

COMPUTER STUDIES

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Set1

451/1

COMPUTER STUDIES

PAPER 1

(THEORY)

TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above
2. Sign and write the date of examination in the spaces provided
3. This paper contains two sections: Section A and B.
4. Answer all questions in section A.
5. Answer question 16 (Compulsory) and any other *THREE* questions in section B.
6. All answers should be written in the spaces provided in the question paper

FOR EXAMINER'S USE ONLY.

SECTION	QUESTION	CANDIDATE SCORE
A	1-15	
B	16	
	17	
	18	
	19	
	20	
TOTAL SCORE		

1. Differentiate between Core 2 Duo and Quad Core processors in terms of internal architecture (2mks)
2. (a) Explain why Gas Plasma displays are preferable to LCD monitors in entertainment and social places (1mk)
(b) State **three** advantages of LED over incandescent and fluorescent illuminating devices. (3mks)
3. Most distributions of Linux operating system are available to users under General Public Licence (GPL)
(a) Explain the meaning of GPL (1mk)
(b) State **four** examples of Linux distributions available under GPL (2mks)
4. Differentiate between compatibility and interoperability in relation to computer software and hardware. (2mks)
5. (a) Define the term "system registry" (1mk)
(b) State **three** causes of system registry failure (3mks)
6. Explain how you would unfreeze a computer running windows which has stopped responding to commands (3mks)
7. List **four** circumstances under which a user may use the Save As Command instead of the Save Command (2mks)
8. State **four** problems that may occur during printing and how to solve them. (4mks)
9. Highlight **three** Acts of Parliament or laws that govern the use of ICT in Kenya (3mks)
10. Work out the following
(a) $1110.101_2 - 101.01_2$ (2mks)
(b) Convert EFE_{16} into decimal form
11. State **four** operations you would undertake to safeguard data integrity (2mks)
12. (a) What is system implementation (1mk)
(b) State **three** activities that are done during system implementation (3mks)
13. Differentiate between a router and a gateway. (2mks)
14. Define the following terms (2mks)
(a) Teletext:
(b) Videotext:
15. List **three** types of job opportunities that are available in the field of computer hardware. (3mks)

SECTION B (60MKS)

Answer question 16 and any other three questions from this section

16. (a) Design a flowchart for a simple program that can be used to categorize people according to age. If the person is above or equal 18 years, output "Adult" otherwise output "Young" (8mks)
(b) What is the difference between looping and selection. (2mk)
(c) Name the stage of program development cycle when:
(i) A user guide would be written (2mks)
(ii) A programmer dry-run the code
(iii) System charts would be drawn
(iv) Staff training is done

17. A school has decided to network its computers so that it can distribute information over a local intranet. The school also intends to connect the local network to the internet.
- Describe three different topologies that could be used to network the computers (6mks)
 - The various services are to be provided by servers. Briefly describe the services provided by
 - Print server
 - Internet server
 - Intranet server
 - Electronic mail (E-mail) is very popular. Explain how you would prepare and send a message using e-mail. (3mks)
18. (a) Explain how you can defend your files from the following risks (8mks)
- Fire in the computer
 - Hackers
 - Virus attack
 - Disgruntled ex-employees
- (b) Differentiate between private data and confidential data (4mks)
- (c) List **three** sources of viruses (3mks)
19. Describe the following careers in the computing field (3mks)
- Computer Engineers
 - Software Engineers
 - Computer Technician
 - Identify any **three** duties of an information system manager (3mks)
 - Giving an example, mention **three** categories of places where you can advance your computer skills after sitting for your K.C.S.E (3mks)
 - Mention any **four** formatting features used in Ms Word Application (3mks)
 - Define the term electronic spreadsheet (1mk)
 - Explain the following terms as used in MS Excel spread sheet package (3mks)
 - Range
 - What if analysis
 - Automatic recalculation
20. (a) Compute the value of x in the following expressions (4mks)
- $24.35_{10} =$
 - $6AB_H = X_{10}$ (2mks)
- (b) Using two complements compute the following using 8 bits (6mks)
- $$20_{10} - 25_{10}$$
- (c) Write these abbreviations in full text (3mks)
- BCD
 - EBCDIC
 - ASCII

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Paper 2

- (a) Create a database in the floppy disk named BORA UNIVERSITY COLLEGE. (2mks)
- (b) Create a table with the following fields using appropriate data types: Adm No, First Name, Last Name, Course, Date of Admission and Completed. Set Adm No as a Primary key. Save it as STUDENTS DETAILS (6mks)
- (c) Create a Columnar form that would be used to enter data into STUDENTS DETAILS and save it as STUDENTS DATA ENTRY. (2mks)
- (d) Use the above form to enter the following data into the database. (6mks)

Adm No.	First name	Last name	Course	DOA	Completed
3224	John	Flora	IMIS	12/01/2010	Yes
4455	Mary	Mutua	Accounts	24/12/2009	Yes
6677	Benard	Maingi	French	15/5/2010	No
7760	David	Naja	IMIS	0./04/2010	No
2312	Evy	Danson	French	23/8/2009	Yes
6547	Joy	Kelly	IMIS	4/3/2010	No
6579	Mwangi	Sam	IMIS	18/4/2010	No

- (e) Create a table named 'FEE PAYMENT' in the same database to contain Adm No, Fee Paid and Receipt No. (5mks)
- (f) Link STUDENTS DETAILS table to FEE PAYMENT table. (2mks)
- (g) Enter the following details directly into the FEE PAYMENT table. (2mks)

Adm No.	Fee paid	Receipt number
3224	12000	100
4455	30000	121
6677	30000	152
7760	25000	134
2312	30000	145
6547	23000	124
6579	30000	150

- (h) Create a query to display the following details: Adm no, First name, Last name, Fee paid. Save as FEE PAID. (5mks)
- (i) Display a list showing the Last name and the Fee balance for all students who owe the college over 10,000/= given that the total fees for each course is 30,000. Save as SEND HOME. (5mks)
- (j) Certificates are to be given only those who have completed their course and have paid the full amount. Create a query, having the Adm No, First name, Last name and course for all students to be awarded the certificates. Save as GRADUANTS. (5mks)
- (k) Prepare reports for STUDENTS DETAILS, FEE PAYMENT, FEE PAID, SEND HOME, GRADUANTS. (5mks)
- (l) Print the reports in (l) above. (5mks)

QUESTION 2: (50MKS)

PK is new transportation company. The managing director would like to produce an advert to enable him to reach out to local towns.

- a). Prepare a publication layout with the following specification:
- (i) Paper size A4
 - (ii) Orientation Portrait
 - (iii) Number of pages 1
 - (iv) Margins 0.5 inches all round
 - (v) Create column guides to subdivide the page into two columns
 - (vi) Space between columns 0.3 inches (6mks)
- b). Produce the publication as shown in the sample. All the text are in Times New Roman size 12 except.
- (a) PK in the logo Size 28
 - (b) Unbeatable Size 20
 - (c) You can't compare Size 14
 - (d) Working hours Size 22
 - (e) Passenger Ticket shading is Accent 4
 - (f) Fill pattern for working hours is 5% (44mks)

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	Ukunda	450	
	Rumburi	420	
	Nyali	400	

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COMPUTER STUDIES
PAPER 1
(Theory)
TIME 2½ HOURS.

SECTION A: (40 MARKS)

Answer ALL the questions in this section

1. State the technology used in the following computer generations (2mks)
 - i) 4th generation:
 - ii) 1st generation:
 - iii) 2nd generation:
 - iv) 3rd generation:
2. Outline **two** areas that should be considered when categorizing software. (1mk)
3. State any **three** disadvantages of a magnetic diskette. (3mks)
4. a) Define the data processing. (1mk)
b) Explain **two** characteristics of good information. (2mks)
5. Distinguish between data verification and data validation. (2mks)
6. Describe the following menu tools as used in Ms. Word (2mks)
 - i) Print layout:
 - ii) Web layout:
7. Define the following terms as used in mail merging (4mks)
 - i) Main document:
 - ii) Data source
8. a) Difference between real –time system and online systems. (2mks)

- b) Explain how information and communication technology has contributed to teaching and learning in schools. (2mks)
9. a) State the use of the following network devices. (2mks)
- i) Network interface cards
- ii) Routers
- iii) Distinguish between thinnet and thicknet coaxial cables. (2mks)
10. Convert (111.010_2) to decimal number. (3mks)
11. Explain the type of errors that are likely to exist in a program? (4mks)
12. State **three** ways in which ICT can be used in industrial control. (3mks)
13. State **two** reasons why it is necessary to have well connected and proper cables in a computer lab (2mks)
14. What do you understand by the term 'soft system' in a system development? (1mk)
15. What is a relational database (1mk)

Answer SECTION B (60 MARKS)

question 16 and any other THREE questions from this section in the spaces provided

16. Mumias sugar company pays casual employees based on the number of hours worked as follows
- Less than 10 hours @ khs.100/= per hour
- Up to 15 hours @ khs150/= per hour
- More than 15 hours @khs200/= /per hour
- a) Write a pseudo code to input the name, rate hours worked. The pseudo code should output the name, hours worked and the wage paid. (6mks)
- b) Draw a flowchart for the above pseudo code. (5mks)
- c) Write brief notes on structured programming (4mks)
17. a) List **four** characteristics of a system (2mks)
- b) Give any **three** circumstances that may make an organization to develop a new information system (3mks)
- c) Study the spreadsheet below and answer the questions that follow

	A	B	C	D
1	WESTLINK COMPUTER BOOKS CENTRE			
2	TITLE	PRICE	NO. SOLD	COST
3	Computer longhorn book2	320	25	
4	Visual basic (6) turbo	820	21	
5	Computer longhorn book4	350	100	
6	Computer science	900	12	
7	Computer Applications	845	36	
8	Computer hardware	1250	10	
9	Computer software	1250	27	
10				

- i) Write down the formula used to find the price of the cheapest book.(1mk)
- ii) Write down the formula used to determine the total sales for the book titled 'computer applications' (1mk)
- iii) Write down the formula used determine the average price of the all books (2mks)
- d) State any **four** advantages of using an electronic spreadsheet as compared to a traditional spreadsheet (2mks)
- e) Differentiate between a column chart and a bar chart as used in spreadsheets (4mks)

- f) Define the term gutter in relation to column setting in DTP (1mk)
18. a) Name and describe four main application areas of artificial intelligence in ICT (12mks)
- b) State **three** advantages of automated production in manufacturing industries (3mks)
19. a) Describe any **two** roles of the following career opportunities in the ICT field. (8mks)
- i) Systems analyst
- ii) Information system manager
- iii) Network administrator
- iv) Computer trainer
- b) Distinguish between a primary key and a foreign key as used in DBMS. (2mks)
- c) What do the term header and footer mean? (2mks)
- d) What do you understand by the terms attenuation and baseband signal. (2mks)
20. a) Define the following terms. (3mks)
- i) Record
- ii) File
- iii) Database
- b) i) List any **three** ways of dealing with a virus on a computer. (3mks)
- ii) Explain the functions performed by (2mks)
- a) The control unit
- b) Arithmetic and logic unit (ALU)
- c) Convert the 522_8 to its base 10 equivalent (2mks)
- d) Using long division methods convert 67_{10} into binary. (2mks)
- e) Outline **three** disk management activities. (3mks)

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Paper 2

Answer the questions

1. The information below was extracted from CMC vehicle selling business

Buyer Name	Buyer Address	Buyer Town	Vehicle Reg NO	Vehicle Type	Vehicle Make	Vehicle price	Buyer Number	Amount paid
peter	254	Nakuru	KAJ 001	Matatu	Nissan	1200000	B001	800000
john	678	Eldoret	KAJ 002	Bus	Mazda	2400000	B002	2000000
Ken	963	Nairobi	KAJ 003	Saloon	Toyota	800000	B003	600000
Peter	147	Nakuru	KAJ 004	Pick up	Peugeot	1000000	B004	700000
Roy	456	Bungoma	KAJ 005	Lorry	Isuzu	3000000	B005	2000000
Glen	789	Webuye	KAJ 006	Pick up	Toyota	1800000	B006	1600000
John	678	Eldoret	KAJ 007	Bus	Scania	7500000	B002	7500000
Ken	963	Nairobi	KAJ 008	Matatu	Toyota	1300000	B003	1300000
Phillip	159	Kisumu	KAJ 009	Saloon	Nissan	900000	B007	900000
Peter	254	Nakuru	KAJ 010	Pick up	Isuzu	1500000	B001	1200000
Ken	357	Kisumu	KAJ 011	Saloon	Peugeot	700000	B008	700000
Glen	789	Webuye	KAJ 012	Bus	Isuzu	10000000	B006	9500000
Peter	147	Nakuru	KAJ 013	Matatu	Nissan	2700000	B004	2700000

