing **(1mk)**

(iv) Explain a situation where the batch processing would be appropriate **(1mk)**

(b) Using twos complement, perform the following operation and give your answer in decimal notation

- $777_8 - 25_{10}$ **(4mks)**

(c) Solve $AC_{16}+101_2=X_2$ **(2mks)**

(d) Convert binary number 11010110.1001_2 into octal number. **(2mks)**

20. (a) State any TWO negative effects of introducing robots in a manufacturing plant **(2mks)**

(b) State THREE advantages of using computers **(3mks)**

(c) Name THREE types of special purpose memories used in a computer **(3mks)**

(d)Explain the purpose of the system clock **(2mks)**

(e) (i) In word processing, differentiate between text wrap and word wrap **(2mks)**

(ii) List any THREE types of section breaks used in word. **(3mks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 4 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

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.

QUESTIONS

1. The table below shows the admission numbers and names of five students and their scores in six subjects in a mock examination.

ADM. NO.	Name	English	Maths	Biology	Chemistry	Physics	History
2020	Victor Mutiso	77	68	75	35	58	80
2032	Zablon Onyango	44	77	80	42	60	73
2037	Pauline Nafula	68	59	91	39	59	75
2040	Naom Cherop	55	80	89	48	38	66
2044	Jameleck Kioko	69	62	83	43	44	70

a) Enter the above data into a worksheet and save the file as 'mock results' **(13mks)**

b) Using a formula, calculate the**;** **(4mks)**

a) Total score for each students

b) Mean score for each student

c) Use a function to obtain the mean for each subject **(3mks)**

d) A student is awarded a 'pass' if their mean score is 60% or more. Use a function to determine the number of students who are awarded 'pass' **(2mks)**

e) Format the worksheet as follows

- Borders : single line
- Subject heading : align 90°
- Marge the cells above all the subjects headings so that the text 'SUBJECT' is above them.
- Mean score : One decimal place **(4mks)**

f) Copy the contents of the worksheet to a blank worksheet and insert a blank column after every subject.

Label the new columns as Eng B, math B, Bio B, Chem B, Phy B, and Hist B respectively. On the inserted columns, compute the grades using IF function based on the following criteria. **(10mks)**

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

g) Hide all the columns containing score values and save the worksheet as "Mock results 2" **(2mks)**

i)Create a bar chart to compare students mean score and label the chart accordingly. **(10mks)**

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

2. The data in the table was extracted from a survey data on employment.

Table 1: EMPLOYEE TABLE

Name	Year of birth	Employee ID NO.	Employer ID	Job category
DAISY	1980	13144	01	GK4
DAVID	1970	11100	04	GK3
DOREEN	1984	14010	02	GK1
DAVIN	1976	12110	05	GK1
ALLAN	1973	11410	03	GK2
KATE	1968	10570	04	GK3
ZEDDY	1990	11040	05	GK3
PIUS	1998	15978	03	GK2
ZION	1992	17192	02	GK4
BOB	1993	18965	05	GK4

Table 2: EMPLOYMENT TYPE

Job Category	Job Description
GK1	Casual
GK2	Temporary
GK3	Contract
GK4	Permanent

Table 3: EMPLOYER TABLE

EMPLOYER ID	EMPLOYER NAME
01	ONYANGO
02	WAMBUA
03	OSHIRO
04	KATANA
05	AWINJA

a) **i)** Create a database named "STAFF" to store the above **(14mks)**

ii) Create relationships between the tables **(4 ½ mks)**

iii) Use forms to enter data into the tables **(10 ½ mks)**

b) **i)** Generate a report to display the name year of birth, age and employer's name for the employees who will be over 30years old by the year 2015 **(10mks)**

ii) Compute the mean age of employees on the report you created in b(i) above. **(2mks)**

c) **i)** Create a query to display the employees and their jo description. Save the query as "STAFF TYPE" **(3mks)**

ii) Create a pie chart based on the query in c(i) above to display the proportion of employees in various job description.

Save the report as CHART

d) Print i) Three tables

ii) Two reports

iii) Output of query results for STAFF TYPE.

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 5 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

(THEORY)

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.

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

SECTION A: (40 MARKS)

Answer All the question in this section

1. A computer should be connected to a stable power supply.Highlight two reasons **(2mks)**

2. **(a)** Give four characteristics of cathode ray tube monitors **(2mks)**

(b) Name two examples of flat panel display (FPD) **(2mks)**

3. Optical storage media are preferred as compared to magnetic media give four reasons **(2mks)**

4. Many organizations nowadays use in-house developed programs. Highlight four disadvantages of standard software over in house developed, software **(2mks)**

5. Briefly explain classification of operating system by human computer interface **(3mks)**

6. Differentiate the following

(i)Insert mode and type over mode **(2mks)**

(ii)Text alignment and indentation **(2mks)**

7. (a)Explain the functions of the following spreadsheet inbuilt functions

(i) SUM IF **(1mk)**

(ii) COUNT **(1mk)**

(b)Explain the following errors as displayed in a spreadsheet cell **(2mks)**

(i) ####

(ii) ## NAME

(iii) ## NUM!

(iv) ## DIV/O!

8. Controls in database can either be bound or unbound .Explain **(2mks)**

9. State three ways of moving round the page in a desktop publishing window **(3mks)**

10. Why is it difficult to detect and prevent computer crimes? Give four reasons **(2mks)**

11. Mrs. Jane decided to use electronic data processing method to analyze her data. Highlight four factors to consider while choosing the method to use **(2mks)**

12. (a)State two disadvantages of mesh topology **(1mk)**

(b)Name two functions of network operating system **(1mk)**

13.(a) Define the term Artificial Intelligence **(1mk)**

(b)List four areas where artificial intelligence is applicable **(2mks)**

14. (a)Give four features of micro computers and ICT in future **(2mks)**

(b) Name two advantages of automated manufacturing **(1mk)**

15. Highlight three types of job opportunities that are available in the field of computer software **(3mks)**

SECTION B (60 MARKS)

Answer question 16 compulsory and any other three questions from this section

16. (a)Define the following terms

(i) Structured programming **(1mk)**

(ii) Constants **(1mk)**

(iii) Variable **(1mk)**

(b)Distinguish between dummy data and real data as used in system testing **(2mks)**

(c) Mr.Etarukot borrowed a loan of 200,000 from Akukuranut cooperative society at a rate of 10% payable in 2 years flat rate. Draw a flow chart that can be used to develop a computer program that will keep track of monthly repayments **(5mks)**

(d)Write the pseudo code for the flowchart in question (c) above **(5mks)**

17. (a)Define the term simulation **(1mk)**

(b)Highlight four areas where simulation is applicable **(2mks)**

(c) Give four disadvantages of a good system analysist **(2mks)**

(d)Name four qualities of agood system analyst **(2mks)**

(e)What do you understand by the term Articial Neural Network ? **(2mks)**

(f)Give two features of neural networks **(2mks)**

(g)Explain the following conditions

(i) Computer Vision Syndrome (CVS) **(2mks)**

(ii)Repetitive Stress Injury (RSI) **(2mks**

18. (a)Briefly explain the following terms as used in networking **(2mks)**

(i) Distributed processing **(1mk)**

(ii) Remote communication **(1mk)**

(b) Many people today prefer use of cell phones instead of fixed lines. List four advantages of cell phones **(2mks)**

(c) Distinguish between logical and physical network topology **(2mks)**

(d)A school decided to replace its administration system. The current had restrited reporting facilities. The school is considering using parallel running and direct change over .

(i) Explain the terms parallel running and direct changeover **(2mks)**

(ii) Give four disadvantages of direct changeover **(2mks)**

(e) Name three tasks carried out during system changeover **(2mks)**

19.

(a) Give and explain two computational errors committed during data processing **(2mks)**

(b) Highlight four ways of minimizing threats to data integrity **(2mks)**

(c) Name three risks associated with distributed data processing system **(3mks)**

(d) Differentiate between logical and physical computer files **(2mks)**

(e) Give two advantages of compiling a program rather than interpreting it **(2mks)**

(f) Highlight four errors detecting methods used in program development **(2mks)**

(g) Give four benefits of structural programming **(2mks)**

20.

(a) Internet connects millions of computers and telecommunication devices that have different software and hardware configurations.

(i) Explain how these devices work together **(2mks)**

(ii) Name four telecommunication devices used **(2mks)**

(b) Outline four ways of preventing piracy with regard to data and information **(2mks)**

(c) Perform the following operation

(i) 7ABEX to denary **(2mks)**

(ii) 37_{10} -13_{10} using two's compliment giving your answer to 8 binary digit **(3mks**

(d) List and explain the three parts of the window taskbar **(3mks)**

(e) Give two reasons why the hard disk may be partitioned **(1mk)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 5 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PAPER 2

INSTRUCTIONS TO CANDIDATES

a) Type your name and index number at the top right hand corner of each print out and your CD
b) Write the version of software used for each question attempted
c) Write your name and index number on the CD
d) Password should not be used while saving
e) Answer ALL the questions
f) All questions carry equal marks
g) Hand in all printouts and the CD

FOR OFFICIAL USE

QUESTION	MAXIMUM SCORE	STUDENT SCORE
1	50	
2	50	
Total	100	

QUESTION 1

Type the following passage exactly as it appears in to a word processor and save is as A:DOCA

GEOGRAPHICAL INFORMATIONN AND DATA

Geographical data is spatially reference data which can be displayed graphically as map images. That is the attitude of a location represented on a map. These data could be either quantitative (like elevation temperature) or qualitative (like land use in the location).In addition the attribute could be temporal. A lot of geographic attribute change with time of day, month, season, solar cycle and even over the ages. This information can be displayed on a map in four different forms.

(i) Point data:-This could represent the location of a city ,a hospital, a police station etc

(ii) Line data: Items normally represents on a maps as a line include railway line,roads,coastline,borderline,rivers etc

(iii) Polygon data:-These represents the boarders of specific regions such as seas,counties,city etc

(iv) Surface data:-This is information over region such as country,province,district,lake ,ocean, forest e.t.c

Functionally GIS should at least consist of a geographical data process subsystem, geographical data analysis subsystem and a geographical use subsystem, a geographical data analysis subsystem and geographical information use subsystem.