- a) Create a database file named CMC (2 marks)

- b) Using the information in the table, create a table to hold vehicle detail and another to hold buyer details. Name them **tblvehicle** and **tblbuyer** respectively (4 marks)
- c) Enforce referential integrity between two tables. (2 marks)
- d) Create different input screen for each table, giving them appropriate title. Name them **frmvehicle** and **frmbuyer**. Use them to enter data into the tables. (12 marks)
- e) Display a report only showing the details of the buyers who have cleared paying for the vehicle. Name the report **rptcleared** with "CLEARED BUYERS" as the title of the report. (10 marks)
- f) Using the two tables create an outlined report showing the customer details, the total amount paid by each customer and the total amount received by CMC during this time. Name the report **rptnilbal** and the title as 'SUMMARY REPORT PER BUYER.' (8 marks)
- g) Create a query to display the vehicle details with balances of less than 500,000 but not less than 300,000. Name the query as **qrymidbal**. (7marks)
- h) Create a report showing the vehicle type, the total sales for each type and the grand total. (3 marks)
- i) Print **tblvehicle**, **tblbuyer**, **rptcleared**, and **rptnilbal** and **qrymidbal** landscape orientation with footers being your last name and index number at the centre of the page. (2 marks)

2. Use a spreadsheet to manipulate data in the table below.

Adm. NO	Name	Stream	Comp	Art	Bus	Eng	Mat	STUDENT MEAN	RANK
C001	Barasa	H	56	45	36	56	26		
C002	Wangila	K	58	57	90	54	23		
C003	Wafula	H	48	56	54	45	25		
C004	Wanjala	K	78	95	78	46	24		
C005	Kerubo	H	49	86	68	35	52		
C006	Akinyi	K	56	45	25	63	54		
C007	Odhiambo	H	75	78	45	65	56		
C008	Okunyuku	K	89	69	65	53	51		
C009	Nekesa	H	69	58	45	54	52		
C010	Simiyu	H	85	46	78	52	53		
	TOTAL								
	TOTAL	FOR H							
	TOTAL	FOR K							

- a) Enter the data in all bordered worksheet and auto fit all columns. Save the workbook as mark1 (15 mks)
- b) Find the total marks for each subject (3 mks)

- c) Find total for each subject per stream using a function. (5 mks)
- d) Find mean mark for each student using a function (5 mks)
- e) Rank every student in descending order using the mean (5 mks)
- f) Create a well labeled column chart on a different sheet to show the mean mark of every student. Save the workbook as mark2. (7 mks)
- g) Using mark1, use subtotals to find the average mark for each subject per stream. Save the workbook as mark3 (7 mks)
- h) Print mark1, mark2, and the chart (3 mks)

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COMPUTER STUDIES

Paper 1

(THEORY)

Time 2 ½ HOURS

SECTION A (40 MKS)

Answer ALL the questions in this section

1. Define the following terms (4mks)
 - (i) Multiplexing
 - (ii) Baseband signal
2. Explain the difference between digital signal and analog signal in data communication (2mks)

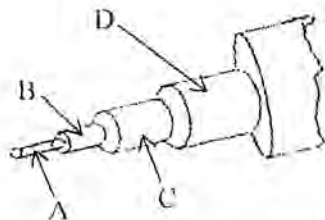
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3. List down **Four** types of computer viruses (2mks)
4. Define the following terms as used in disk management
 - (i) Partitioning (1mk)
 - (ii) Defragmenting (1mk)
5. Explain the following terms as they are used in internet
 - (i) Sign in (1mk)
 - (ii) Surf (1mk)
 - (iii) Downloading (1mk)
6. State **Three** ways in which your school librarian can use a computer (3mks)
7. Distinguish between simulation and virtual reality (2mks)
8. Convert 11011011111_2 to Octal (3mks)
9. (a) One of the challenges that computer organizations face is unauthorized access to computer systems. Distinguish between logical access and physical access. (2mks)
- (b) State **One** way in which each of the types of unauthorized access to computer systems can be controlled. (2mks)
10. Give **Two** possible ways of fitting the document in one page (2mks)
11. Differentiate between real time processing and batch processing giving examples where each could be used (2mks)
12. Give **Two** advantages of an electronic spreadsheet over traditional analysis ledger sheet (2mks)
13. List **Four** E-mail services (2mks)
14. State any **Three** advantages of simulation in training (3mks)
15. Suggest **Two** possible causes of data and program loss in computer (2mks)

SECTION B (60 MARKS)

Answer question 16 and any other THREE questions in this section

16. (a) Jane is a landlord and she rents houses for Ksh.2500 per month. A customer is awarded a 5% discount if he/she pays rent for over six months in advance. Currently, Jane has ten rental houses which are fully occupied. Develop a pseudo code that can capture the rent payment for all the ten tenants and calculates the total amount paid and the total discount awarded. (7mks)
- (b) Draw a flowchart for the above algorithms (5mks)
- (c) Program documentation is writing of support materials explaining the program. State **Three** types of program documentation (3mks)
17. (a) Define the term 'Data integrity' (2mks)
- (b) Give **Three** ways in which one would curb threat to data integrity (3mks)
- (c) Explain the following electronic data processing modes giving relevant examples Where they are used.
 - (i) Real time processing (2mks)
 - (ii) Distributed data processing (2mks)
 - (d) Give **Three** components of a computer based information system (3mks)
 - (e) Computer hardware is categorized according to the types of operations it performs. List **Three** operations. (3mks)
18. Study the diagram below and answer the questions that follow.



- (a) (i) Name the above cable as used in data communication media (1mk)
(ii) Name the parts labeled A, B, C and D (4mks)
(iii) Highlight any **Three** advantages of the above cable. (3mks)
- (b) (i) What is an Uninterruptible Power Supply (UPS) (2mks)
(ii) Explain **Two** functions of UPS (2mks)
- (c) (i) Give **Two** advantages of sound output devices (2mks)
(ii) Why are CD-ROM and CD-R referred to as WORM? (1mk)
19. Information and Communication Technology is relatively a new area of study which is advancing. Due to this reason, everyone is expected to keep a breast with the changing trend of information and Communication Technology (ICT)
- a) (i) Explain how ICT has affected employment (3mks)
(ii) Explain **Two** health problems that have resulted from prolonged use of computers (4mks)
- (b) (i) What is artificial neural network? (2mks)
(ii) Give **Two** features (arributes) of neural networks. (2mks)
- (c) Explain characteristics of a system
(i) Holistic thinking (2mks)
(ii) System entropy (2mks)
20. (a) (i) Distinguish between a system analyst and a programmer (2mks)
(ii) List **Two** types of job opportunities that are available in the field of computer hardware. (2mks)
- (b) Highlight any **Two** factors you would consider before enrolling for an ICT course in a college. (2mks)
- (c) Give **Two** disadvantages of observation when used in fact finding. (2mks)
- (d) Explain the following changeover strategies
(i) Parallel changeover (2mks)
(ii) Phased changeover (2mks)
- (e) Explain briefly each of the following in data security.
(i) Firewalls (1mk)
(ii) Data encryption (1mk)
(iii) Sabotage (1mk)

Set3

Paper 2

ANSWER ALL QUESTIONS

1. Mwangaza Training College offers Three courses to students. A student sits for three exams every semester, each exam marked out of 100. The students must have been enrolled first. The following is sample data collected from the college database

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Courses

Course	Course description	Tuition fees
D-SECT	Secretarial Diploma	Kshs.15,000
D-INT	Diploma in IT	Kshs.18,000
D-ACCT	Diploma in Accounting	Kshs.16,500

Students enrollment

Student ID	St name	Sex	Date enrolled	Course code
SECT-01	Gladys Cherop	Female	12/05/2011	D-SECT
INT – 03	James Mucheru	Male	16/05/2011	D-INT
ACC – 04	Peter Marangi	Male	18/05/2011	D-ACCT
SECT – 06	Jane Kamene	Female	17/05/2011	D-SECT

Exams offered

Exam code	Ex name
01	Opener
02	Midterm
03	Endterm

Exam performance

Exam record no	Student ID	Exam code	Semester	Score
1	SECT – 01	01	2	75
2	INT – 03	02	2	80
3	ACCT – 04	01	2	65
4	SECT – 01	02	2	70
5	ACCT – 04	02	2	60
6	INT – 03	01	2	68
7	SECT – 01	03	2	78
8	INT – 03	03	2	74
9	ACCT – 04	03	2	66

NB:- A course can be enrolled by many students and a student can do many exams. One exam can also be done by many students as shown in exam performance table.

Required

- (a) Create a database file called Mwangaza College and save it. (2mks)

- (b) Create a table structure for each of the four tables, setting most appropriate field as the primary key and choosing the most appropriate data type for each field (12mks)
- (c) Relate the four tables as required to have one to many relationships (4mks)
- (d) Create a data entry form for each table (8mks)
- (e) Using the forms, populate the tables with the records (8mks)
- (f) Query the tables to show Sname, Coursedescription, Exname, Exrecordno and score for all students who scored greater than 70. Save the query as high score (5mks)
- (g) Create a grouped report that displays every student's details and his or her exam Performance as follows;
Student details – Sname, StudentID, Coursedescription.
Exam performance – Exname, Score, Average score. Save the report as performance report
- (h) Print Exam performance table in landscape, high score query in portrait and performance Report in portrait orientation. (6mks)
2. Excel school ordered computer accessories and the following suppliers provided the following As illustrated below.

	A	B	C	D
1	Name	Item Sold	Amount	Date
2	Joseph	Mouse	200.00	2/11/2011
3	Peter	System unit	5,000.00	3/11/2011
4	Tony	Keyboard	200.00	4/11/2011
5	Mike	CD Writer	2,000.00	5/11/2011
6	Joseph	Computer1 System	2,000.00	6/11/2011
7	Peter	Mouse	200.00	7/11/2011
8	Tony	Mouse	200.00	8/11/2011
9	Mike	System Unit	2,500.00	9/11/2011
10	Joseph	Keyboard	200.00	10/11/2011
11	Peter	CD writer	3,000.00	11/11/2011
12	Tony	Computer System	5,400.00	12/11/2011
13	Mike	Mouse	200.00	13/11/2011
14	Joseph	System Unit	3,000.00	14/11/2011
15	Peter	Keyboard	200.00	15/11/2011
16	Tony	CD Writer	2,500.00	16/11/2011
17	Mike	Computer system	6,000.00	17/11/2011

- (a) Enter the data shown into a spreadsheet and save it (the workbook) as Excel. (11mks)
- (b) Copy the content of Sheet 1 to Sheet 2 into the exact position and rename it as New price.
Insert a new row after the Amount row and label it "New price". The suppliers of the items decided to, increase all their items by 20%. Enter the percentage into cell A18.
Using absolute referencing, calculate the New price of each of the items in the "New price" column. (7mks)
- (c) Copy the content of Sheet 1 to Sheet 3 and rename it as Subtotals. Using subtotals sheet

Find subtotals for each supplier and display the Grand Total. (6mks)

- (d) Using the subtotals sheet, Create a column graph (bar graph) to compare the total cost of all items bought from each supplier. The x-axis should be labeled as "Names" and the y-axis "cost items". Each bar should display a total value it represents on top of it and the supplier's Name below it. The title of the graph should read, SUPPLIERS COMPARISON TOTALS. Place the graph on a new sheet and rename the sheet as BAR GRAPH (8mks)
- (e) Insert a new sheet into the workbook. Rename this sheet as "Filtered". Open the subtotals sheet. Filter the records of all suppliers whose New price is greater than or equal to 6000 or less than 250. Copy the results onto the "Filtered" sheet. (6mks)
- (f) Open sheet 1. Restrict all the cells in the Amount column to allow entry of amounts between 0 and 6000. A message, "Input amount <= 6000" should be displayed whenever a cell is selected. In case of an invalid entry, the message, "Amount >6000", should be displayed. Put an inside and outside border on data on sheet 1. (5mks)
- (g) Put the sheet name as the header and your name. School and index number as footer for every sheet in your workbook. Save your work on a removable storage media and print **ALL the worksheets**

Set4

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COMPUTER STUDIES

Paper 1

Time: 2 Hours

Answers ALL the questions in this section in the spaces provided.