A few examples of GIS users land surveyors

Planners, resources forecasters and managers, public

Protection and security officers, property developers

And investors, education and transport managers

This list expanding day as GIS systems are becoming more affordable.

Hardware trends affecting GIS

The most important hardware activity that will affect GIS is cheapening or processor cost.With falling cost of the high speed microprocessors,Graphical workstations are now available for less than three thousand pounds sterling.This means that there are graphic based computer systems being used by more and more users. **(26 marks)**

(b) (i) Search and replace the passage with word information except in all of those occurrences in bold type face.

(ii) Capitalalize the first character of all occurrences of the word geographical

Save the passage as A :DOCB

(c) (i)Reformat the paragraph starting with ‘ A few example “ so that the left and right margins are the same as those of the paragraph above it.

(ii) Save the passage as A:DOCC **(6 marks)**

(d) Re-order the section labeled (i),(ii),(iii) and (iv) such that the original iii becomes (i) ,original (iv) becomes (ii) ,original (ii) becomes (iii) and original

(i) that order and retain the formatting style **(6mks)**

(e) (i) Change the paper orientation to landscape

(ii) Save the passage as A:DOCD **(6marks)**

(f)Print DOCA, DOCB,DOCC and DOCD **(6marks)**

QUESTION TWO

Using DTP software, create the following document as it is. Save it as software in drive A. Print your publication. (50 marks)

SOFTWARE

COMPUTER SOFTWARE

System software
system software performs a variety of fundamental operations that avails computer resources or to help the user accomplish specific tasks.

Functions :-

1. Booting the computer and making sure that all elements of the hardware are working properly.
2. Perform operations such as retrieving, loading, executing and storing programs.

System Software can further be divided into :

Application software
Designed to help the user accomplish specific tasks.

Classification according to acquisition
- **In-house developed programs**
- **Standard software**

Advantages of standard software over the in-house developed programs

- They can be easily installed and run
- They are ready available for almost any task
- Since they are thoroughly tested before they are released , chances of errors in them are rare.
- They can be easily modified
- They are less expensive to acquire

Software	*Uses*	*Examples*
Word processor	Typing documents like letters.	Ms Word, Lotus, WordPro, WordStar
Spreadsheets	Calculating budgets	Ms Excel, Lotus 123
DTP	Design Publications like Newspapers	Adobe Page Maker, Publisher
CAD	Technical Drawing	AutoCAD
Databases	Keeping records and files	Ms Access Dbase
Graphics Software	Creating & Manipulating pictures	Corel Draw, Adobe Photoshop

Factors to consider when selecting software

The following factors should be considered when selecting software:

Authenticity

This refers to genuineness , validity and or legitimacy of an item. Software should be accompanied by licenses and certificate of authenticity.

Compatibility and system configuration

Refers to the ability of the computer program to run the software depending on the system setup.

User friendliness

This is a measure of how easily the user can be able to operate the computer.

User needs determines the type of operating system and application programs that should be considered for application.

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 6 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1
(THEORY)

INSTRUCTIONS TO CANDIDATES

a) *This paper consists of **TWO** Sections **A** and **B***

b) *Answer all questions in Section **A***

c) *Answer question **16 (compulsory)** and any other **THREE** question in section **B***

d) *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		

1. In each of the following situations state the most appropriate data processing mode.

a). Hotel reservations **(1mk)**

b). Pay roll preparations **(1mk)**

2. a) Explain two uses of an uninterruptible power supply unit. **(2mks)**
b) Explain the meaning of BACKUP. **(1 mk)**

3. State two consequences of a poorly implemented system change over strategy **(2mks)**

4. a) What is a section break as used in word processing? **(1mk)**

b) State two section breaks that can be used in a word processor **(2mks)**

5. a) Define portability as used in software selection. **(1mk)**

b) List **two** ways of acquiring software in an organization. **(2mks)**

b) In relation to programming, what is meant by:

i). Language syntax **(1mk)**

ii). Semantic

6. Distinguish between Job scheduling and job sequencing **(2mks)**

7. a) Subtract 110_2 from 11010_2 **(1mk)**

b)State what the following key combination will do when pressed in Microsoft word 2003
i). CtrI + END **(1mk)**

ii). Ctrl + DEL **(1mk)**

8. Explain the difference between central processing unit (CPU) and microprocessor **(2mks)**

9. Suppose that i and j are integer type variables that have been assigned the values of 3 and -5 respectively. What is the value of the following Boolean expressions? **(2mks)**

a). (i DIV 2) >= (j+ 6)

b). i-3=j+5

10. a) State two characteristics of Rom **(2mks)**

b) Name **four** devices other than the typical computer where ROM may be used **(2mks)**

11. Explain **three** uses of DVDs. **(3mks)**

12. For each of the following printers state the print modes

a). Dot matrix **(1mk)**

b). Inkjet printer **(1mk)**

13. a) What is meant by disk defragmentation? **(1mk)**

b) State the purpose of disk defragmentation **(2mks)**

14. List **three** ways by which you can provide a common link or relationship between the tables in a database software. **(3mks)**

15. a) Define the following web related terms:

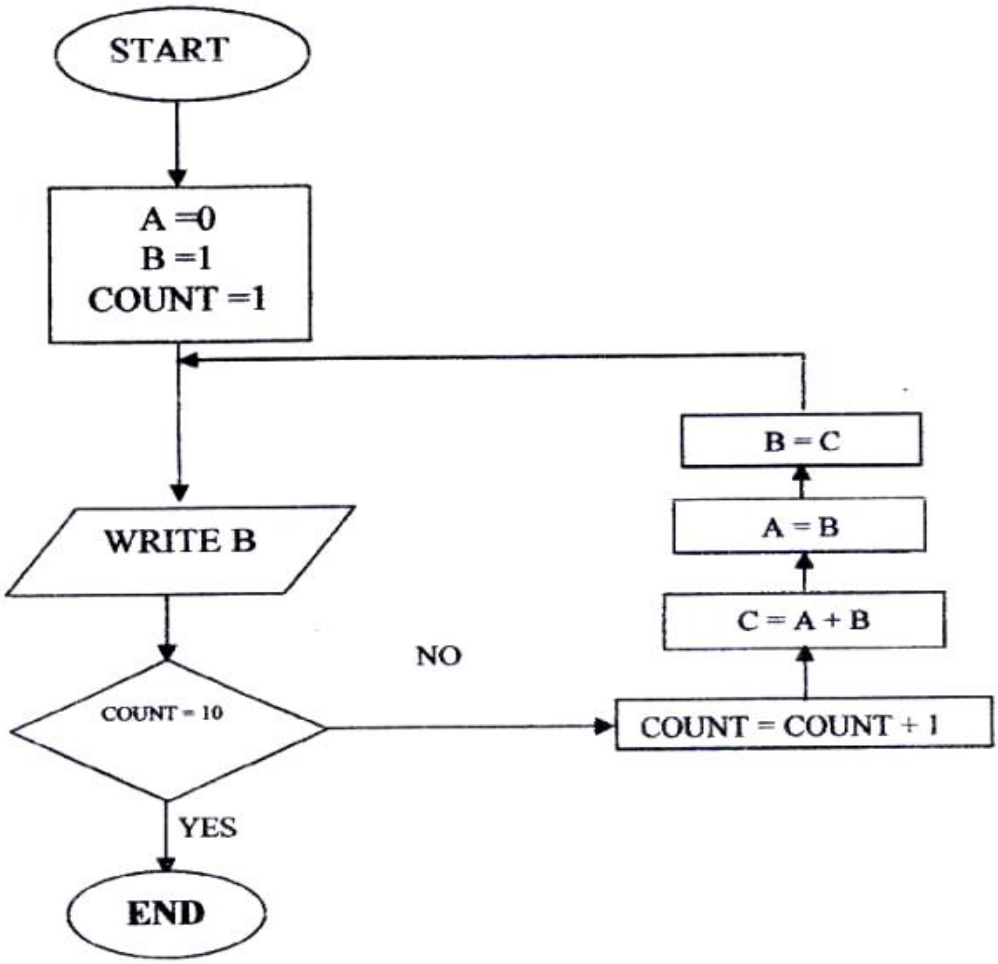
i) Web browser **(1 mk)**

ii) Hyperlink **(1 mk)**

SECTION B (60 MKS)

Answer question 16 and any other three questions from this section

16. Study the flowchart below and answer the questions that follow.



a) Write a high-level language program for the above flowchart **(7mks)**

b) List the outputs of the flowchart above **(5 mks)**

c) Modify the flowchart so that it adds up all its outputs and displays the sum obtained **(3mks)**

17. i (a) What is the hexadecimal equivalent of 767_8 **(3 mks)**

(b) Use one's compliment to solve the following sum: -5_{10} **(2 mks)**

ii. Compute the values of X in the following expressions

(a) $24.35_{10} = X_2$ **(3mks)**

(b) $6A13_H = X_{10}$ **(2mks)**

(c) Using two's complement compute **(5mks)**

$36_{10} - 25_{10}$

18. A student at Kula Mawe High school was asked to name four computer consumables. The student responded by naming the following; Toner, ink cartridge, plotter pen, ink ribbon.

a). Which of the items mentioned is likely not to be actively used in a school situation **(1mk)**

b). Explain to the rest of the students what is meant by:

i). Toner cartridge **(2mks)**

ii). Ink cartridge **(2mks)**

iii). Ink ribbon **(2mks)**

c). Output devices are classified as either hard copy or softcopy devices.

i). Name two hard copy output device that can be used in a busy architectural firm **(2mks)**

ii). State two reasons why the user may prefer softcopy to hard copy output device **(2mks)**

d). Use the two's binary compliment method of subtraction to work out the following **(4mks)**

4561.55_8— 10011111.001_2

19. a). Explain the meaning of the following field properties;

i). Validation rule **(1 mk)**

ii). Validation text **(1 mk)**

b). Below are two table structures of files in a database

Table A		Table B	
Field	Data type	Field	Data type
Employee name	text	Employee no	Number
Employee number	Auto number	Data employed	Data/time
DOB	Date/ Time	Department	Text
Address	Text	Salary	Currency

i). which of the two tables is likely to be the parent table **(1mk)**

ii). It is advisable to 'enforce referential integrity' when creating a relationships. What do you understanding by the term referential integrity?. **(2mks)**

iii). The field 'employee no' in table B likely to be the foreign key.What is a foreign Key? **(2mks)**

iv). Which fields in both tables is most appropriate for creating a relationship? **(1mk)**

v). What would make the relationship between the table fail to work? **(1mks)**

c) i). In databases the field properties specify finer details related to the fields and the table entries expected. State **THREE** field properties. **(3mks)**

ii). State **THREE** functions of a database **(3mks)**

20. a). i). Explain three communication services offered through internet **(3mks)**

ii). Describe the following internet terms **(2mks)**

Sign Up

Download

b). The following is a spreadsheet relating to a farmer.

	A	B	C
1	Crop	Amount	Remark
2	Maize	150	
3	Bean	300	
4	Cashew nuts	850	
5	Cabbages	1036	

i). a function =IF(B2<200 "Not Viable"), IF (B2> 300," Moderate"), IF (B2>1000, "Viable")))). Give the appropriate result returned in cells C2, C3, C4 and C5 **(2mks)**

ii). Text can easily be selected using a mouse in word processing. How do you select

a). Multiple paragraph **(1 mk)**

b). Vertical block of text **(1 mk)**

c). Distinguish between **(2mks)**

i). A window and an orphan in word processing

ii). Computer Crime and Computer abuse

d). i). Give one purpose of drop caps on a text paragraph **(1mk)**

ii). What is meant by desktop publishing **(1mk)**

iii). List **four** types of publications that can be designed using DTP software. **(2mks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 6 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

INSTRUCTIONS TO CANDIDATES

a) *This paper consists of **TWO** Questions.*

b) *Answer all questions.*

c) *Do NOT use passwords to save your work.*

d) *Save your work on the CD provided and label it with your name and Adm. no.*

FOR OFFICIAL USE ONLY:

Question	Candidates Score
1	
2	
TOTAL	

QUESTION 1

1. The weight and height of players in a rugby team taken and their respective measurements were taken as follows:

Antony 65 175, Brian 60 168, Calvin 78 182, Joseph 75 172, Samson 70 164, John 59 160, Ibrahim 95 180, Reuben 80 169, Joel 87 188, David 92 190, Peter 83 180, Job 78 174.

a) Create a database file named TEAM KENYA that can be used to enter and store the above data. **(8marks)**

b) Goals scored by each player in the previous matches to be included in the database file as follows: Brian and Calvin two goals each, Joel and Peter have scored three goals each, Ibrahim and Antony have not scored any goal, while the rest have scored 1 goal each. Include these details in the database file and save as PRINCELOO. **(9marks)**

c) i) Make the field containing names to be the primary key. **(2marks)**

ii) Sort the database records in ascending order of players, goals scored and save the database as CHRISTIES. **(5marks)**

d) i) Create a query to display the names, height and goals scored for players whose weight are below 80kg. **(6marks)**

ii) Generate another query to display the names of players starting with letter 'J', Weight and goals scored, save the query as SAFARI 7. **(6marks)**

e) Create a report that displays Names, Goals scored, Weight and Height In that order for all the players and save the report as DALA7. **(10marks)**

f) Print PRINCELOO, CHRISTIES, SAFARI 7 and DALA7. **(4marks)**

QUESTION 2

2. Recent statistics collected from a survey in Africa, Europe and Australia there has been as increase in the number of Professional Doctors since the nineties. In 1990 in Europe there were 250 surgeons and 330 physicians, in Australia there were 220 surgeons and 310 physicians while in Africa there were 170 surgeons and 240 physicians.

a). Represent the above information on a spreadsheet and save it as DOCTORS_1. **(10 marks)**

b). Compute the number of physicians and surgeons in the three continents in the 2000s given that the physicians and surgeons increased by 32.5% and 10.2% respectively. Round off the computed values to the nearest whole number. **(9marks)**

c). Compute the number of physicians and surgeons in the three continents in the 2010s given that the physicians decreased by 4.2% while surgeons increased by 10.7% from previous period. Round off the computed values to the nearest whole number. **(9marks)**

d). Add a label "COMPARE PHYSICIANS TO SURGEONS" and calculate this ratio for each of the three continents for the periods 1990, 2000s and 2010s rounded to 2 decimal places. **(5marks)**

e). Due to shortfall of physicians in Europe, the government decided to hire physicians from Africa. The family of each physician hired was to be paid 400 sterling pounds. The exchange rate was kshs 150 for 1 pound in 1990 and kshs 60 for 1 pound in 2000s and 2010s. If 150 physicians were hired in the 1990s, 165 in 2000s and 115 in 2010s, add a label called "HIRED PHYSICIANS" and calculate how much was spent in each period. Save the worksheet as DOCTORS_2. **(10marks)**

f). Using a column graph, represent the number of physicians in Africa in 1990s, 2000s and 2010s, the title of the graph should be "AFRICA PHYSICIANS". **(5marks)**

g). Print DOCTOR_2 and the graph. **(2marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 7 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

(THEORY)

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** and any other **THREE** questions from section **B**.*
- ***e)*** *All answers should be written in the spaces provided on the question paper.*

For official Use Only

Section	Question	Candidates Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
TOTAL SCORE		

SECTION A (40 MARKS)

ANSWER ALL QUESTIONS FROM THIS SECTION

1. State THREE factors to be considered when setting up a computer laboratory. **(3marks)**
2. A mobile phone is regarded as a computer. Give two reasons why. **(2marks)**
3. What is the difference between a Gas Plasma Display and Liquid Crystal Display **(2marks)**
4. In reference to CPU explain **fetch-execute** cycle **(3marks)**
5. Give anyTHREE reasons why magnetic Ink Character recognition are too popular in banking industry for processing cheques **(3marks)**
6. Mention any THREE parameters that makes up the access time of storage media **(3marks)**
7. Highlight the use of the following keys found on a standard keyboard. **(2marks)**
   - ***a)*** *Esc*
   - ***b)*** *Home*
8. a) Define a candidate key **(1 mark)**
   b) Describe anyTHREE data integrity constraints in a database. **(3 marks)**
9. Mr Matano is a teacher at MWALIMU PUBLISHERS High school and wishes to use Spreadsheet to process the marks obtained by his students during the term. The worksheet below shows the details used.

A	B	C	D	E	F	G	H	I
1	**NAME**	**CAT-1**	**CAT-2**	**CATTOTAL**	**EXAM**	**TOTAL**	**GRADE**	**RANK**
2	Susan M.	14	06		56			
3	Peter K.	13	08		34			
4	Mary Ann. N	10	04		59			
5	Paul P.	11	07		57			
6	Janet F.	06	09		48			
7	Justin G.	08	07		50			

NB:CAT -1 and CAT -2 are out of 15 marks each and EXAM is out of 70 marks

a) Write a function that displays “PASSED” when the total marks is >60 otherwise display “FAIL”. **(2 marks)**

b) Write a function that arranges the students according to their performance **(2marks)**

10. State any TWO duties of a database administrator **(2marks)**

11. A student in MWALIMU PUBLISHERS High School was working with computer using windows operating system. After sometime he started experiencing the following problems.

- The computer failing to load the operating system during the booting process.
- The computer hangs (stops responding) now and then.
- Abnormal restarting.
- Displays a blue screen with the message such as fatal exception error has occurred.

State any TWO possible causes of the above problems? **(2marks)**

12. List any THREE ways in which ICT can be used to enhance security in a supermarket. **(3marks)**

13. Mention any TWO components of an expert system **(2marks)**

14. State any TWO negative impacts of ICT on the environment **(2marks)**

15. State what should be considered when carrying out requirement analysis for selecting a computer system? **(3marks)**

SECTION B (60 MARKS)

Answer Question 16 (compulsory) and any other <u>THREE</u> questions from this section.

16. A lecturer is in need of calculating the percentage mark for individual students who took two CATs that were marked out of 30 marks each, for a class of 150 students and grade the student as follows.

a) Marks from 95 and above, one would get grade 'A'

b) Marks from 80 and above, one would get grade 'B'

c) Marks from 60 and above, one would get grade 'C'

d) Marks from 50 and above, one would get grade 'D'

e) Anyone whose score is less that 50, would get a 'F'

i. Draw a flowchart that can be used to compute the percentage markand output Grade for each student. **(8marks)**

ii. Write a pseudo code for the above flow chart. **(7marks)**

17. **(a)** Do the binary calculations in binary numbers **(2marks)**

i. $11101.0011_2 + 101.011_2$

ii. $101001.10101_2 - 110.01101_2$

iii. Using twos complement, perform the following calculation leaving your answer in decimal number. **(4marks)**

$$23_{10} - 41_{10}$$

iv. Determine the BCD representation of (-890_{10}) **(2marks)**

(a) With a relevant example Distinguish between the following terms as used in data processing.

(i) Online processing and real time processing. **(2marks)**

(ii) Backup file and Archive file. **(2marks)**

(b) (i)During manual data entry, the data entry clerks need to verify and validate their data to ensure that it is free from errors. Define the term error as used in this context **(1 mark)**

(ii) In an exam, where the subject marks for each student was summed and the mean calculated from the sum, the students realized that their marks were inaccurate by a fraction of the mean mark.Likewise a great difference between the actual class mean and the sum of the recorded mean mark.

Describe any two types of errors that may have caused the difference between the recorded mean marks and the actual mean marks. **(2 marks)**

18. (a) Prime systems Ltd. is a record label company. It wishes to introduce a computerized system, so it has asked a team of consultants to investigate the possibility.

i. The consultants first carried out an initial study and produced a feasibility report. Explain the purpose of a feasibility report **(2marks)**

ii. Give TWO reasons why some clerical staff at Prime systems Ltd. might have been worried with the prospect of computerization. **(2marks)**

(b) State the stage at which the following activities are performed in system development lifecycle **(3marks)**

(i) Flowcharting.