1. One function of an operating system is to control computer resources. State **four** resources under operating system control (2 marks)
2. a). Define the term plotter (2 marks)
b). List two types of plotters (1 mark)
3. Explain the following terms as used in the word processing (4 marks)
a). indenting
b). Alignment
c). Foot note
d). Endnote
4. List three application areas of artificial intelligence. (3 marks)
5. Differentiate between COM ports and LPT ports. (2 marks)
6. List **three** factors to consider when deciding on the choice of an electronic data processing method. (3 marks)
7. Ventilation is an important practice in the computer lab because it enhances proper circulation of air. Outline **three** ways in which air is regulated in the computer room. (3 marks)
8. List **four** advantages of optical disks over floppy diskettes (4 Marks)
9. What does the following control measures against computer crime involve? (4 marks)
a). Audit trail
b). Data encryption
c). Log files
d). Passwords
10. List four examples of flat panel displays (2 marks)
11. Define the term mail merging (2 marks)
12. Name **two** files that are created in mail merging process (2 marks)
13. While purchasing computers for his school the principal Musambweni high school decided to consult an expert. As a computer student advise him on **four** hard ware considerations (2 marks)
14. Name four methods used in data management on a worksheet (2 marks)
15. List four formatting techniques used in excel. (2 marks)

SECTION B. (60 MARKS)

Answer question 16 and Any other three questions

16. a). Study the pseudocode below and design a flowchart for the pseudocode. (8 marks)
Set total to zero
Set grade counter to one

While grade counter is less or equal to ten

Input the next grade

Add the next grade into total

Add one to the grade counter

Set the class average to the total divided by ten

Print the class average.

- b). Describe **three** methods of testing the program for errors. (3 marks)
- c). List down **four** selection controls used in writing a program (2 marks)
- d). Outline **four** benefits of modularization in programming (2 marks)
17. a). Convert the following numbers of their decimal equivalent (6 marks)
- a). 11.011_2
- b). 11.1011_2
- c). 111.10101_2
- b). Outline **four** ways in which data integrity may be maintained (4 marks)
- c). Discuss **four** advantages of using questionnaires as a fact finding tool (4 marks)
- d). What is the role of a recycle bin in Ms. Word? (1 mark)
18. a). List **three** advantages of fibre optic cables (3 marks)
- b). Differentiate between static RAM and dynamic RAM. (4 marks)
- c). Describe the following types of queries found in Ms. Access (3 marks)
- i). Update
- ii). Append query
- iii). Make table query
- d). Distinguish between source program and object code (4 marks)
- e). Distinguish between a mouse pointer and an insertion point (1 mark)
19. a). Outline **four** major ways the company network administrator can enforce good network practice on user of the company LAN (4 marks)
- b). Identify **four** major categories of data handling process which make up a computer system (2 marks)
- c). Outline **four** contents of user manual that would help the user to run the system with minimal guidance
- d). Distinguish between dynamic and static systems (2 marks)
- e). List **three** programming languages that can be used by web developers (3 marks)
20. a). Masai Teacher's college has decided to automate its library for effective services to the Students. Identify **four** methods they are likely to use to gather information during system development (4 marks)
- b). Define the following terms in relation to internet (4 marks)
- i). Downloading
- ii). Hyperlink
- iii). Web browsers
- iv). Internet service providers
- c). Differentiate between sorting and filtering as used in electronic spreadsheet program (2 marks)
- d). Define the following terms (3 marks)
- i). Spam mail
- ii). Disk
- iii). On board modem
- e). Define the term WIMP as used in computing. (2 marks)

Set4
AND PRACTICE EXAM 2016
Paper 2

QUESTION 1

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

GEOGRAPHICAL INFORMATION & 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 attributes could be temporal. A lot of geographic attributes change with time of day, month, season, solar cycle and even over the ages. This information can be displayed on a map in for different forms.

- (i) Point data : - This could represent the location of a city, a hospital, a police station etc
- (ii) Line data: Items normally represented on maps as a line include railway line, roads, coastline. borderline, rivers etc
- (iii) Polygon data: - These represent the borders of specific regions such as seas, countries, city etc
- (iv) Surface data: - This is information over a 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 information use subsystem, a geographical data analysis subsystem and a geographical information use subsystem.

A few examples of GIS users are land surveyors
Planners, resources forecasters and managers, public
Protection and security officers, property developers
And investors, education and transport managers

This list is expanding day by 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 costs of the high speed microprocessors, Graphic 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) Capitalize the first character of all occurrences of the word geographical
iii) Save the passage as A: DOCB (6 marks)

- c). i) Reformat the paragraph starting with 'A few examples ' 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) becomes (iv) that order and retain the formatting style (6 marks)
- e). i). Change the paper orientation to landscape
 ii). Save the passage as A: DOCD (6 marks)
- f). Print DOCA, DOCB, DOCC and DOCD (6 marks)

QUESTION 2

Munjiru is a secretary for the Entrepreneurs Club. She has been told to use a database management system (DBMS) to help the club maintain records on the club's members. Perform the following operations just like Munjiru would

- a). i). Create a database table (or file) that has the following fields of data for each member last name, first name, membership number, date of registration, membership fee paid, age, telephone number and a memo field status(14 marks)
 ii). Make the membership number record identifier (the primary key) (2 marks)
 iii). Index on membership number (2 marks)
- b). Input the following data:

Last name	First name	Membership number	Date of registration	Membership fee paid	Age	Telephone	Status
Munjiru	Margarety	Yec/002	11.08.93	5000.00	45	573223	Fully Paid Founder member
Salim	Said	Yec//101	15.07.97	5000.00	50	568880	Fully paid Ordinary member
Kamau	John	Yec//007	01.01.96	2000.00	65	443311	Senior citizen Member with concessionary rates
Onyango	Victor	Yec//031	10.02.96	4000.00	37	747419	Ordinary member to pay 1000.00
Ali	Majid	Yec//055	19.10.96	3500.00	32	720122	Ordinary member to pay 1500.00
Katiku	Peter	Yec//067	15.05.97	0.00	25	717100	Ordinary Member Defaulter
Korir	Kelvin	Yec//098	05.03.98	5000.00	38	767822	Ordinary member, fully paid
Wafula	Joyce	Yec//023	23.04.95	5000.00	43	500655	Ordinary member, fully paid
Kikoto	Mary	Yec//048	09.06.96	2000.00	28	543421	Temporary member for 6 months only
vijhu	machu	Yec//074	29.11.97	1000.00	55	811015	Honorary member

- c). i) Insert the fields that will accommodate Y for Yes and N for No

- ii) Indicate in these new fields those members who have paid more than sh. 4000.00 with Y otherwise N
- iii) Save table as A: Club2
- d. i). Create a query that contains the fields Membership Number, Last Name, Date of registration, Membership fee paid and status for all members who have paid less than sh. 4000.00 and registered after 15/4/1995 or are above 35 years of age (8 marks)
- ii. Write on the paper provided the query expression you use (2 marks)
- iii. Save the query as A: clubQ (2 marks)
- e. i). Excluding the status field, create a report and give it the title: ENTREPRENEURS CLUB (10 marks)
- ii). Save the report as A: Club R (2 marks)

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COMPUTER STUDIES

Paper 1

(THEORY)

Time 2 ½ HOURS

SECTION A: (Answer ALL questions in this section)

1. State **three** reasons why it is difficult to control, detect and prevent computer crimes. (3mks)
2. Explain the difference between ring and star network topology. (3mks)
3. State three factors that have led to slow growth of e-learning in Kenyan schools. (3mks)
4. a) What is virtual Reality? (1mk)
- b) State two sensory devices used in virtual reality. (2mks)
5. Describe the meaning of the following terms as use in ICT. (3mks)
 - i) Protocol
 - ii) Gateway
 - iii) Band width
6. List down four features of user friendly program. (2mks)
7. Explain two reasons why computer uses binary numbers in data representation. (2mks)
8. List four types as courses in ICT offered at degree level in Kenya. (2mks)
9. Different between sorting and filtering of data as used in spreadsheet. (2mks)
10. Distinguish between a system and an information system. (2mks)
11. Convert the following into binary
 - i) 76CD₁₆ (2mks)
 - ii) 123₈ (2mks)
12. Distinguish between DRAM and SRAM memories. (2mks)
13. Outline the two types of twisted pair cables. (2mks)
14. a) State and explain one type of computer processing file. (2mks)
- b) List three file organization methods. (3mks)

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15. Mobile phones have become common ICT devices. List some of the powerful capabilities that come with some of the latest embedded operating systems in mobile phones. (3mks)

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Paper 2

1. a) Type the text below as it is into a word processor software. (18mks)
- System development
- For four purposes, the implementation process runs from the point when the systems design has been formally approved to the point when the new system is in place, ready to be used. As mentioned above, a decision could have been made to acquire commercial software for implementing the new system.
- The following are the major activities which comprise the implementation process.
- (1) Develop detailed programming specifications
 - (2) Develop test specifications and test data
 - (3) Write computer programs
 - (4) Test computer programs
 - (5) User testing
 - (6) File conversion
 - (7) change over to the new system
- Again, there is usually significant overlap among the above activities, For instance, file conversion may proceed while programs are being written.
- DECISION TABLE
- A decision table allows an analyst to set out a clear way in what could be a confusing situation.

		1	2	3	4
Conditions	Purchaser is a member	T	T	F	F
	Purchaser exceeds Ksh. 1000	T	F	T	F
Actions	15% discount	√			
	10% discount		√		
	7% discount			√	
	No discount				√

- b)
- (i) Centre and underline the title. (2mks)
 - (ii) Change font size of the headline to 25 pts. (1mks)
 - (iii) Change the case of the headline to Title case. (1mks)
- c) Insert this text as the page footer in Italic, "System development life cycle". Place it at the left of the page. (4mks)
- d) Spell check your document. (4mks)
- e) Save your document as SDLC FILEI. (2mks)
- f) Excluding the title, set your document to be in two columns to the beginning of the subtitle, "decision table". (5 mks)
- g) Double space the first paragraph of your document. (3mks)
- h)
- i) Expand the title by 10pts in character spacing. (4mks)
 - ii) Use dotted line to underline your headline. (3mks)

iii) Save your document as SDLC F2. (2141(S)

iv) Print SDLC F1 and SDLC F2

(2mks)

Q2.

The data in the tables below was obtained from various insurance companies.

Table 1: Insurance policy

Policy category	Policy type
PC01	LIFE
PC02	VEHICLE
PC03	HOUSE

Table2: Customer

NAME	GENDER	MONTHLY CONTRIBUTION	REGNO	INSURER ID	POLICY CATEGORY	TEL NO
JIM	M	7000	8790	I01	PC02	0754233445
ALICE	F	5000	9094	I02	PC03	0724345765
JOHN	M	7500	6790	I01	PC01	0728567654
JANE	F	6700	8950	I01	PC02	0734543321
BEN	M	5000	7980	I03	PC01	0721564786
PAUL	M	6500	7956	I04	PC03	0753213456

Table3: insuring company

Company id	Company name
I01	WORLD WIDE
I02	PROMISE
I03	GATEWAY
I04	EASY

- a) i) Create a database named INSURANCE. (2mks)
- (ii) Create the three tables above in your database. (12mks)
- (iii) Create relationships between the tables. (3mks)
- (iv) Create and use forms to enter data into the tables. (12mks)
- b) (i) Generate a report to display the Name, Gender, policy type, and company name. (8mks)
- (ii) Create a query to display total monthly contribution made by WORLDWIDE Company. (4mks)
- c) (i) Using a query, display the customer's name, contribution, policy category, and company name. (5mks)
- d) Print:
- i) Your tables (3mks)

- | | | |
|------|-------------|--------|
| ii) | Report | (1mk) |
| iii) | Two queries | (2mks) |

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COMPUTER STUDIES

PAPER 1

TIME: 2 ½ HOURS

SECTION A : (40 MARKS)

Answer all Questions in the spaces provided.