(ii) Staff training

(iii) Changeover

(c) (i) What is pilot running in system development? **(1mark)**

(ii) State TWO circumstances under which pilot strategy may be used during system changeover. **(2marks)**

(d) (i) State THREE disadvantages of observation method of information gathering**(3marks)**

(ii) Explain the importance of using automated methods of fact finding **(2marks)**

19. a) Describe the following wireless communication devices **(6 marks)**

i. Access point (AP)

ii. Wireless Antenna

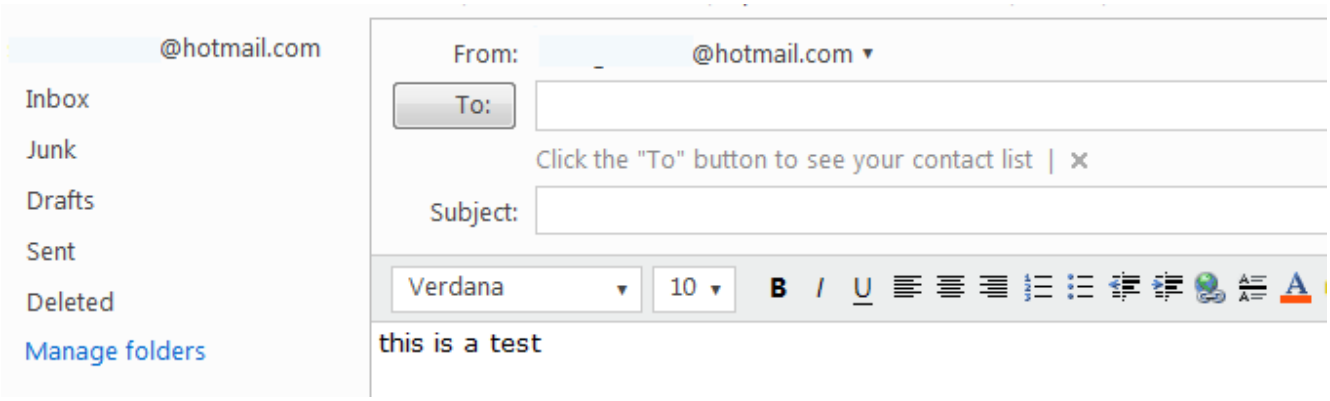
iii. PCMCIA cards

b) Explain the following **(4marks)**

i. Search engine

ii. Web browser

c) The diagram below shows an e-mail extract.



What is purpose of the following folders? **(2 marks)**

a) Junk

b) Drafts

d) Differentiate between Pasteboard, master page and printable area as used in desktop publisher. **(3marks)**

20. a) Explain each of the following type of operating systems **(4marks)**

i. Distributed

ii. Multi-user.

b) List any TWO types of embedded operating systems used in modern cell phones**(2marks)**

c) Most operating systems provide a *file system*. Mention any TWO file systems used in windows environment. **(2 marks)**

d) (i) Mr Isaboke an IT expert would like to create *table of contents* for his 50 page dossier. Explain to him how he could do this. **(3marks)**

(ii) As an IT expert, explain how a 20 page document can be formatted to have first five pages numbered i,ii,iii,iv,v while the remaining pages numbered from1,2,3,4….15. **(4marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 7 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

TIME: 2 ½ HOURS

Instructions to candidates

a) Type your name and Index No at the top right hand corner of each printout.

b) Write your name and Index No on the CD

c) Write the Name and version of software used in each question on the answer sheet

d) Passwords should not be used

e) Answer all the questions

f) All answers must be saved in a CD

g) Make printouts of the answers

1. The following are the KCSE results for a certain school.

BARAKA HIGH SCHOOL													
NAME	**ENG**	**KSW**	**MAT**	**BIO**	**PHY**	**CHE**	**GEO**	**ART**	**COM**	**FRE**	**AVE. POINT**	**OVERALL**	**RANK**
Njiru	B+	B	A	B-	A	B	B-	A-					
Manwa	C-	B+	A	A-	A	C	A-		A				
Kalulwe	B+	B	A	B+	A	B+	B	A					
Leonard	B+	A	A	C-	A	A-	C+		B+				
Fred	A	A	A	B	A	A	A-			B+			
Njogu	B+	B+	A	A-	A	A	A-	C+					
Muange	B+	B	B	A	A	A+	C+			A			
Kiprono	B	B+	A	A-	C	B+	A		A-				
Wekesa	B+	A	C+	A	B-	B	A		A				
Ndiragu	C+	B+	B	B	A	A	B+	D+					
Opiyo	A-	B	B+	D+	A-	B	B	B-		A-			
Mean													

a) i. Enter the data using the given values above in excel and save your work as KSSEXCEL **(15marks)**

ii. Two rows below the table above determine point scored by each student per subject. given that **(7marks)**

Grade	A	A-	B+	B	B-	C+	C	C-	D+
Value	12	11	10	9	8	7	6	5	4

iii. Rename sheet1 to "Broadsheet" **(1mark)**

b) Perform the following calculations.

i. Get the average point **(4marks)**

ii. Determine each student overall grade **(5marks)**

iii. Determine each students rank using the Ave. Point Mark. **(4marks)**

d. Calculate Subject Mean **(4marks)**

e. Draw a Column Chart to display Subject performance **(4marks)**

- Title as "SUBJECT ANALYSIS"
- **Place** the legend at the bottom of the graph **(2marks)**

- **Save** the chart on a new sheet and name it Subject Analysis **(2marks)**

f. Print

i) Broadsheet with formulae displayed **(3marks)**

ii) Subject Analysis **(1marks)**

2. You are the database administrator of Malcolm Computer Company which has branches all over the country. To maximize its profits, the company closely monitors its branch performance using computer. As the database administrator you are to use database to maximize the information required by the company.

a) Create a database file and name it MALCOLM **(1Mark)**

b) Create two tables named branch details and sales details from fields listed below **(4Marks)**

Branch code	branch name	Item code	profit	county	item	no of employees

c) assign appropriate Primary key for the two tables and create relationship between them **(3Marks)**

d) **(i)** Create forms for Branch and sales Details tables and save as branch and sales form respectively **(5Marks)**

(ii) Use the forms to enter the records below **(10 Marks)**

Branch Code	Branch Name	County	No of Employees	Item Code	Item	Profit
20100	Millimani	Nairobi	20	207	Keyboard	
43200	Nakuru	Narok	35	304	Monitor	
32100	Westgate	Machakos	25	104	UPS	
67400	Wilmer	Eldoret	30	809	Mouse	
52700	Kathiani	Kondele	26	802	Printer	
73900	Langas	Kisumu	31	630	Switch	
81400	Ngamia1	Lodwar	15	307	Cat 6 cables	
90100	Mtwapa	Mombasa	20	876	Router	
43300	Shoppers	Mumias	15	743	Motherboard	

(iii) **(3 Marks)**

Branch code	Profit
20100	800,675
43200	1,210,256
32100	567,000
67400	750,555
52700	451,000
73900	741,200
81400	500,450
90100	678,500
43300	700,000

e) (i) Create a query to calculate and display the sales from every county given that the profit is 12% the sales amount. Include all the necessary details/ fields in your query. **(5Marks)**

(ii) Save it as sales query **(2Marks)**

f) (i) Create another query to display counties with sales greater than 6 million. Include all the necessary details/ fields in your query. **(3 Marks)**

(ii) Save it as leading sales **(2 Marks)**

g) (i) Create a tabular report with portrait orientation from sales query. Display the fields in the following order; branch code, branch name and sales **(4 Marks)**

(ii) Compute the total sales and place it below the profit column **(2 Marks)**

(iii) Remove the report pagination and insert your name and index number and save the report as sales report **(2 Marks)**

h) Print the branch details table, Sales details form (only one page), sales query, leading sales and sales report **(5 Marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 8 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

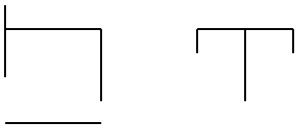
THEORY

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** and any other **THREE** questions from section **B**.
- ***e)*** All answer should be written in the spaces provided
- ***f)*** Students should check the question paper to ascertain that all the pages are printed as indicated and no question is missing.
- ***g)*** The candidates should confirm all the papers are printed and non is missing
- ***h)*** Candidates should answer the questions in English.

SECTION	QUESTIONS	CANDIDATE'S SCORE
A	1-15	
B	16	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

1. You are provided with two types of DTP tools **(2mks)**



(R) (Q)

a) Identify tool.

i) R……

ii) Q……

b) State **two** methods of transforming an object in DTP **(1mk)**

2. What precaution would you take in the computer room incase the user complain of backaches. **(2mks)**

3. Differentiate between COM ports and LPT ports **(2mks)**

4. Threats to the safety of computer systems take many forms such as; White collar crime, natural disasters and carelessness. Give one way as to how each of these forms of threats can be controlled. **(3mks)**

White collar.	
Natural disaster.	
Carelessness.	

5. Give three reasons why primary storage devices are not used for secondary storage. **(3mks)**

6. Explain briefly how Electronic Funds Transfer (EFT) and Electronic Point of Sale (EPOS) is Used to facilitate business in supermarkets in Kenya **(2mks)**

7. Describe two situations in which speech recognition devices may be useful as a method of data entry **(2mks)**

8. Some of the storage disks available are; Zip disks, $3^1/_2$ inch floppy disks, DVDs, $5^1/_4$ inch floppy disks. Arrange these devices in an ascending order of storage capacity **(2mks)**

9. List the two categories of system software. **(1 mark)**

10. Describe **three** disadvantages of using monolithic program. **(3mks)**

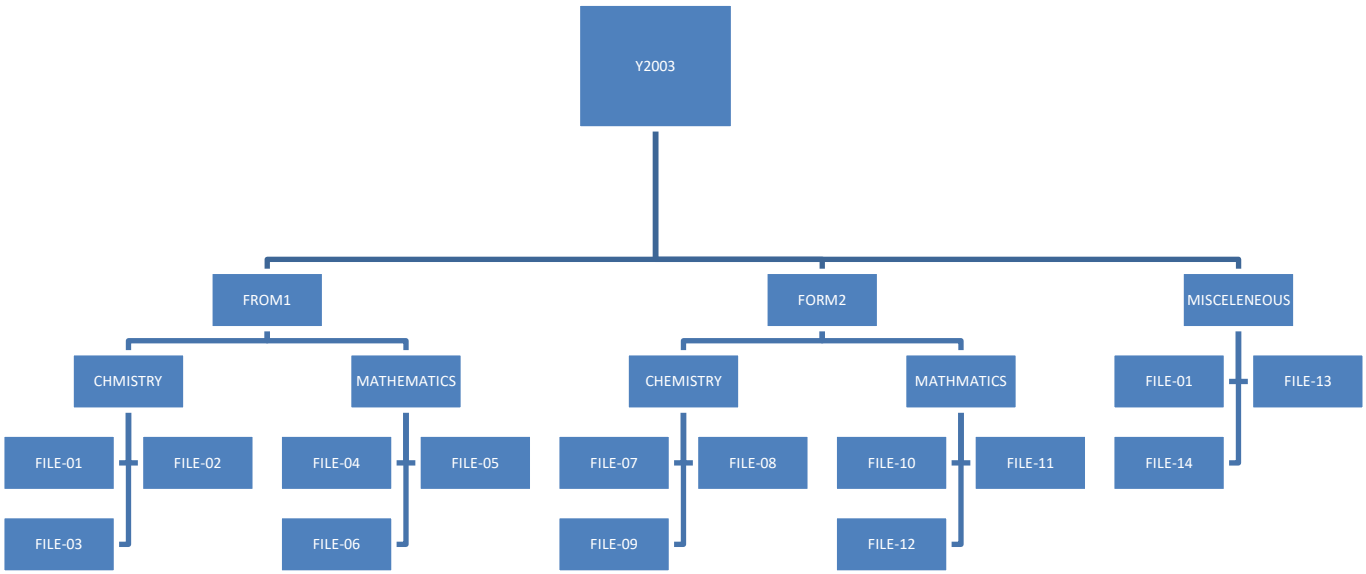
11. Differentiate between Value parameter and actual parameter in relation to number system. **(2 mks)**

12. a) What is utility software? **(1mk)**

b) Give two examples of utility software. **(1mk)**

13. A firm operates an order system that coordinates orders, raw materials and inventory across its three factories. Currently the orders are processed manually at each factory and communicated to the others over phone. The management intends to computerize their operations. State the first two computer professionals who will be required and their roles. **(2mrks)**

14. An operating system organizes files in directories as shown in the chart below.
Study it and answer the questions that follow.



i. What is the name of this file structure? **(2mrk)**

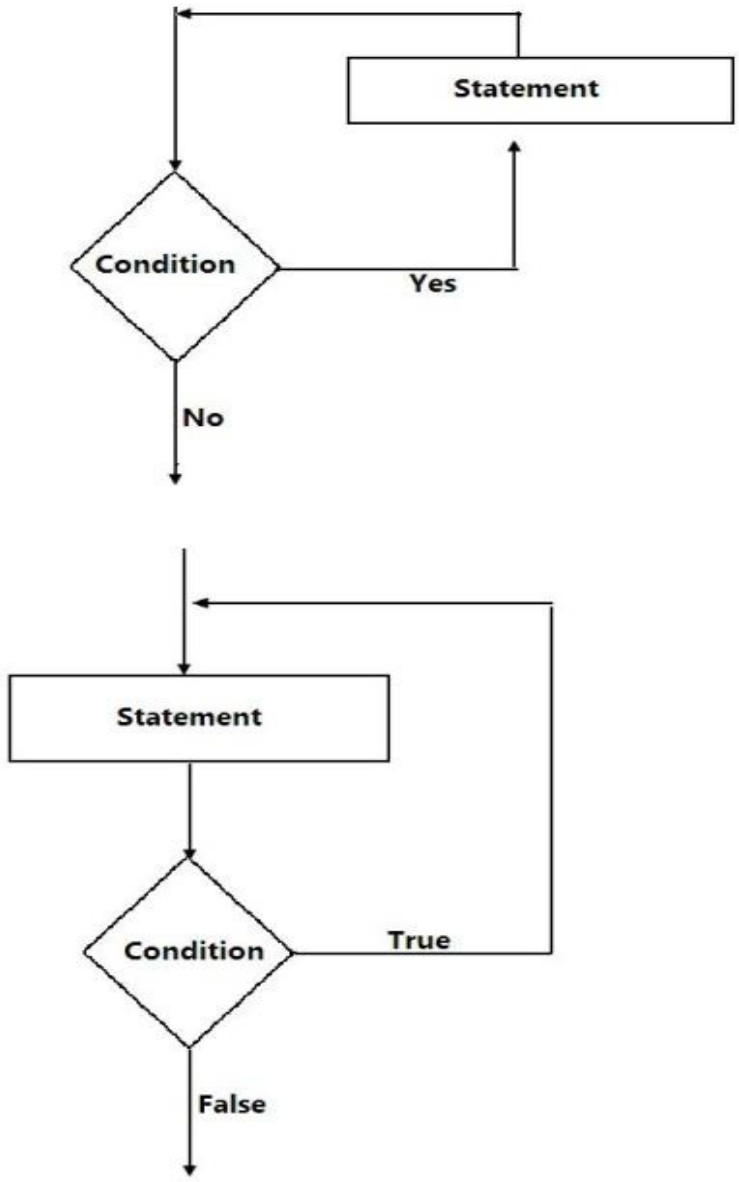
ii. One of the files in miscellaneous has a file name similar to one in CHEMISTRY in form 1. Describe what happens if all the contents of chemistry are copied to miscellaneous. **(2mks)**

15. Perform the decimal subtraction 14_{10} - 6_{10} using Regular binary **(3mks)**

SECTION B (60 MARKS)

Answer questions 16 (Compulsory) and any other three questions from this section

16.a) Consider the module flow charts extracts below



b) State the looping structure demonstrated in above diagram **(2mks)**

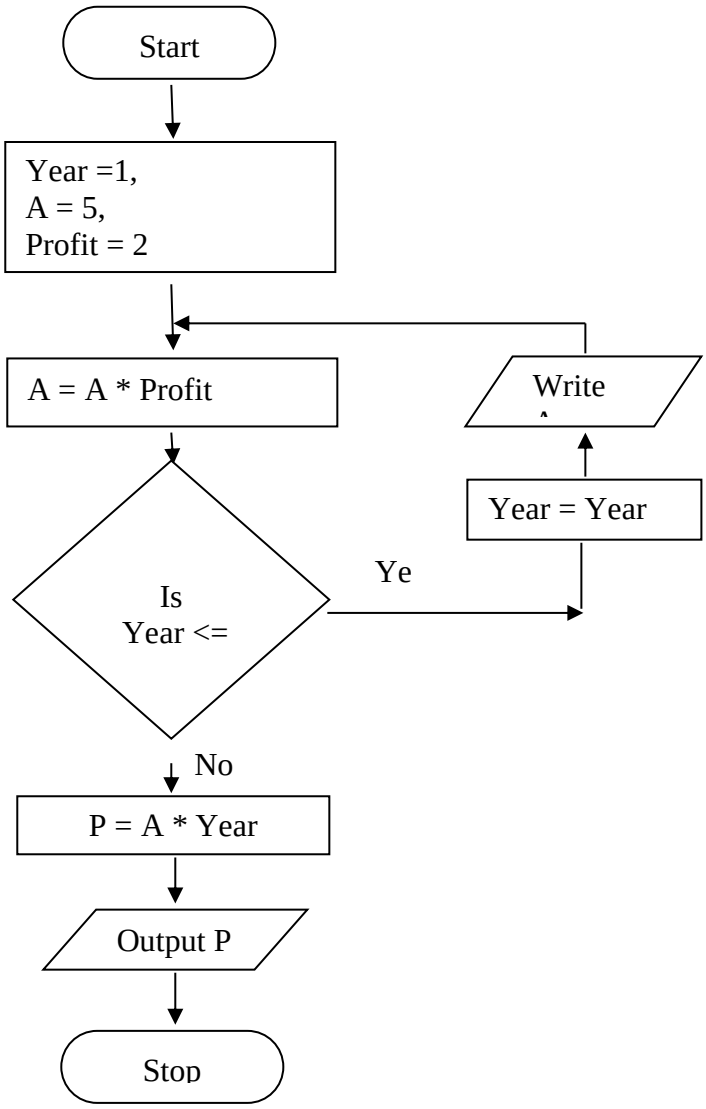
c) Define the following terms as used in computer programming.

(i) Structured programming **(1mk)**

(ii) Constants **(1mk)**

(iii) Variable **(lmk)**

e) Study the flowchart below and answer the question that follows



f) List the various outputs from the flowchart above. Show your working. **(4 marks)**

g) Write a pseudocode for the flowchart. **(6 marks)**

17. (a) i) List **two** devices used in wireless communication. **(2 marks)**

ii) Explain any **three** communication devices. **(6 marks)**

(c) i) Describe the term data integrity **(2 marks)**

ii) State four benefits in which data may lose integrity **(2mks)**

(d) i) What is meant by computer aided manufacturing? **(1 mark)**

ii) Give two examples of computer aided design software. **(2marks)**

18. a) What is information superhighway? (2mks)

b) Answer the following questions.

Define the following web related terms **(3mks)**

i. Web browser.

ii. Hyper link.

iii. Hyper text document.

c) i) Name two methods of paper orientation. **(2mks)**

ii) Give two reasons why it's important to preview a document before printing. **(2mks)**

iii) What is done during page setup in Microsoft Word **(3mks)**

e) Explain the following terms as used in spreadsheet charts

Data series,

Axis

Legend.