1. State **three** factors that you would consider before replacing or upgrading a computer memory (3mks)
2. State **three** characteristics of a well designed and developed software. (3mks)
3. List **two** web programming languages. (2mks)
4. Explain three parts of a task bar. (3mks)
5. Define (2mks)
 - (i) Base band
 - (ii) Broad band
6. (a) Define the term artificial intelligence (1mk)
 (b) List four areas where artificial intelligence is applicable. (2mks)
7. State three ways of moving round the page in a desktop publishing window (3mks)
8. Differentiate between the following (4mks)
 - (i) Insert mode and type over mode.
9. State two ways in which horticultural farmers can benefit from the use of information and communication technology. (2mks)
10. Name three mouse clicking techniques. (3mks).
11. State two disadvantages of networking. (2mks)

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12. A student presented a budget in the form of a worksheet as follows.

A	B	
1	ITEM	AMOUNT
2	Fare	200
3	Stationary	50
4	Bread	300
5	Miscellaneous	150
6	Total	

- a) Write a formula to get the total in B6 (1mk)
- b) State the expression that would be used to obtain the least expenditure. (1mk)
- c) Distinguish between filtering and sorting (1mk)
13. Differentiate between bound and unbound control (2mks)
14. Identify the most appropriate data types for this fields (4mks)
- (i) Name
- (ii) Admission Number
- (iii) Fees (iv) Date
15. What is program documentation (1mk)

SECTION B (60 marks)

Answer question 16 and any other three questions from this section in the spaces provided.

16. Tusaidiane Savings Society (T S S) pays 5% interest on shares exceeding 100,000 shillings and 3 % on shares that do not meet this target .However no interest is paid on deposits in the member's T S S bank account.
- Design
- (a) An algorithm for the program that would (7mks)
- (i) Prompt the user for shares and deposit of a particular member.
- (ii) Calculate the interest and total savings.
- the interest and total savings on the screen for a particular member of the society.
- (b) Using a flow chart. (8mks)
17. (a) The following are some of the phases in the systems development life cycle (SDLC) system analysis, system design, system implementation, system review and maintenance . State four activities that are carried out during the system implementation phase (4mks)
- (b) Give three reasons why system maintenance phase is necessary in SDLC (3mks)
- (c) State two instances where observation is not viable method of gathering information during system analysis stage (2mks)
- (d) Various considerations should be made during input design and output design. State three considerations for each case (6mks)
- (i) Input design.

- (ii) Output design.
18. (a) One of the functions of an operating system is job scheduling. Explain what is meant by Job scheduling. (2mks)
- (b) List and explain three types of user interfaces. (6mks)
- (c) Describe the following categories of software. (4mks)
- (i) Firmware.
- (ii) Proprietary software.
- (d) A new company ABC intends to go into business of desktop publishing. Advise the company on three computer hardware specification features to consider as a measure of enhancing performance. (3mks)
19. (a) Convert the decimal number 0.5625_{10} into its binary equivalent. (5mks)
- (b) Find the sum of
- $$\begin{array}{r} 00110_2 \\ + \\ 01101_2 \\ \hline \end{array}$$
- (c) Using the ones complement, calculate $31_{10} - 17_{10}$ in binary form. (5mks)
20. (a) Define the term network topology (2mks)
- (b) Name two advantages and two disadvantages of ring topology (4mks)
- (c) Name five components of the fibre optic cable. (5mks)
- (d) Other than the ring topology name other 4 types of topologies. (4mks)

Set6

Paper 2

Question 1

1. a) Below is one side of a receipt. On an A4 wide paper, design it and fit four copies on the A4 paper and save your work as Receipt. (46mrks)
- B) Include a page header with your name and index No (2 mrks)
- c) Print the document (2 mrks)

P.O. BOX 401 -40123		PIN. NO. A00112911Z		
Mega City – Kisumu		CASH SALE		
		ELMORE BOOKSHOP		
Date: _____				
M/S _____				
Qty	Particulars	@	Kshs	cts

	from booking							
14	TOTAL SALES							
15								
16								
17								
18								
19	EXPENSES					TOTAL		
20	Cost providing services							
21	Rent	10,000	10,000	10,000	10,000			
22	Salaries	20,000	20,000	20,000	20,000			
23	Email/internet	5,000	5,000	5,000	5,000			
24	Electricity	2,050	2,050	2,050	2,050			
25	Advertising	12,000	13,000	13,700	45,000			
26	Travel	20,000	23,000	30,000	23,000			
27	Misc	1000	1200	1400	2300			
28								
29	Total expenses							
30								
31	Profit							
32								

- b) Calculate the following; (4 mks)
- Total Expenses and sales for each quarter
 - Profit/loss
 - Calculate total sales and Expenses for Quarter1- Quarter4
 - Add a row below total expenses and label it 'Highest Expenditure' use a formula to obtain this figure
- c. Format the heading 'KALOKA SAFARIS TOURS & TRAVEL' (5 mks)
- Alignment: Merge and centre
Font style: Bold & Underline, Font Size: 16
Font Type: Arial. Name the worksheet kaloka1.
- d. Insert a new worksheet and name it kaloka2. Copy the contents of Kaloka 1 to Kaloka2. (2marks)
- e. Kaloka Managing Director wanted to know what her income from sales would be. Using Kaloka 2 worksheet add a row below Net income and label it comment. Generate using a formula a comment showing "Loss" if the sales are negative and "profit" if the sales are negative. Align the months to 45° (degrees) (7 marks)
- f. (i) By using kaloka2, 10% of the profit is to be set aside for development please add arrow to calculate the same. Sort the expenses by Name from Ascending to Descending, then sort by January expenses (4 marks)
- (ii) Insert a column chart and use it to compare total sales and total expenses, ensure that it is on its own page. (6marks)
- g. Using kaloka 2 add arrow below "profit" add to calculate the sum of all values in quarter 1 whose expenses are above 5000 (4marks)
- h. Print Kaloka 1 Kaloka 2 and Kaloka chart (3marks)

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PAPER 1

THEORY

2 ½ HOURS

SECTION A (40 MARKS)

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

- Distinguish between parallel and serial cables (2 mks)
- Differentiate between **Error Handling** and **interrupt handling** (2 mks)
- Name four malicious programs that can affect your computer system (2 mks)
- What is meant by expert systems? Name the three components (4 mks)

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5. Name two ways of editing cell entries in spreadsheets. (2 marks)
6. Describe TWO roles of each of the following;
 - (a) Database Administrator (2 marks)
 - (b) System analyst (2 marks)
7. (a) Describe two facilities offered by email software such as Ms Outlook. (2 marks)
 (b) Name other two email softwares available in the market? (1 mark)
8. State the functions of the following protocols; (2 marks)
 - (a) FTP
 - (b) TCP/IP
9. What is meant by World Wide Web? (2 marks)
10. Explain the difference between Gas Plasma Display and Liquid Crystal display Monitors (2 marks)
11. State the purpose of the following field properties in a Database management software (2 mks)
 - (a) Input mask
 - (b) Validate Rule
12. Differentiate between logical and syntax errors encountered in programming (2 marks)
13. What is a computational error? Give an example to illustrate (2 mks)
14. Anita was working on her computer studies project. She was worried of the media to use for storing her data. She settled on a media that used serial file organization. How are files organized on a storage medium using this method? List two advantages offered by this type of file organization (3 mks)
15. Define the following terms in relation to computer security: (6 mks)
 - a) Data Encryption
 - b) Sabotage
 - c) Firewall

SECTION B (60 MKS)

Answer question 16 and any other 3 questions.

16. a) Generate output for the following pseudo code (4mks)


```

START
X= 1
WHILE X<4 DO
PRINT (X)
X=X+1
Y= X+2
ENDWHILE
PRINT ("DONE',X)
END
      
```

 - b) Draw a flowchart for the above pseudo code (4 mks)
 - b) List any four components of Requirement specification made during system development (2 mks)
 - c) Describe three kinds of program documentation used in program development (6 mks)
17. The information below is maintained by Jessica Fruit store. Study it and answer the questions that follow:

Product number	Product name	Qty in stock (kg)	Value per unit (ksh)
001	Peach	1000	200
002	Oranges	1200	200
003	Mangoes	1300	100
004	Tomatoes	1200	140
005	Cabbages	1500	25

- a) Describe the field data types used in the database above (4 mks)
- b) Provide query statements you can use to list the following;
- i) Product names starting with letter P. (2 mks)
- ii) Value pr unit below 200. (2 mks)
- i) List and describe four areas of application of spreadsheets. (4 mks)
- ii) Explain Data range, legend and axis as used in spreadsheet charts. (3 mks)
- 18 a) What is automated production. List two advantages and two disadvantages of automated production (5mrks)
- b) i) Name three ways of representing signed binary numbers (3 mks)
- ii) Convert 5D6₁₆ to Binary (2 mks)
- iii) Describe any four activities that take place during implementation stage of a system (4 mks)
- c) Define the following terms as used in DTP software (1 mks)
- i) Cropping
19. a) State and explain any four operating system disk management utilities (8 mks)
- b i) What is system maintenance? (2 mks)
- ii) Define the following terms in relation to computer software (3 mks)
- a) Freeware
- c) Open source
- iii) List any four likely causes of data and program loss in a computer system? (2 mks)
- 20 a) With the aid of a diagram explain the following network typologies (6 mks)
- i) Ring topology
- ii) Bus topology,
- iii) Star topology
- b) Define the following terminologies in relation to networking (4 mks)
- i) Crosstalk
- ii) Noise
- iii) Attenuation
- iv) Frequency
- c) State two advantages of wireless communications (4 mks)
- d) List down one major advantage of networking. (1mk)

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Paper 2

- (a) Create a new database, save it on a removable storage medium and name it **school database**
- (b) Create a Table in the *school database* with the following (3mks)

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FIELD NAME	DATA TYPE	FIELD SIZE/FORMAT
ADM-NO	Text	10
Name	Text	15
Surname	Text	15
Tel - No	Number	Long Integer
Date of Birth	Date/time	Medium date
Fee – Paid	Currency	Currency
Foreigner	Yes/No	Yes/No

- (c) Make the “ADM_Number” Field as the Primary Key (2mks)
 (d) Save the table as Student’s Table (2mks)
 (e) Open the “Students Table” and enter the following records (3mks)

ADM - NO.	Name	Surname	Tel - No.	Date of Birth	Fee - paid	Foreigner
4567	John Maina	Muiru	55-67543	19/09/1990	25000	No
4576	Mary Nthenya	Mutua	44-23456	20/12/1991	27000	No
4398	Mark Okech	Otieno	22-65473	13/03/1992	20000	No
5678	Peter Rick	Ben	11-76742	15/06/1994	29000	Yes
4378	Joan Liz	Patel	13-89734	18/09/1990	26000	Yes
4897	Peter Amos	Ben	33-37482	17/04/1993	20000	Yes
4643	Muoka Muoki	Nzioki	44-45362	12/12/1991	23000	No

- (f) Insert the record given below as record 4 (2mks)
4120 Rebecca Kalewa Ben 44-24242 13/10/1900 27000 No
 (g) Delete Mary Nthenya record from the database file (2mks)
 (h) Sort the table in Ascending order by surname (2mks)
 (i) Move the **Date of Birth** and **Tel - No** fields so that the **Date - of- Birth** field is now directly after the **surname** field (4mks)
 (j) Change the field size of the **Surname** to 20 (1mk)
 (k) (i) Create a Form with all fields on the Students Table (2mks)
 (ii) Name the form **Students Entries** (1mk)

- (iii) Insert unbound control named fee - Balance to show the fee balances of all students given the total fee is **35000** and Fee - balance = Total _Fee - Fee Paid (4mks)

- (1) Insert a picture in the form in way that all text is visible (3mks)
- (m) (i) Create a report based on the Student's Table showing the **Fields Name, Surname and Tel No.** (3mks)
- (ii) Name the report Telephone list (1mk)
- (n) Insert a picture in the report Header (2mks)
- (o) (i) Create query _1 showing all fields of those students whose surname is Ben (4mks)
- (ii) Create query _2 showing all fields of those students born after 1991 (3mks)
- (iii) Create query 3 showing only the Student's Name, Student's Surname and Student's Date of birth (3mks)
- (p) Print **Students tables Entries form, Telephone list, query_1, query_2 and query_3.** (3mks)

QUESTION TWO

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

(50 marks)

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.