19. a) State three data representation codes used in computers. **(3mks)**

b) Write 1 in two's complement notation in byte form. **(3mks)**

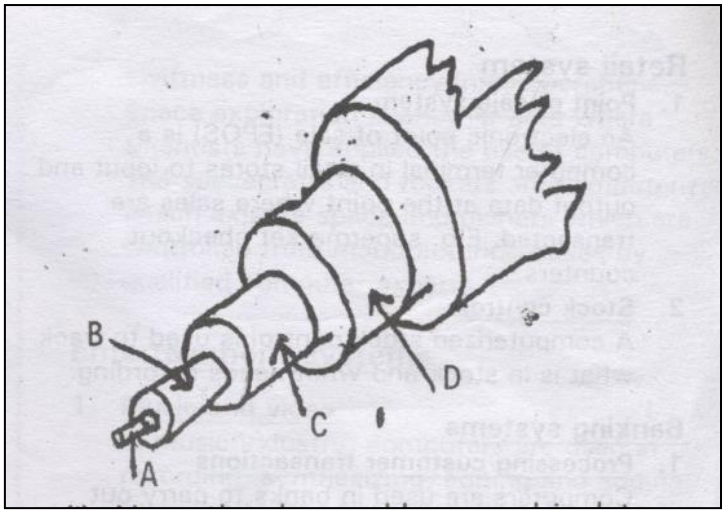
c) Describe two ways in which a computer can represent a positive and negative number. **(2mks)**

d) A particular computer stores numbers in a single 8-bits word. How would it represent 0.3125_{10}? **(2mk)**

e) What is a Radix of a number system? **(2mks)**

f) Using a well labeled diagram Explain how data is represented in a CD-ROM **(3mks)**

20. Study the diagram below and answer the question that follows.



a) Name the above cable as used in data communication media. **(1mk)**

b) Name the part labeled A, B, C and D. **(3 mks)**

c) What is the importance of part labeled D? **(2mks)**

d) Highlight three advantages of the above cable. **(3mks)**

e. Why is fiber optic becoming the number one choice for local area networks? **(3mks)**

i) What is an expert system? **(3mks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 8 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PRACTICAL

INSTRUCTIONS TO THE CANDIDATES

1) Indicate your name and index number at the top right hand corner of the printout.
2) Write your name and index number on the CD/removable storage medium provided.
3) Write the name and version of the software used for each question attempted.
4) This paper consists of two questions each having **50** marks.
5) Answer **all** the questions **Passwords should not be** used while saving files.
6) All files created must be saved in the provided CD/removable storage medium.
7) Make printouts of your answers on the answer sheet provided.
8) Hand in all the printouts and the CD/Removable storage medium used.
9) Students should check the question paper to ascertain that all the pages are printed as indicated and no question is missing.
10) Candidates should answer the questions in English.

1. (a) Create a database called **Employees** and create a table named **Dept**. and enter the following Data. **(5 marks)**

NAME	BASIC PAY	DEPARTMENT	AGE	STATUS
Marren	16000	Computer	34	Single
Wezo	17000	Computer	44	Married
Dave	19000	Finance	33	Divorced
Charles	21000	Research	33	Single
Davy	23000	Research	25	Single
Thomas	25000	Computer	26	Married
Ann	27000	Finance	28	Married
Susan	29000	Finance	29	Divorced
Tina	31000	Research	24	Divorced
Andrew	33000	Computer	40	Single
Hardy	35000	Finance	20	Married
Selly	37000	Finance	43	Single
Kimani	10000	Research	15	Single
Chep	15000	Finance	35	Divorced
Eddie	35000	Computer	25	Married
Moses	59000	Research	33	Single
Miriam	70000	Finance	56	Divorced
Maurice	32876	Computer	70	Divorced
Alphine	43876	Research	98	Divorced
Cazy	48098	Research	32	Single
Langat	6500	Computer	12	Single
Phenny	29000	Finance	70	Single
Hilda	32000	Computer	13	Married

(b) Create queries to determine.

i. Number of people with basic salary greater than 32,000/= .Save the query as **basic (5 Marks)**

ii. Number of people with basic salary less than 45,000/= **AND** come from computer Department. Save the query as **computer.** **(5 Marks)**

iii. Names of people who are either married or single .save the query as **Status** **(4 Marks)**

iv. Those whose salary fall between 25,000/= and 50,000/=.**Salary** **(3 Marks)**

v. Those whose name begin with letter M or end in letter S. Save the query as **Names** **(3Marks)**

(c) (i) Create a query to compute the new salary if there is an increment of basic pay by 16%. Save the query as **Salary increment.** **(7 Marks)**

(ii) Filter using query those who earn above 33000/= and aged between 39 and 70. Save the query as **Ages** **(5 Marks)**

(d) (i) Create a datasheet form using form wizard in the **Dept** table above. Save as **Form** **(3 Marks)**

(ii) Create a form in design view using the **Dept** table above on the form and calculate the Total basic salary for the whole table, add current date and time on the form header. Save the form as **Form B** **(5 Marks)**

(iii) Create a report from **Dept** table using design view to display all the data in the table the title of the report should be **Employee details**. Save the report as **EmployeeReport** and print it. **(5Marks)**

2. The worksheet below is a sample of the IEBC registration data across the country

THE NATIONAL IEBC CENTER

VOTER REGISTRATION AS PER COUNTY 2017

COUNTY	Registered		Target Population	Non registered voters	% registered	Remarks
	Male	female				
BUNGOMA	200,000	150,000	600,000			
KIAMBU	230,000	312,000	457,000			
NAIROBI	450,230	352,252	1,320,254			
KISUMU	258,368	122,356	658,870			
MASABA	325,620	104,520	700,658			
KITUI	123,863	80,588	325,789			
EMBU	136,222	150,520	356,102			
NYERI	253,666	210,000	492,250			
Total						
Average						

a) Create a workbook to store information and save it as IEBC MAIN **(15 marks)**

b) Use the formulae to compute:

i. None registered voters per county **(4 marks)**

ii. The percentage (%) of registered voters per county in 2 decimal places **(6marks)**

c) Use the IF function to declare the following remarks about the % registered per county. **(6marks)**

"Above expectation" above 90%

"Met Expectations" 70%- 89%

"Below Expectations" <70 %

d) Use a function to count the number of counties whose % registered is:

i) Below expectations in cell G18 **(2 marks)**

ii) Use the function to fill the totals and averages in the table **(2 marks)**

iii) Format the workbook as follows

i. Bold the title and center it across the page in a merged cell font size "14", Times New Roman

ii. Apply border to the cell in the worksheet as follows

-Double line for the outer border**,**

-Dotted lines for the horizontal inside border

-Dashed lines for the vertical inside border. **(6marks)**

f. Rename the current worksheet as "VOTERS" **(2marks)**

g. Copy the entire VOTERS worksheet to a blank sheet and rename the new sheet as NATIONAL REGISTER. **(2marks)**

h. Insert your name, date and index number as a header in each sheet **(3marks)**

i. Print VOTER and NATIONAL REGISTER **(2 marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 9 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

THEORY

INSTRUCTIONS TO CANDIDATES:

a) *Write your name, index number and school in the spaces provided above.*
b) *Write the date of examination and sign in the spaces provided.*
c) *This paper consists of **two** sections.*
d) *Answer **all** the questions in section **A**.*
e) *Answer question **16** (compulsory) and **any other three** questions from section **B**.*
f) *All answers **must** be written in the spaces provided in this question paper.*

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	ACTUAL SCORE
A	1 – 15	40	
B	16	15	
	17	15	
	18	15	
	19	15	
	20	15	
		TOTAL SCORE	

SECTION A (40 MARKS)

Answer all the questions in this section in the spaces provided

1. State the **two** functions of the control unit. **(2 marks)**

2. Explain **four** reasons which make microcomputers suitable for personal computing work. **(2 marks)**

3. State the functions of the following keyboard key combinations. **(3 marks)**

a) CTRL + ESC

b) ALT + F4

c) CTRL + ALT + DEL

4. Distinguish between an integrated software and a software suite. **(2 marks)**

5. Differentiate between embedded computers and dedicated computers. **(2 marks)**

6. Give **three** reasons why a company may prefer a tailor made software over off the shelf software. **(3 marks)**

7. Explain the function of the following registers. **(2 marks)**

a) Instruction registers

b) Address registers

8. a) Explain how a computer system can be protected from intruders. **(2 marks)**

b) State any **two** laws governing protection of information. **(2 marks)**

9. a) What is the meaning of graphics as used in word processing? **(1 mark)**

b) Give **two** sources of graphics in the computer. **(2 marks)**

10. a) State the cursor action when the following keyboard keys are pressed. **(2 marks)**

i) Delete key
ii) Insert key
iii) Pgup (page up) key
iv) Pgdwn (page down) key

11. Identify the parts of the following e-mail address labeled A, B, C and D. **(4 marks)**

Ict@kenyaonline.co.ke

A B C D

12. a) What is a search engine? **(1 mark)**

b) Give **four** examples of search engines you know. **(2 marks)**

13. a) Define the following terms as used in a worksheet. **(2 marks)**

i) Columns

ii) Rows

b) Distinguish between absolute cell reference and relative cell reference. **(2 marks)**

Relative Referencing

Absolute referencing;

14. a) State **one** data processing file. **(l mark)**

b) Explain the function of the file named above in 14 (a). **(2 marks)**

15. Give **one** reason to the growth of communication industry in Kenya. **(l mark)**

SECTION B: (60 MARKS)

Answer question 16 and any other three questions from this section

16. a) List **two** examples of;

i) Third generation languages. **(2 marks)**

ii) Object oriented languages. **(2 marks)**

b) Define **(2 marks)**

i) Object code

ii) Source code

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

d) 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 pseudocode to accept a car number and the rental period, and calculate the total amount earned by the company when a car is leased. **(7 marks)**

17. a) State **three** parameters that determines the magnitude of a number. **(3 marks)**

b) Using two's complement, show how the arithmetic below would be carried out on a 8 - bit computer system (+54) – (+29). **(5 marks)**

c) Using one's complement, perform the following binary arithmetic leaving the answer in decimal notation. **(5 marks)**

$1101_2 - 100101_2$

d) Differentiate between a word and a word length. **(2 marks)**

18. a) State the meaning of the following operating systems terms:

i) Interrupt **(1 mark)**

ii) Trouble shooting. **(1 mark)**

iii) Clock speed. **(1 mark)**

b) Differentiate the following. **(4 marks)**

i) Disk compression and disk defragmentation.

ii) Disk partitioning and disk formatting.

c) The operating system has several functions in a computer.

Explain how the operating system performs the following functions.

i) Error handling **(3 marks)**

ii) Resource control and allocation **(3 marks)**

d) Computer can fail to work due to problems associated with operating system.

Explain how the following problems can be corrected.

(2 marks)

i) Runtime problems

ii) Corrupted registry

19. a) Giving examples, differentiate between hard system and soft system. **(4 marks)**

b) Explain the following system characteristics. **(2 marks)**

i) System control.

ii) Sub-systems

c) i) What is a closed system? **(1 mark)**

ii) Give **three** characteristics of a closed system. **(2 marks)**

d) Why is feedback necessary in a system? **(2 marks)**

e) Draw a diagram to show a system that is controlled through feedback. **(4 marks)**

20. a) Define the term Multiplexing as used in networking. **(1 mark)**

b) Describe the following signal wave properties. **(3 marks)**

i) Frequency of a wave

iii) Wavelength

iv) Amplitude

c) Use a diagram to distinguish between ring and star network topologies. **(2 marks)**

d) Give **one** advantage and **one** disadvantage of each of (c) above. **(4 marks**)

e) **i)** What is virtual reality? **(1 mark)**

ii) Describe **four** essential equipment to achieve virtual reality. **(4 marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 9 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

INSTRUCTIONS TO CANDIDATES

1) This paper has **two** questions.

2) Answer all the **questions.**

3) All questions carry equal **marks.**

4) Type your name and index number at the right hand corner of each print out.

5) Write your name and index number on the storage medium provided.

6) Write your name and version of software used for each question attempted.

7) Passwords **should not** be used while saving in your work.

8) Make a printout of the answers on the answer sheets provided

9) Hand all the **print outs** and the **storage medium**

10) Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

1. a) Kirui's milling company limited has given you the details below to be used in calculating expenses incurred during two quarters of the year as indicated. Use a spreadsheet package to enter the details, and save your work as Expenses 1. **(10 marks)**

	A	B	C	D	E	F	G
1	**KIRUI'S MILLING COMPANY LIMITED**						
2	**P.O BOX 625 NAKURU**						
3		**First quarter**			**Second quarter**		
4		**January**	**February**	**March**	**April**	**May**	**June**
5	Production cost	15642	14687	18741	19457	15412	15441
6	Transportation	1564	1469	1874	1946	1541	1544
7	Warehousing	1125	1056	1347	1398	1107	1109
8	Promotion	2564	2407	3071	3188	2525	2530
9	Salary	4525	4248	5420	5626	4456	4465

b) i) Copy the details of Kirui's milling company limited to sheet 2 of your worksheet. **(2 marks)**

ii) Add a column called "Total" and calculate the Total production cost of the two Quarters. **(4 marks)**

iii) Use relative referencing to calculate the total for the other expenses. **(4 marks)**

c) i) Calculate the total expenses for each month so as to give the results as "Total expenses" on row 10. **(4 marks)**

ii) On the paper provided, write the formula used to calculate the expenses for the month of April. **(2 marks)**

d) i) Use absolute referencing to calculate the cumulative total expenses for the two quarters in cell H10. **(4 marks)**

ii) Write the formula used to get the cumulative total on the paper provided. **(2 marks)**

iii) Calculate the percentage of total expenses of the respective months and display the results on row 11 as "percentage of total expenses". **(4 marks)**

iv) Write the formulae used to get the percentage of May. **(2 marks)**

v) Draw a line graph to illustrate the percentage of the total expenses for the six months indicating the months. Save your work as Expenses 2. **(10 marks)**

vi) Print Expenses 1 and Expenses 2. **(2 marks)**

2. a) A hospital uses a database to maintain data about its employees.

Create a database file named **EMPLOYEE**. ***(1 mark)***

b) Create a table called **EMPLOYEE 1** with the following fields and hence enter data into it as shown in fig 1 below. NB: Choose an appropriate primary key. **(14 marks)**

- EMP NO
- NAME
- DATE OF BIRTH
- DEPARTMENT
- BASIC PAY

Fig 1

Emp	Name	Date of birth	Department	Gross pay
01	John Kirui	16/2/1972	Computer	28000
02	Margaret Wairimu	2/2/1960	Medical	30000
03	Jane Cherono	2/5/1970	Management	15000
04	Victor Oduor	8/12/1981	Accounts	25000
05	Harry Wanyama	23/6/1983	Medical	30000
06	Jacob Kiprono	19/4/1973	Management	45000
07	Ali Mohammed	1/1/1969	Medical	30000
08	Daniel Omondi	3/5/1983	Accounts	25000
09	Everlyne Kitune	11/3/1971	Medical	20000
10	Nancy Kerubo	22/9/1980	Medical	20000

c) i) Insert **two** new fields to hold the employee's profession and deductions.

(4 marks)

ii) Data for included fields is as follows;

Profession

Mohammed, Wanyama and Wairimu are Doctors. Oduor and Omondi are accountants. Kiprono is an Administrator, Kirui is a systems analyst and Cherono is a secretary.

Deductions

Emp no	Amount
07, 05, 02	8,000
04, 08	7,500

06	10,000
01	12,000
03	3,500
09, 10	4,000

Enter the above data into the respective fields. **(6 marks)**

iii) Sort the records in ascending order based on the name field and save as EMPLOYEE 2. **(3 marks)**

d) i) From EMPLOYEE 2, extract a list of employees who were born between 1960 and 1972 both years inclusive and are accountants, nurses or doctors. Write down on paper provided the query expression you used to extract the data. Save the extracted list as LIST1. **(8 marks)**

ii) Remove the date and occupation criteria on LIST 1. Add a calculated field to calculate the Net pay of all employees as Gross Pay - Deductions. Save as LIST 2. **(5 marks)**

e) Generate a columnar report based on LIST 2 with the following fields; Emp no, Name, Department and Net Pay. Sum up the Net Pay for all employees in the report. Save your report as REPORT. **(6 marks)**

f) Print **EMPLOYEE1, EMPLOYEE2, LIST1, LIST 2** and **REPORT**. **(3 marks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 10 PAPER 1

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/1

COMPUTER STUDIES

PAPER 1

(THEORY)

INSTRUCTION TO CANDIDATES

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

FOR OFFICIAL USE ONLY

SECTION	QUESTIONS	QUESTION'S ACTUAL SCORE	CANDIDATES SCORE
A	1-15		
B	16		
	17		
	18		
	19		
	20		
	TOTAL SCORE		

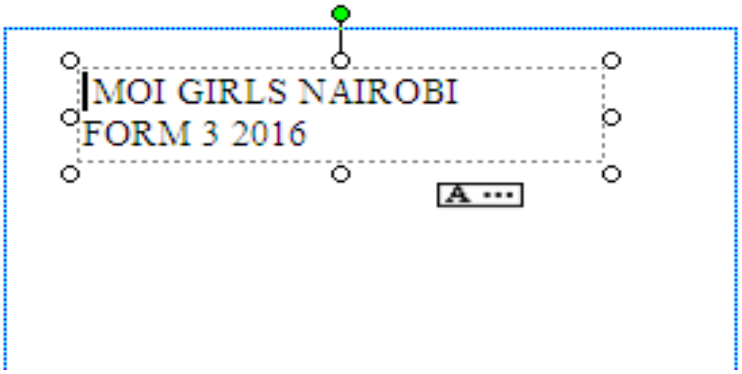
QUESTIONS

1. Using the titles above write down the correct job title of the following descriptions **(2mks)**

(a) Keying in data

(b) Daily backup of information

2. Jane is a form three computer student; as she was working on her publisher document she noticed a letter A icon below the text box she was working on as shown below.



a) What is the meaning of the icon **(1mk)**

b) Advice Jane on how to get rid of the icon **(1mk)**

3. Name two ways of minimizing dampness in the computer lab **(1mks)**

4. a) what is the difference between character based operating system and graphical user interface operating system. **(2mks)**

5. a) State two categories of input devices. **(2mks)**

b) List down two factors to consider when selecting an input device **(2mks)**

6. List two ways in which computers are used in education **(2mks)**

7. Define the term utility software **(1mk)**

8. Describe the use of the following utilities **(3mks)**

(i) Linkers

(ii) Debuggers

(iii) Loaders

9. The spreadsheet shows the computer equipment on loan to staff member in a company. Cells B13 and C7:E13 contain formulae.

1	A	B	C	D	E
2	**PC SOFTWARE DEVELOPMENT LTD**				
3	Ref: 2106				
4	Computer Equipment on loan to:			S.Harrison	
5					
6	**Item**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
7	PC system	1600	800	400	200
8	Notebook computer	1000	500	250	125
9	Hand-held computer	320	160	80	40
10	Laptop case	80	40	20	10
11	PC cover	16	8	4	2
12	Mouse mat	8	4	2	1
13	Total value($)	3024	1512	756	378

(a) State the cell that contains a data item **(1mk)**

(b) Describe how the numbers in the range of cells **B7:E13** can be changed to include money symbols. **(2mks)**

(c) Give a formula that could be in cell B13 to calculate the total value of the equipment in year 1. **(1mk)**

(d) Each year the value of the equipment is halved. State a formula that could be in cell C7 to calculate the value of the PC system in year 2. **(2mks)**

10. Define the following computer crimes (2mks)

(i) Piracy

(ii) Industrial espionage

11. Describe the following terms as used in internet. **(4mks)**

i. Webpage

ii. Blog

iii. Hyperlinks

iv. Web portal

12. Differentiate between the following terms as used in word processing **(3mks)**

(a) Drop cap and case

(b) Superscript and subscript

(c) Indent and tab

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

b) Outline two advantages of hard disks over floppy disks. **(2mks)**

14) Explain how the operating system controls the following resources **(3mks)**

(i) Processor

(ii) Main memory

(iii) Input and output devices

15) Explain the term deadlock in reference to operating system. **(1mk)**

SECTION B

16. i) Distinguish between interpreters and compilers **(2mks)**

ii) State any **two** activities that occur in a program compilation process. **(2mks)**

iii) Define the term structured programming **(1mk)**

b) A programmer uses a program design tools to design a program that can list the odd numbers between 0 and 100.

i) Draw a flowchart to solve the above problem **(6mks)**

c) Write a pseudocode to compare three non-equal numeric values A,B,C and print the largest of the three **(4mks)**

17. The following car details are to be entered in a database: **Make, date-of-manufacture, color** and **cost.**

(a) Prepare a suitable database structure showing field names and, **(b)**their field types. **(4mks)**

(c) Write a statement that can be used to select cars of colour green. **(2mks)**

(d) Give an instruction that would:

(i) Select cars whose cost is between 500,000/= and 1,000,000/- **(3mks)**

(ii) Determine the average cost of all cars. **(3mks)**

(e) John was working on his database and an error message**" type mismatch"** appeared on his screen.