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COMPUTER STUDIES

PAPER 1

THEORY

Time: 2 ½ Hours

Answer the questions

1. State three classifications of micro computers when classified according to size. (3mks)
2. Give three main advantages of using computers for data processing functions over other types of office and business equipments (3mks)
3. (a) What is disk partitioning? (2mks)
(b) Give two reasons for partitioning a disk. (2mks)
4. Give a reason for each of the following hardware considerations when selecting a computer system
a) Processor speed.
b) Warranty.
c) Upgradeability and compatibility.
d) Portability.
5. Outline the functions of the following utility software (3mks)
(i) Loaders.
(ii) Debuggers.
(iii) Linkers.
6. Draw a diagram to illustrate the following. (3mks)
(i) USB Port.
(ii) Serial Port.
(iii) Parallel Port.
7. A computer operator in your school wanted to print a document but the printer could not print yet the online light is on and the printer paper is correctly placed. Give the other possible reasons why the printing process failed. (2mks)
8. Differentiate between office and magnetic scanning techniques and give two example of each. (4mks)
9. Define the following terms as used in word processing.
(i) Word wrap (1mk)
(ii) Thesaurus (1mk)
10. In a war torn countries such as Somalia, explosives that get buried under ground requires removal in order to provide safety for the people.
(a) Name a computer controlled device that would be used safely for detecting such explosives (1mk)
(b) Explain why you recommend the use of such a device in (a) above (1mk)
11. Explain briefly how Electronic Funds Transfer (EFT) and Electronic Point of Sale (EPOS) is used to facilitate business in Nakumatt supermarkets in Kenya (4mks)
12. The most popular type of electronic data storage currently is magnetic disk storage such as hard disk or Winchester disk. Give reason as to why they are popular (2mks)
13. Outline two advantages of hard disk over floppy disk. (2mks)
14. One stage of system development is system testing. Outline the advantages of this stage before implementation (1 mks)

15. State three system changeover strategies

(3 mks)

SECTION B (60 MARKS)

Answer question 16 and any other three questions from this section in the spaces provided.

- 16 a) Define the terminologies;
i) Source code
ii) Object code (4mks)
b) With an aid of a pseudo code and flow chart, write a computer program that can be used to compare the values of two numbers and print the largest number 11m
17. a) Define the following terms. (4 mks)
i) Record
ii) File.
iii) Database
iv) field
b i) List any three ways of dealing with virus on a computer. (3mks)
ii) Explain the functions performed by: (6 mks)
a) The control unit
b) Arithmetic and logic unit (ALU)
c) Main memory:
iii) what is the difference between hacking and cracking (2 mks)
- 18 a) What is the hexadecimal equivalent of 7478 (3 Mks)
19. a) Define the following terms. (4 mks)
i) Record
ii) File.
iii) Database
iv) field
b) i) List any three ways of dealing with virus on a computer. (3mks)
ii) Explain the functions performed by: (6 mks)
a) The control unit
b) Arithmetic and logic unit (ALU)
c) Main memory:
iii) What is the difference between hacking and cracking (2 mks)
20. a) What is the hexadecimal equivalent of 7478 (3 Mks)
b) Use one's compliment to solve the following sum: (2 Mks)
c) State two reasons for using binary system in digital technology. (2 Mks)
d) Explain the term attenuation as used in networking. (2 Mks)
e) i) Explain the following terms as used in fibre optic cables (4 Mks)
i) Single mode
ii) Multi-mode
f) Convert 7.125_{10} to its binary equivalent. (2 Mks)
21. i) Describe three ways in which computers have positively impacted on education. (3 mks)
ii) The traffic lights serve as output devices for a computerized traffic system. Name the appropriate input device for this system. (1 Mk)
iii) State three advantages of computer based simulation. (6 Mks)
iv) Differentiate between a software engineer and a computer engineer. (2 Mks)
v) Name three duties that are carried out by a web administrator. (3 Mks)

22. (a.) Explain three components of expert systems. (6mks)
 (b.) Highlight two types of job opportunities available in the field of computer hardware (2mks)
 (c.) List any three internet service providers in Kenya (3mks)
 (d.) Describe any four internet services (4mks)

Set8

Paper 2

1. a) Create a database called EDU (2 Mks)
 b) Create three tables Exam, Student and Boarding with the fields as shown below. (10 Mks)
 c) Create a relationship between the three tables. (3 Mks)
 d) Enter the data items in the given tables. (15 Mks)

Student				
AdmNo	FName	LName	KCPE Mark	Year of KCPE
1	Peter	Barasa	327	2007
10	Johnson	Suk	250	2001
2	Alex	Ojwang'	340	1998
3	Chepkuto	Esther	250	2008
4	Wekesa	Raymond	450	2007
5	Alex	Wamwana	410	2003
6	Jane	Kilonzo	400	2000
7	Mathew	Kariuki	450	1999
8	Nasimiyu	Catheen	290	2003
9	Kimathi	John	300	2001

1	45	67	90	23
10	45	89	90	20
2	56	70	80	45
3	89	90	90	20
4	78	30	90	50
5	67	89	60	90
6	67	90	40	80
7	34	78	70	90
8	23	50	38	90
9	23	15	67	20

Boarding			
AdmNo	Uniform	Tool No	Tool Name
1	No	12	Jembe
10	Yes	20	Jembe
2	No	11	Panga
3	Yes	1	Slasher
4	Yes	111	Jembe
5	No	15	Rake
6	Yes	22	Basin
7	Yes	11	Brooms
8	Yes	90	Rake
9	Yes	23	Bucket

- e) Design a query that would display the following fields as shown below: Save it as Total. (10mks)

AdmNo	Yes/No	FName	KCPE Mark	Maths	Eng	Kisw	Total
-------	--------	-------	-----------	-------	-----	------	-------

- f) Design a report that would sort the following in ascending order in the order of the following fields: Total, KCPE Mark, FName and Adm No and the report title is ADMINISTRATION. Save the report as Admin (5 Mks)
- g) Print, **Exam, Student, Boarding, Total and Admin** (5 Mks)
2. a) Using a word processing package, type the passage below as it appears, proofread and save It as Compnetwork 1 in a removable storage media. (24mks)

INTRODUCTION TO COMPUTERS & OPERATING SYSTEMS

A computer is an electronic device that can solve problems by accepting data, performing certain operations on that data (processing) and presenting the results of those operations (Information)

Basic characteristics that distinguish a computer from other information processing devices:

- A computer is electronic - That is, all its processing operations are carried out with electrical signals.
- A computer can store information for future reference - This is done on temporary basis with memory circuits and permanently with storage devices such as magnetic disks and tape.
- A computer is programmable - Unlike other devices built to perform a single function, a computer can be instructed to perform a variety of tasks.

NETWORKING BASICS

The Hardware

Network Interface Cards (NIC)

Firstly, each computer must have a network card. Computers that run Windows generally use PCI

NICs (Network Interface Cards), although there are other types available, including USB NICs. The PCI NICs tend to retail very cheaply and many newer PCs and laptops come with 10/100 NICs inbuilt.

Switches and Hubs

Secondly, you need a piece of hardware to connect your computers together. There are various options:

- A hub. In a hub, any information arriving in the hub from any computer is sent to every computer connected to the hub. This is the most basic form of network connection device and has largely been superseded by

- A switch. The switch learns which computer is connected to each port, so when it receives a data packet destined for a specific computer the switch will only send that data packet to that specific computer.

The alternative to buying a switch is to use a special cable called a cross-over cable. This is a specially wired cable which will allow you to connect two computers directly, however in my experience all but one situation where a cross-over cable has been initially bought it was eventually been replaced with a switch. Some switches have printer ports on them, which is useful for windows but less so for RISCOS, unless you have a printer that you have a RISC OS printer driver for more of this later.

Routers

Routers are special types of switches which make a direct connection to the internet and allow all computers to access the internet via the router. They usually include firewalls, DHCP servers and can have additional functionality such as web page filtering and VPN termination. If you wish to just connect RISC OS computers to the internet, this is perhaps the best way to go. Routers can be purchased which will access ADSL or Cable broad band or even 56k dial-up lines.

Cables

Thirdly, you will need network cables. The maximum length between any two pieces of hardware (computer-switch or computer — computer) is 100 m. They can come in all sorts of colours and can be hidden in walls, behind skirting boards and through ceilings. Note that unless you are connecting two computers together directly, you will need normal cables and not cross-over cables.

Network speeds

With cabled networks there are three main speeds

- 10 megabit or 10 base — T
- > 100 megabit or 100 base — T
- 1 gigabit or 1000 base — T

- b) Save the changes of this document. Copy the document and paste it in a new document. Set the whole document to have a justified text alignment. Save it as

Compnetwork 2 (4mks)

- c) Centre the heading and apply border, font size 14 and 30% gray shading (6mks)

- d) Double indent the router paragraph by 1.5" (6mks)

- e) Set margins as follows; (4mks)

(i) Left margin 1.5"

- (ii) Right margin .5"
- (iii) Top margin .7"
- (iv) Bottom margin .5"
- f) Insert document header as Networking & Hardware Requirements and footer as Introduction to Computer (4mks)
- h) Print **Compnetwork 1** and **Compnetwork 2** (2mks)

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COMPUTER STUDIES

Paper 1

(THEORY)

Time 2 ½ HOURS

Answer all the questions

1. Define the following terms as used in computer.
 - a). Firewalls (1 mk)
 - b). Data encryption. (1 mk)
2. What is an embedded computer? (2 mks)
3. a) State and explain the three mouse techniques. (3mks)
- b) Give one reason why a computer is referred to as an electronic device (1mk)
4. List four fields which would be expected in a database file of information about students in a school. (2mks)
5. State three changeover strategies that can be used to move from the old system to a new one. (3mks)
6. What is the meaning of the following as used in word-processing: (2mks)
 - a) Word wrap
 - b) Drop cap
7. Explain the meaning of legends as used in Excel. (1 mk)
8. a) List any four examples of DTP software available in the market today. (2 mks)
- b) What is the difference between the pasteboard and printable area? (2 mks)
9. What is the difference between looping and selection? (2 mks)
10. Name the stage of program development cycle when: (2 mks)
 - i) A user guide would be written
 - ii) A programmer dry-run the code.

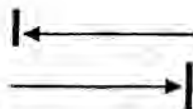
- iii) System charts would be drawn
 iv) Staff training is done.
11. Name and explain the function of the following key symbols.
 (i) (2mks)



(ii) (2mks)



(iii) (2mks)



12. Explain four reasons which make microcomputers suitable for personal computing work (2mks)
13. Explain the following terms as used in Ms Excel spread sheet package. (3mks)
- Range
 - What if analysis
 - Automatic recalculation
14. Explain the following computer crimes (2mks)
- Fraud
 - Alteratio
15. State and explain the three parts of a task bar. (3mks)

SECTION B (60 marks)

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

16. a) Nakuru car rental firm leases its cars for Ksh 5000.00 per day. The managers give a discount based on the number of days that the car is rented. If the rental period is greater than 12 days then a 20% discount is given. Write a pseudo-code to accept a car number and the rental period, and calculate the total amount earned by the company when a car is leased. (5mks)
- b) Use a flowchart to represent the above pseudo-code. (5mks)
- c) Identify three advantages of using modular programming in system development. (3mks)
- d) Why is observation sometimes disadvantageous when used in fact finding? State two reasons. (2 mks)
17. a) State any two symptoms of the following computer work-related disorders and two methods of prevention.
- Computer vision syndrome. (4 marks)
 - Repetitive strain injury. (4 mks)
- b) Explain any two factors that should be considered during output design. (2mks)
- c) List six devices located under the cover of the system unit (3mks)

- d) Differentiate between a compiler and an interpreter. (2 mks)

Compiler	Interpreter

18. (a) Identify and explain three areas where computers are used to process data. (3mks)
- b) Computers have evolved through a number of generations. List any 4 characteristics of the first generation of computers. (2mks)
- c) Differentiate between Cache and Buffer memories. (2mks)
- d) State three advantages of wireless communication. (3 mks)
- e) Explain the following terms as used in data communication. (3 mks)
- (i) Multiplexing
- (ii) Bandwidth
- (iii) Base band signal
- f) Explain the use of these communication devices. (2 mks)
- (i) Routers
- (ii) Hub
19. a) Describe the following careers in the computing field. (3mks)
- i) Computer Engineer
- ii) Software Engineers
- iii) Computer technician
- b) (i) Give any four advantages of using a fibre optic cable in data transmission (4mks)
- (ii) Name two types of fibre optic. (1 mk)
- c) State the use of the following devices (2 mks)
- i) Light pen
- ii) Graphics tablet.
- d) Name any two advantages of solid-state memories over other storage media. (2mks)
- e) List four factors to be considered when choosing an electronic data processing method. (4 mks)
20. a) List and explain the functions of computer buses. (3mks)
- b) The formula = \$B2 + C\$4 is entered in cell C5 and then copied to D10, Write down the formula as it appears in the destination cell. (2 mks)

- c) Give two reasons why smaller computers like Laptops tend to be more expensive than Desktop computers (2 mks)
- d) Giving an example, name three categories of post secondary institutions where one can advance computer skills after sitting for K.C.S.E. (3 mks)
- e) List four examples of
 - i) Third generation languages. (2mks)
 - ii) Object oriented languages. (2mks)
- f) Define the term ergonomics (1 mk)

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Paper 2

1. SURA MBILI HIGH SCHOOL who were contesting for the over roll post of "Headboyship" amongst other posts in the 4-classes; Form I, II, III and IV. Take up the spirit of the school's news reporter and a computer studies student and assume you are now working in the office of the School Election Committee and enter the data below in spreadsheet application software exactly as it appears. (a) The worksheet below shows the votes gathered by 12 students of printable lines and borders.
Save it as Sura Mbili Election 1 and close. (5 Mks)

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A	B		C	D	E	F	G	H	I	J
1										
2										
3		SEX	REG. FEE	FORM I VOTES	FORM II VOTES	FORM III VOTES	FORM IV VOTES	TOTAL VOTES	AVERAGE	
4	Students Per a Class			346	350	290	415			
5	CANDIDATE NAME									
6	Mandela Morphat	Male	200	42	40	45	79			
7	Siminyu Wanjala	Male		24	20	18	4			
8	Kiptoo Rotich	Male	200	24	25	11	30			
9	Saida Shida Saidi	Female	200	20	23	26	1			
10	Patel Rishyankee	Male	200	45	10	1	36			
11	Bibiana Kombora	Female		0	30	15	76			
12	Ogolla Victor	Male	200	54	60	40	69			
13	Ole Arap Tumboei	Male		49	10	11	0			

- b) (i) Retrieve Sura Mbili Election 1 and enter the title **"SURA MBILI HIGH SCHOOL"** in cell A1 and a sub-title **"Post of Headboyship General Election"** in cell A2, Bold, font size 18 then Centre across the spreadsheet. (2mks)
- (ii) Insert a header reading "Mawesse Joint Mock-Marakwet West District" and a footer indicating the name of your school. (2mks)
- (iii) Saida Shida Saidi was nullified hence remove her record (1mk)
- (iv) The votes for Bibiana Kombora for Form 1 was incorrect and should be adjusted to 1 Vote. Update her record (1mk)
- (c) (i) Compute the Total votes for Mandela Morphat and copy the formula down the list. Write down the formula used on the answer sheet provided (2mks)
- (ii) Calculate the total Votes for Form 1 class and copy the formula across the list. Write down the formula used on the answer sheet provided (2mks)
- (iii) Get the average votes for each candidate and for each class. Write down the formula used on the answer sheet provided (2mks)
- (iv) Move the record of Kiptoo Rotich so as to be between Iduli Shibuta Ann and Shiundu Martin. (2mks)
- (d) Save the workbook as 'Election 2 and close it.
Retrieve Election 2 workbook and enter a formula in cell C20 which will help count all the candidates who did not pay for registration fee. Type a label against it in cell B20 "Non Registered" write down the formula used on the answer sheet (3mks)
- (e) Registration fee was projected to be raised to 39%.
(i) Insert a new blank column after Reg.Fee and enter the label % increment in cell D
And a value B9 in cell C5 (2mks)

- (ii) In cell D6 use an absolute cell referencing to predict the newly proposed Registration Fee for each candidate. Write down the formula used on the answer sheet provided (3mks)
- iii) Using a suitable formula in cell E22, determine the sum of spoiled votes for Form I class and copy the formula to complete for other classes too. Write down the formula used on the answer sheet provided (2mks)
- (f) By carefully entering a suitable formula on cell E23 and E24 determine:
- (i) Number of candidates whose votes were 30 and above in Form I then copy the Formula across to Form IV. Write down the formula used on the answer sheet provided (2mks)
- (ii) The highest votes in each class. Write down the formula used on the answer Sheet provided (2mks) Save it as Election 3
- g) For one to be a Head Boy, must gather over 45 votes in Form I, over 50 votes in Form II, over 25 votes in Form III, over 60 votes in Form IV and at least a total of 200 votes and above from the 4 classes.
- (i) Introduce a formula in cell K6 and copy it down the list to determine the winner by a remark "Head boy winner" or "Looser". Write down the formula used on the answer sheet provided (3mks)
- (ii) Plant a formula in cell L6 which will remark votes as below by basing on Average of votes for each student: Write down the formula used on the answer sheet provided
- 55 vote\and above - "Head boy"
Between 40-55 -"Prefect"
Below 40 -"Unpopular" (3mks)
- (iii) Filter out a list of prefects only including Head boy. Copy this record and paste in Sheet 2. Rename this sheet as 'prefects'. (2mks)
- (iv) Sort your records in descending order of average votes for candidates. (1mk)
- Save it as Finalized Election and close.
- h)
- (i) Open "Finalized Election" and use its data to plot a column graph on its own sheet showing the candidates name and the average votes only. (2mks)
- (ii) Rename this sheet as 'Graph' (½ mk)
- i)
- Label:
The chart title as "Head Boy's Election 2012" (1mk)
Y-axis and X-axis appropriately (1mk)
Legend position to the right. (1mk)
- Save the changes to your workbook.
- j) Print Sura Mbili Election 1, Election 2, Election 3 and Finalized Election; sheet 1 and sheet 2 ALL in landscape orientation. (2 ½ mks)
2. (a) Use a DTP software to design the following (30mks)

	MUTSON CHEMISTS LTD. <i>Human, Agricultural & Veterinary Drugs</i> <i>Wholesale and Retail</i>
	<div> <div> P.O BOX 518-00517 <u>NAIROBI, KENYA</u> Tel:044-60 Mobile: 0725 E-mail: mutson@yahoo.com </div> <div> Chris Muma Sales Representative </div> </div>
<p align="center">QUALITY FOR SERVICE</p>	

- b) Fit 8 copies of the design on a single page (16 mks)
- c) Print 2 copies of your publication. 1 in landscape page orientation, the other in portrait Page orientation

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COMPUTER STUDIES

Paper 1

(THEORY)

2 ½ Hours

SECTION A: (40 MARKS)

Answer All questions in this section

- For each of the following generation of computers. State the technology used to control internal operations (2mks)
 - 1st Gen..
 - 2nd Gen
 - 3rd Gen.
 - 4th Gen
- Explain the control structures given below:
 - Sequence (1mk)
 - Selection (1mk)
 - Iteration (1mk)
- Distinguish between cold and warm booting. (2mks)
- Define Word processing. (1mk)
 - Explain the following word processing features. (1mk)
 - Word Wrap
 - Template
- Explain the meaning of the following terms
 - Encryption (1mk)
 - Eavesdropping (1mk)
- Convert 842₁₀ to hexadecimal. (2mks)
- State under which category of keyboard keys the following keys would fall.
 - T

 (1mk)

(ii)

F₂

(1mk)

8. Choice of a programming language is very important during computer systems development. Based on this statement, explain the following languages.

- (a) Machine Language (1mk)
(b) High level language (1mk)

9. Explain the meaning of the terms below as used in data communication.

- (i) Attenuation (1mk)
(ii) Multiplexing (1mk)

10. While purchasing computers for his school, the Principal of Matopeni High school Preferred a 6 months warranty option other than that of 1 year from the selling company. List TWO factors that might have led him to do so. (2mks)

11. (a) A worksheet contains data as shown below

Cell	A1	A2	A3	A4	A5	A6
Entry	75	50	62	84	42	

Write the formula to be entered in cell A6 to display the sum of values above 60. (2mks)

- (b) Explain the following disk management activities

- (i) Disk Defragmentation (1mk)
(ii) Disk Partitioning (1mk)
(iii) Disk Scanning (1mk)

12. Study the diagram below and answer questions that follow:



- (a) Identify the port shown in the diagram. (1mk)
(b) Give TWO reasons why the identified port in 12(a) above finds widespread use in computer systems. (2mks)

13. (a) What is data communication? (1mk)
(b) List THREE advantages of fibre optic cables. (3mks)

14. Carry out the following arithmetic in twos complement. (3mks)

$$48_{10} - 12_{10}$$

15. (a) Name the stage of systems development life cycle where questionnaires are used. (1mk)

- (b) State ONE advantage and ONE disadvantage of using questionnaires at the stage in 15 (b) above.

- (i) Advantage (1mk)
(ii) Disadvantage (1mk)

SECTION B (60 MARKS)

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

16. (a) Define the following terms as used in programming. (3mks)

- (i) Array
(ii) Pseudo code
(iii) Algorithm

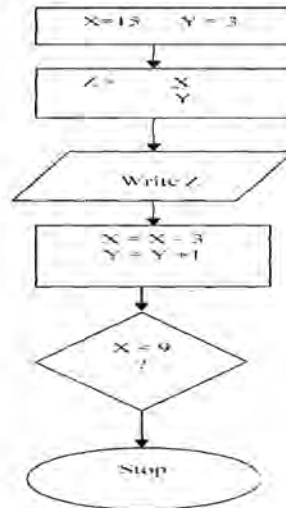
- (b) Write a pseudo code and draw a flowchart for designing a program which enables a

man to work out the cost of covering the floor of his house with carpet tiles. Data is supplied as follows:

- (i) The number of rooms in the house equals to five
- (ii) For each room;
 - The size of a tile (SOT) and cost of a tile (COT) to be used in that room
 - The length (L) and breadth (B) of the room

For each room, calculate the number of tiles (NOT) required as well as the cost (cost) of the tiles. Print the total cost (TL cost) of tiles required. (8mks)

- (c) State the output of the flowchart below. (4mks)



17. (a) What is a Uniform Resource Locator? (1mk)
- (b) Using well labeled diagrams, explain star, bus and ring network topologies. (9mks)
- (c) (i) Differentiate between logical and physical files (2mks)
- (ii) Explain the following data processing files. (3mks)
- (a) Master file
 - (b) Transaction file
 - (c) Backup file
18. (a) Explain the terms as used in database. (3mks)
- (i) Primary key
 - (ii) Entity
 - (iii) Record
- (b) Computers process digital data gotten through a process called coding. State and explain **THREE** coding systems. (6mks)
- (c) Describe **THREE** computer crimes taking place in society citing control measures that can be put in place to curb them. (6mks)
19. (a) Define virtual reality (1mk)
- (b) Explain the following interactive sensory equipment used in virtual reality.
- (i) Head gear (2mks)
 - (ii) Body suit (2mks)
- (c) (i) What is artificial intelligence? (1mk)
- (ii) State and explain **THREE** components of an expert system. (6mks)
- (d) Most computerized security systems make use of biometric analysis. Name Physical features of human being that can be considered for this analysis. (3mks)
20. (a) Define an information system. (1mk)

- (b) State **TWO** circumstances under which interviews may be used as a method of gathering information (2mks)
- (c) (i) What is a computer laboratory? (1mk)
- (ii) Give **TWO** measures that should be observed when using the computer laboratory to protect computers against loss of data (2mks)
- (d) (i) State **THREE** factors you would consider before enrolling for an ICT Course in an institution of higher learning. (3mks)
- (ii) Give **TWO** duties of each of the following computer professionals. (6mks)
 - (a) Computer Programmer
 - (b) Systems Analyst
 - (c) Computer Technician

Set10

Paper 2

1. (a) Create a folder named **Harper**. Type the document below exactly as it appears using a word processing package and save it as MOCKING_BIRD in the folder created. (8mks)

TO KILL A MOCKINGBIRD

To Kill a Mockingbird is primarily a novel about growing up under extraordinary circumstances in the 1930s in the Southern United States. In *To Kill a Mockingbird*, author Harper Lee uses memorable characters to explore civil rights and racism in the segregated Southern United States of the 1930s.

Told through the eyes of Scout Finch, you learn about her father Atticus Finch, an attorney who hopelessly strives to prove the innocence of a black man unjustly accused of rape; and about Boo Radley, a mysterious neighbor who saves Scout and her brother Jem from being killed.

The Three Most Important Aspects Of To Kill A Mockingbird:

The title of *To Kill a Mockingbird* refers to the local belief, introduced early in the novel and referred to again later, that it is a sin to kill a mockingbird. Harper Lee implies that it's unjust and immoral.