(i) Explain the cause of the error message **(2mks)**

(ii) Advice john on how to correct the error message **(1mk)**

18. a) Convert $91C_{16}$ to octal **(3mks)**

b) Perform the following binary arithmetic calculations giving the answers in decimal notations **(2mks)**

1. $1110.01111_2+11010001.011_2$
2. $1001011.011_2+111.111_2$

c) Using two's compliment, subtract 27 from 5 in binary form, give the answer in decimal notation. **(4mks)**

d) Using one's compliment subtract 011_2 from 1001_2 **(3mks)**

e) Convert the number 7.03125_{10} to its binary equivalent. **(3mks)**

19. Differentiate between the following terms **(6mks)**

b) Share level security and user level security

c) Peer to peer and server based network

d) Radio and microwave.

e) Outline any **three** functions of Network operating systems **(3mks)**

i) Describe the importance of open system interconnection (OSI) model in networking **(1mk)**

ii) Name and explain the functionality of any two OSI model layers. **(4mks)**

f) Describe the VSAT technology as used in networking **(1mk)**

20.a) Explain how the operating system perform the following functions:

i) Job sequencing **(2mks)**

ii) Job scheduling **(2mks)**

b) State three criteria for classifying operating system and give one type in each case **(3mks)**

c) Explain one reason why organizations may need to change to a new computerized system **(2mks)**

d) State why each of the following is important in system documentation:

(i) Sample data **(1mk)**

(ii) Output reports **(1mk)**

(e) A teacher manages students' records by storing daily attendance information in a file called register and students' personal records such as year of birth and home address in a file called students.

(i) Identify the types of computer files named above. **(2mks)**

(ii) Give a characteristic of data held in each file. **(2mks)**

CROSSCOUNTRY MOCKS

COMPUTER STUDIES

TRIAL 10 PAPER 2

TIME: 2 ½ HOURS

NAME…… INDEX NO……

SCHOOL…….. SIGN……..…

DATE……..

451/2

COMPUTER STUDIES

Paper 2

(PRACTICAL)

Instructions to Candidates

1. *Type your name and index number at the top right hand corner of each printout.*
2. *Sign and write the date of the examination below the name and index number on each printout.*
3. *Write your name and index number on the compact disks.*
4. *Write the name and version of the software used for each question attempted in the answer sheet.*
5. *Passwords should not be used while saving in the compact disks.*
6. *Answer all the questions.*
7. *All questions carry equal marks.*
8. *All answers must be saved in your compact disks.*
9. *Make a printout of the answers on the answer sheets provided.*
10. *Hand in all the printouts and the compact disks.*
11. *Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.*

1. **(a)** (i) Using a database management system, create a database file named **ANTIGUA_ENT_LTD** to store the data below. **(1 mark)**

CommodityTable

Commodity_ID	Commodity_Name	Retail_Cost
C10	Apple Vinegar Super	400
C20	Assorted Sandwich	300
C30	Sweetener Max	130
C40	Soda 1L	120
C50	UPS APC 2	5000
C60	Persil Detergent	130
C70	Minute maid	120
C80	Pizza XL	1000
C90	Sacho Springs water 5L	650
C100	UPS APC 1	3000

SuppliersTable

Supplier_ID	Supplier_Name	Town
S-11	Antigua Foods	Nakuru
S-12	Prime Fast Food	Nairobi
S-13	Gilanis Mart	Nakuru
S-14	Power Dynamics Ltd	Eldoret
S-15	Panda Energy	Nakuru
S-16	SAHICO	Kabarnet
S-17	Rio Beverages	Nakuru

OrderTable

Order_ID	Commodity_ID	Supplier_ID	Order_Date
101	C10	S-11	12/04/19
102	C20	S-12	22/04/19
103	C30	S-11	12/04/19

104	C40	S-11	02/05/19
105	C50	S-14	12/04/19
106	C60	S-16	22/08/18
107	C70	S-17	19/08/18
108	C80	S-12	12/04/18
109	C90	S-13	11/05/18
110	C100	S-15	15/04/18

(ii) Create tables named: **Commodity_Table, Suppliers_Table and Order_Table** in the database created in (a) to store the information above assigning appropriate data types for each field. (14 marks)

(iii) Identify a field to be assigned as primary key for each table. (

$1\frac{1}{2} marks$)

(iv) Create relationships among the tables and enforce referential integrity. **(3 marks)**

(b) Capture the number of units for the Commodities as shown below in the Commodity Table. **(3 marks)**

Commodity_ID	**No Of Units**
C30	50
C10	20
C60	89
C40	18
C50	10
C20	16
C70	35
C80	5
C90	21
C100	17

(c) Create a query named **RETAILCOST** to display Commodity name, retail price, number of units, suppliers' name and calculate the total retail price for each Commodity. **(4 marks)**

(d) Create a query named **CUSTOM_QR** to display name of each Commodity, retail price and number of units ordered. The query should contain Commodities whose suppliers name start with letter **"P"** and Total Retail Price is between Ksh.4000 and less than Ksh.50,000.**(5 mks)**

(e) Create a report named **SUPPLIERS_RPT** to display Commodity name, suppliers' name, total retail price and date of order. **(4 marks)**

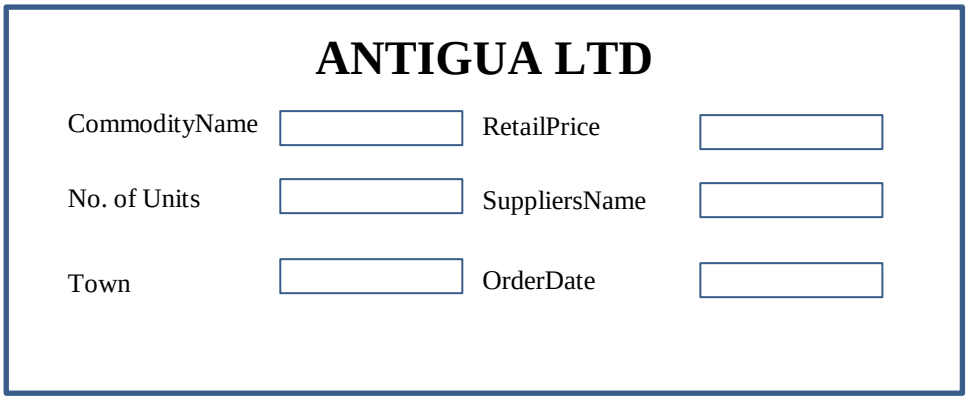
- *Group records per suppliers' town*
- *Title the report as "**ANTIGUA SUPPLIERS DETAILS**"*
- *Show the Total Retail Prices per supplier.*

(f) Create a report named **ORDERS_2019** to display Commodity name, retail price, suppliers' name, town and items ordered in the year 2018 only. Show the number of suppliers.

$(3\frac{1}{2} marks)$

(g) Create a pie chart to display Total Retail Prices and their respective Commodities. **(2 marks)**

(h) Create a form named **COMMODITIES_2018** used to enter data in the database to appear as shown below **(5 marks)**



(i) Print the following **(4 marks)**

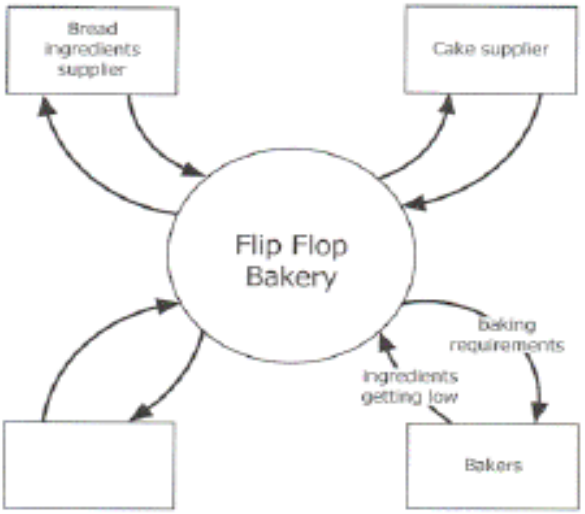
- **Tables:** CommodityTable
- **Queries:** RETAIL_COST and CUSTOM_QR
- **Reports:** SUPPLIERS _RPT

QUESTION 2

a) Launch a Desktop publishing software and set the measurements to centimeters, margins 2cm all round and paper size A4 potrait. **(1½ marks)**

Data flow diagram (DFD)

A data flow diagram (DFD) is a design tool to represent the flow of data through an information system.A *"context level"* DFD can be used to show the interaction between a system and outside entities; it can also show the internal data flows within a system. This version is also called a **context diagram**. It often shows the information system as a single circular shape with no details of its inner workings: what it shows is its relationships with the *external entities*.





For a diagram to be called a DFD, it needs to show the inner workings of an information system. The different levels of a DFD indicate how detailed it is, e.g. a Level 0 DFD is a broad overview of a system, showing hardly any detail within the system. A level 2 DFD explodes more summarised processes and shows another level of complexity within them. A level 3 or 4 DFD shows even more components opened up to show their inner details.With a dataflow diagram, developers can map how a system will operate, what the system will accomplish and how the system will be implemented. It's important to have a clear idea of where and how data is processed in a system to avoid double-handling and bottlenecks. A DFD also helps management organise and prioritise data handling procedures and staffing requirements

DATAFLOWDIAGRAM

b) Design the publication above (in page 4) as it appears and save it as MOKASA_2**.(30 marks)**

c) Format the Title " Data Flow Diagram (DFD)" as follows: **(6 marks)**

(i)

- ***Character spacing:*** *300%*
- ***Font style:*** *Times New Roman*
- ***Font size:*** *13.5*

(ii) Modify the shape containing the title as follows:

- ***Background*** *: Gradient with 17% transparency, Shading style Horizontal*
- ***Border line*** *: Double*

d) Apply a first line indent to the first paragraph of the document. **(2 marks)**

e) Proofread your publication. **(½ mark)**

f) Insert your full index number as a watermark of your publication. **(2 marks)**

g) Insert your full name as the header, Class and admission number as the footer of your publication . **(2 marks)**

h) Insert page number at the right bottom margin of your page. **(2 marks)**

i) Insert the Date and time created for this document after the first paragraph. **(2 marks)**

j) Print your publication **(2 marks)**

THE END

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