The events of *To Kill a Mockingbird* take place while Scout Finch, the novel's narrator, is a young child. But the sophisticated vocabulary and sentence structure of the story indicate that Scout tells the story many years after the events described, when she has grown to adulthood.

To Kill a Mockingbird is unusual because it is both an examination of racism and a bildungsroman. Lee examines a very serious social problem. Lee seamlessly blends these two very different kinds of stories.



Harper Lee: The anti-racist

- (b) Save a copy of the document created above as "MOCKING_BIRD 2" in the folder created in (a) above and use to answer parts (c) to (e). (1mrk)
- (c) (i) Insert a drop cap to the first letter of the first paragraph, dropping it by two lines. (2mks)
- (ii) Apply bullets to the paragraphs under the second heading. (3mks)
- (iii) Change the first paragraph under the first heading to three columns. (3mks)
- (iv) Format the heading "**TO KILL A MOCKINGBIRD**" as follows: (4mks)
- **Alignment:** Right
 - **Font type:** Arial black
 - **Font size:** 18
 - **Font style:** Underline
- (v) Proofread the document to correct spelling mistakes (1mrk)
- (vi) Set the page to A4 size, with the following margin specifications: (3mks)
- **Top:** 0.63"
 - **Bottom:** 0.6"
 - **Left:** 0.6"
 - **Right:** 0.63"
- (vii) Set the line spacing of the last two paragraphs starting with "To Kill a Mockingbird is unusual..." to 2.0. (2mks)
- (viii) Insert a header bearing your name and admission number. (2mks)
- (ix) Move the 1st paragraph under the second heading to come below the drawing. (2mks)
- (x) Set a hanging indent to the 2nd paragraph which starts with "To Kill a Mockingbird is unusual..." (2mks)
- (xi) Replace all words written "racism" with "racial discrimination" (2mks)
- (xii) Set the 1st paragraph which starts with "To Kill a Mockingbird is primarily a..." so as the text is aligned to the right. (1mk)
- (e) Automatically paginate the document using the format "page x of y" (1mk)
- (f) Apply a page border to the whole document with the following formats: (3mks)
- **Style:** Double line
 - **Border color:** Blue
 - **Border width:** 2¼pt
- (g) (i) Create a table at the end of the document created in (b) above and enter the following data (3mks)

BOOK _NO	BOOK_TITTLE	AUTHOR	PRICE
B0-02	In Cold Blood	Truman capote	875.00

B0-09	Roman Holiday	Gregory Peck	955.00
B0-03	The catcher in the Rye	J. D. Salinger	650.00

- (ii) Insert the title "RELATED BOOK NOVELS" as the first row of the table. Align the title to the center (2mks)
- (iii) Apply borders to the whole table (1mk)
- (iv) Using a formula, calculate the average cost of books in the table. (2mks)
- (h) Print the documents; MOCKING_BIRD and MOCKING_BIRD 2 (2mks)

The tables below, **STUDENT**, **SUPERVISOR** and **SUPERVISIONS** are extracts of records kept in MOKASA UNIVERSITY for project supervisions.

Student Number	Name	Gender	Project Fee Paid
C001	Ken	M	32000
C002	Joy	F	27800
C003	Lero	M	18900
C004	Moth	F	42700
C005	Ben	M	45000

Table 1 STUDENTS TABLE

Supervisor Number	Name	Department
L220	Alex	Mechanical
L230	Sakaja	ICT
L240	Roy	Electronics
L250	Mati	Education
L260	Joy	Human Resource

Table 2 SUPERVISORS' TABLE

Supervision Number	Supervision Date	Student Number	Supervisor Number	Project Title
100	12/03/2015	C001	L220	Java
200	22/03/2015	C003	L230	Website
300	17/03/2015	C004	L240	Robotics
400	02/03/2015	C001	L220	Java
500	18/03/2015	C002	L240	Robotics
600	12/03/2015	C004	L230	Java
700	11/03/2015	C002	L250	Database
800	12/03/2015	C003	L220	Java
900	12/04/2015	C005	L250	Database
1100	12/04/2015	C002	L250	Database

Table 3 SUPERVISIONS TABLE

- a) Using a database application software, create a database file named **PROJECT** (1mk)

- b) Create three tables named **STUDENT**, **SUPERVISOR** and **SUPERVISIONS** as shown above. (9mks)
- c) Set the primary key for each table. (3mks)
- d) Create relationships among the tables. (2mks)
- e) Enter the data in the table **STUDENT**, **SUPERVISOR** and **SUPERVISIONS** as shown above. (9mks)
- f) Create a form for each table above. (3mks)
- g) Create a query named **BALANCE** to display student name, Gender, project fee balance per student, given that the total project fee is **Ksh.50000**. (4mks)
- h) Create a query named **BALANCE2** to display students' Names, project title whose fee balance is above **Ksh.20000**. (4mks)
- i) Create a bar chart based on question (h) to display students Name and balance. Save as **BALANCE CHART**. (3mks)
- j) Create a report named **SUPERVISION** to display Students Names, Project Title, names of supervisor, and supervision Dates. The records in the report should be grouped by students' Name and the number of supervisions by each student should be displayed. (5mks)
- k) Title the report as supervision per lecturer. (2mks)
- l) Print the following:
- **Tables:** STUDENT, SUPERVISOR and SUPERVISIONS (2mks)
 - **Queries:** BALANCE and BALANCE2 (2mks)
 - **REPORT:** SUPERVISIONS (1mk)

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451/1

COMPUTER STUDIES

Paper 1

THEORY

2 ½ Hours

SECTION A (40 MARKS)

Answer all the questions in this section

1. State **four** different parts that make up a computer. (2 Marks)
2. a) What is meant by the term spyware? (1 Mark)
b) State **two** ways of acquiring software
3. Briefly explain the emerging trends in micro computer technology in relation to size. (1 Mark)
4. a) Distinguish between impact and non impact printers. (2 Marks)
b) MICR and OMR
5. Describe the following terms
a) Webpage (1 Mark)
b) Blog (1 Mark)
c) Hyperlinks (1 Mark)
d) Web portal (1 Mark)
6. List **four** stages of data collection. (2 Marks)
7. Explain the role of the following ICT specialist
a) Computer technician. (2 Marks)

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Empowering Students

- b) Information systems manager. (2 Marks)
8. a) Give **four** advantages of DTP over a word processor. (2 Marks)
- b) Differentiate between the following
- i) Kerning and tracking (2 Marks)
- ii) Margins and column guides (2 Marks)
9. Distinguish between defragmentation of a disk and partitioning of a disk with reference to operating systems (2 Marks)
- Partitioning
- Defragmentation
10. Headache, back and neck pain may result from use of computers. State how each of them can be minimized (2 Marks)
- Headache
- Back and neck pain
11. Explain the meaning of the following terms as used in computer programming. (2 Marks)
- i) Syntax
- ii) Semantics
12. a) State **two** methods or tools that an analyst may use in a system design task. (2 Marks)
- b) Give **two** reasons why documentation must be done at each phase in system development cycle. (2 Marks)
13. Explain the functions of the following network devices. (2 Marks)
- Router
- Gateway
14. Differentiate between baseband and broadband signal as used in networking (2 Marks)
- a) Baseband signal
- b) Broadband signal
15. Define the term simulation (1 Mark)

SECTION B (60MARKS)

Answer question 16 and any other three questions from this section

16. Kazungu house-ware suppliers pays 10% commission on sales that are above Kshs.20,000 and 4% on any sales that are less than this target. If the sales salesman sells in cash, he gets an extra 5% commission on total sales, else no commission if on credit. (7 Marks)
- a) Write a Pseudo – code for a program that would;
- i. Prompt a user for sales, terms of sale, and name of salesman/lady.
- ii. Calculate the commission and total amount.
- iii. Display the commission and total amount for a particular salesman.
- b) Draw a flow chart for the above Pseudo – code (8 Marks)
17. a) What is the hexadecimal equivalent of 747_8 (3 Marks)
- b) Use one's compliment to solve the following sum: (2 Marks)
- -6_{10}
- c) State **two** reasons for using binary system in digital technology. (2 Marks)
- d) Explain the term attenuation as used in networking. (2 Marks)
- e) Explain the following terms as used in fibre optic cables. (4 Marks)
- i) Single mode
- ii) Multi-mode

- f) Convert 7.125_{10} to its binary equivalent. (2 Marks)
- 18 i) Name **four** data types used in spreadsheets. (2 Marks)
- ii) Outline **five** advantages of an electronic spreadsheet over the traditional ledger. (5 Marks)
- iii) What is a chart wizard in spreadsheets? (1 Mark)
- iv) Name and explain the use of the following commands found in the spell check dialog box in reference to word processing (6 Marks)
- a) Change
- b) Ignore once
- c) Add
- v) What is a template in word processing? (1 Mark)
- 19 i) Describe **three** ways in which computers have positively impacted on education. (3 Marks)
- ii) The traffic lights serve as output devices for a computerized traffic system. Name the appropriate input device for this system. (1 Mark)
- iii) State **three** advantages of computer based simulation. (6 Marks)
- iv) Differentiate between a software engineer and a computer engineer. (2 Marks)
- v) Name **three** duties that are carried out by a web administrator. (3 Marks)
20. i) List and briefly describe **three** components of a database system. (3 Marks)
- ii) Define the following terms as used in a database
- a) Attribute (1 Mark)
- b) Database model (1 Mark)
- c) Macro (1Mark)
- iii) Explain **three** types of database models. (6 Marks)
- iv) State **three** objectives of normalization. (3 Marks)

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Paper 2

- (a) Using a word processing package, type the passage below as it appears, proofread and save it as **Networking _1** in a removable storage media (22mks)

NETWORKING BASICS

The Hardware

Network Interface Cards (NIC)

Firstly, each computer must have a network card

Computers that run Windows generally use PCI NICs (Network Interface Cards), although there are other types available, including USB NICs. The PCI NICs tend to retail very cheaply and many newer PCs and laptops come with 10/100 NICs built in

Switches and Hubs

Secondly, you need a piece of hardware to connect your computers together. There are various options:

- A hub. In a hub, any information arriving in the hub from any computer is sent to every computer connected to the hub. this is the most basic form of network connection device and has largely been superseded by
- A switch. The switch learns which computer is connected to each port, so when it receives a data packet destined for a specific computer the switch will only send that data packet to that specific computer.

The alternative to buying a switch is to use a special cable called a cross-over cable. This is a specially wired cable which will allow you to connect two computers directly, however in my experience all but one situation where a cross-over cable has been initially bought it was eventually been replaced with a switch.

Some switches have printer ports on them, which is useful for windows but less so for RISC OS, unless you have a printer that you have a RISC OS printer driver for, more of this later.

Routers

Routers are special types of switches which make a direct connection to the internet and allow all computers to access the internet via the router. They usually include firewalls, DHCP servers and can have additional functionality such as web page filtering and VPN termination. If you wish to just connect RISC OS computers to the internet, this is perhaps the best way to go. Routers can be purchased which will access ADSL or Cable broad band or even 56k dial-up lines.

Cables

Thirdly, you will need network cables. The maximum length between any two pieces of hardware (computer-switch or computer – computer) is 100m. They can come in all sorts of colours and can be hidden in walls, behind skirting boards and through ceilings. Note that unless you are connecting two computers together directly, you will need normal cables and not cross-over cables.

Network speeds

With cabled networks there are three main speeds

- ❖ 10 megabit or 10-base – T
- ❖ 100 megabit or 100 base – T
- ❖ 1 gigabit or 1000 base – T

- (b) Save the changes of this document. Copy the document and paste it in a new document. Set the whole document to have a justified text alignment. Save it as **Networking _2** (4mks)
- (c) Centre the heading and apply border and shading on it (6mks)
- (d) Double line space the whole document (2mks)
- (e) Double indent the router paragraph by 1.5" (6mks)
- (f) Set margins as follows; (4mks)
 - (i) Left margin 2"
 - (ii) Right margin 2.5"
 - (iii) To margin 2"
 - (iv) Bottom margin 2.5"
- (g) Insert document header as NETWORKING BASICS NOTES and footer as HARDWARE REQUIREMENTS. (4mks)
- (h) Save the changes of this document (1mk)
- (i) Print Networking _1 and Networking _2 (2mks)

QUESTION TWO

- (a) Create a new database, save it on a removable storage medium and name it **school database** (3mks)
- (b) Create a Table in the *school database* with the following

FIELD NAME	DATA TYPE	FIELD SIZE/FORMAT
ADM - NO	Text	10
Name	Text	15
Surname	Text	15
Tel - No	Number	Long Integer
Date of Birth	Date/time	Medium date
Fee - Paid	Currency	Currency
Foreigner	Yes/No	Yes/No

- (c) Make the "ADM _ Number" Field as the Primary Key (2mks)
- (d) Save the table as Student's Table (2mks)
- (e) Open the "Students Table" and enter the following records (3mks)

ADM - NO.	Name	Surname	Tel - No.	Date of Birth	Fee - paid	Foreigner
4567	John Maina	Muiru	55-67543	19/09/1990	25000	No
4576	Mary Nthenya	Mutua	44-23456	20/12/1991	27000	No
4398	Mark Okech	Otieno	22-65473	13/03/1992	20000	No
5678	Peter Rick	Ben	11-76742	15/06/1994	29000	Yes
4378	Joan Liz	Patel	13-89734	18/09/1990	26000	Yes
4897	Peter Amos	Ben	33-37482	17/04/1993	20000	Yes
4643	Muoka Muoki	Nzioki	44-45362	12/12/1991	23000	No

- (f) Insert the record given below as record 4 (2mks)
4120 Rebecca Kalewa Ben 44-24242 13/10/1900 27000 No
- (g) Delete Mary Nthenya record from the database file (2mks)
- (h) Sort the table in Ascending order by surname (2mks)
- (i) Move the **Date - of - Birth** and **Tel - No** fields so that the **Date - of - Birth** field is now directly after the **surname** field (4mks)
- (j) Change the field size of the **Surname** to 20 (1mk)
- (k) (i) Create a Form with all fields on the Students Table (2mks)
- (ii) Name the form **Students Entries** (1mk)
- (iii) Insert unbound control named fee - Balance to show the fee balances of all students given the total fee is **35000** and Fee - balance = Total _Fee – Fee _Paid (4mks)
- (l) Insert a picture in the form in way that all text is visible (3mks)

- (m) (i) Create a report based on the Student's Table showing the Fields **Name, Surname** and **Tel No.** (3mks)
(ii) Name the report **Telephone list** (1mk)
- (n) Insert a picture in the report Header (2mks)
- (o) (i) Create query _1 showing all fields of those students whose surname is Ben (4mks)
(ii) Create query _2 showing all fields of those students born after 1991 (3mks)
- (iii) Create query _3 showing only the Student's Name, Student's Surname and Student's Date of birth (3mks)
- (p) Print **Students tables Entries form, Telephone list, query_1, query_2 and query_3.** (3mks)

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451/1

COMPUTER STUDIES

(Theory)

Paper 1

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SECTION A (40 MARKS)

Answer all Questions in this section in the spaces provided

1. Differentiate between Core 2 Duo and Quad Core processors in terms of internal architecture (2mks)
2. (a) Explain why Gas Plasma displays are preferable to LCD monitors in entertainment and social places (1mk)
(b) State **three** advantages of LED over incandescent and fluorescent illuminating devices. (3mks)
3. Most distributions of Linux operating system are available to users under General Public Licence (GPL)
(a) Explain the meaning of GPL (1mk)
(b) State **four** examples of Linux distributions available under GPL (2mks)
4. Differentiate between compatibility and interoperability in relation to computer software and hardware. (2mks)
5. (a) Define the term "system registry" (1mk)
(b) State **three** causes of system registry failure (3mks)
6. Explain how you would unfreeze a computer running windows which has stopped responding to commands (3mks)
7. List **four** circumstances under which a user may use the Save As Command instead of the Save Command (2mks)
8. State **four** problems that may occur during printing and how to solve them. (4mks)
9. Highlight **three** Acts of Parliament or laws that govern the use of ICT in Kenya (3mks)
10. Work out the following
(a) $1110.101_2 - 101.01_2$ (2mks)
(b) Convert EFE_{16} into decimal form (2mks)
11. State **four** operations you would undertake to safeguard data integrity (2mks)
12. (a) What is system implementation (1mk)
(b) State **three** activities that are done during system implementation (3mks)
13. Differentiate between a router and a gateway. (2mks)
14. Define the following terms (2mks)
(a) Teletext:
(b) Videotext:
15. List **three** types of job opportunities that are available in the field of computer hardware. (3mks)

SECTION B (60MKS)

Answer question 16 and any other three questions from this section

16. (a) Design a flowchart for a simple program that can be used to categorize people according to age. If the person is above or equal 18 years, output "Adult" otherwise output "Young" (8mks)
(b) What is the difference between looping and selection. (2mk)
(c) Name the stage of program development cycle when:
(i) A user guide would be written (2mks)
(ii) A programmer dry-run the code
(iii) System charts would be drawn
(iv) Staff training is done

17. A school has decided to network its computers so that it can distribute information over a local intranet. The school also intends to connect the local network to the internet.
- Describe three different topologies that could be used to network the computers. (6mks)
 - The various services are to be provided by servers. Briefly describe the services provided by
 - Print server
 - Internet server
 - Intranet server
 - Electronic mail (E-mail) is very popular. Explain how you would prepare and send a message using e-mail. (3mks)
18. (a) Explain how you can defend your files from the following risks (8mks)
- Fire in the computer
 - Hackers
 - Virus attack
 - Disgruntled ex-employees
- (b) Differentiate between private data and confidential data (4mks)
- (c) List **three** sources of viruses (3mks)
19. (a) Describe the following careers in the computing field (3mks)
- Computer Engineers
 - Software Engineers
 - Computer Technician
- (b) Identify any **three** duties of an information system manager (3mks)
- (c) Giving an example, mention **three** categories of places where you can advance your computer skills after sitting for your K.C.S.E (3mks)
- (d) Mention any **four** formatting features used in Ms Word Application (3mks)
- (e) Define the term electronic spreadsheet (1mk)
- (f) Explain the following terms as used in MS Excel spread sheet package (3mks)
- Range
 - What if analysis
 - Automatic recalculation
- 2.0 (a) Compute the value of x in the following expressions (4mks)
- $24.35_{10} = X_2$
 - $6AB_H = X_{10}$ (2mks)
- (b) Using two's complements compute the following using 8 bits (6mks)
- $$20_{10} - 25_{10}$$
- (c) Write these abbreviations in full text (3mks)
- BCD
 - EBCDIC
 - ASCII

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Paper 2

Answer question one (compulsory)

1. (a) Type the following table and save as LIST.DOC in the diskette provided: Adjust your font type to Times New Romans, font size 12. Use the auto sum feature to get the sum in the fees column.

<u>Name</u>	<u>Box Number</u>	<u>Town</u>	<u>Form</u>	<u>House</u>	<u>Fees</u>
Wanjala Naswa	132	Namalala	2W	CHUI	8575
Abdalla Ali	100	Bamburi	3R	NDOVU	9250
Mulwa Norr	50	Matuu	1W	SIMBA	11500
Mwangi Mama	500	Kairuthi	4R	CHUI	10500
Kiptoo John	100	Tindinyo	2R	NDOVU	8575
					(20 Marks)

- (b) Using the third row entries in the tables provided in (a) above, type the following letter. Include all the formatting features in the letter. Justify the first paragraph of the letter. Save as LETTER.DOC in the diskette provided.

Kula Mawe High Schol,
P.O Box 1000,
Kula Mawe.

30th November 1998.

.....
P.O Box.....
.....

Dear.....

RE: ADMISSION

We are pleased to offer you a place in this school in form..... Your house will beThe amount of fees required is Ksh..... The school opens on 5th January, 1999.

You are required to bring the following items:

<u>Beddings</u>	<u>Stationery</u>
1. 1 mattress	1. Text books
2. 2 blankets	2. Exercise books
3. 2 bed sheets	3. 1 mathematical set
4. 1 bedcover	4. 1 ruler
5. 2 pillow cases	5. 1 Bible/Koran

Yours faithfully.

Henry Mkubwa
(PRINCIPAL)

(30 Marks)

- (c) Print both LIST.DOC and LETTER.DOC.

Answer either question 2 or 3

**KOROGOCHO ACADEMY
FORM THREE END YEAR EXAM MARKS**

STUDENT NAME	ENGLISH	KISWAHILI	MATHEMATICS	HISTORY
Ayuku Aseka	70	60	40	50
IrunguWambua	50	70	60	40
Khalifa Mudigo	80	40	50	60
Nosieta Soita	30	75	60	50
Onyango Otieno	40	55	70	60

2. (a) (i) Create a worksheet with the following entries:
(ii) Adjust column width where necessary to display all entries in detail. Validate the cells to accept

ONLY numerals between 0—100 and return a comment **"Please enter a number between 0 and 100"** whenever an out of range error occurs. Save the worksheet as MARKS1. (11 Marks)

(b) Obtain the following:

- (i) total score for each student
- (ii) mean score for each student
- (iii) highest score per subject
- (iv) standard deviation per subject
- (v) rank for each student
- (vi) the grade for each student based on the following information.

MEAN	GRADE
75 – 100	A
70 – 74	A-
65 – 69	B+
60 – 64	B
55 – 59	B-
50 – 54	C+
45 – 49	C
40 – 44	C-

On the paper provided write the formula for each activity above.

Save your worksheet as MARKS 2.

(22 Marks)

- (c) Insert a new row for Chege Kisilu between Ayuku Aseka and Irungu Wambua. Enter his scores as 60.
50, 80, and 20. Save your worksheet as MARKS 3. (3 Marks)
- (d) Format the ranges with values for mean score and standard deviation to display results to 3 decimal places. Save your worksheet as MARKS 4. (4 Marks)
- (e) Select a free cell and enter 10%. Use the value entered to increment the mean score of each student. Save as MARKS 5. (10 Marks)
- (f) Print MARKS 2, MARKS 3, MARKS 4 and MARKS 5.

3 Database

A Jua Kali Association in Nairobi created a database file for their members. In addition to entering a members' numbers and names, each record contained a date of registration of each member, membership fees paid and title of the activity.

- (a) Create a database file structure called JUADAT1 using the information given in Table 1. The field names should match those of the data provided. Choose an appropriate primary key. Save the table as JKALI. (15 Marks)
- (b) Append the data in Table 1 on the structure created in (a) above (10 Marks)
- (c) Sort the records in JKALI on the fields you have defined for **activity** and **name** in ascending order. Save the table as JKALI2. (4 Marks)
- (d) Create a report of the records in JKALI. The report should contain the following fields: Names, date of registration, and title of the activity. The report should sum up all the fees paid. The page title of the report is "JUA KALI REGISTRATION". Save the report as JUAREPORT. (15marks)
- (e) Use the data from JKALI to create a query file to extract all the records whose activity is "Blacksmith". Call the query JUAQUERY. (6 Marks)
Write the query on the paper provided
- (f) (i) Print the structure of the table JKALI
(ii) Print the records in JKALI, JKALI2 and JUAQUERY

MEMBERSHIP NAMES		REGISTRATION	REGISTRATION	ACTIVITY
NUMBER		DATE	FEES	
97PO3 16	Fondo Maianda	12/20/97	100.00	
BLACKSMITH				
93PO464	Kori Blanda	08/21/93	50.70	SEWING
95PO218	Issa Munir	03/11/95	120.30	POTTERY
94PO177	Alvin Kanga	05/24/94	200.00	
BLACKSMITH				
97PO010	Adam Ayaila	09/08/97	150.00	PAINTING
95PO849	Valji Patel	10/28/95	240.00	WIRING
96PO748	Kamau Nderi	02/14/96	300.00	WIRING
92PO100	Otieno Omuka	04/18/92	124.50	BLACKSMITH

Set13

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COMPUTER STUDIES

PAPER 1

(THEORY)

TIME 2 ½ HOURS.

SECTION A: (40 MARKS)

Answer all the questions in this section in the spaces provided

1. (a) What is an embedded computer? (1mk)
(b) State the main component that formed the basis for second generation computers. (1mk)
2. (a) Give **one** function of a main frame operating system which you would not expect to find in the operating system of a micro-computer. (1mk)
(b) Name **four** examples of application software. (2mks)
3. List **four** of the fields which would be expected in a database file of information about school students. (2mks)
4. (a) Name **four** examples of document readers. (2mks)
(b) Give **one** application for each of the input methods in 4.(a). (2mks)
5. Subtract 01011_2 from 11001_2 (2mks)
6. Explain the following computer crimes. (2mk)
 - (i). Fraud
 - (ii). Alteration
7. (a) Define (1mk)
 - (i). Firewalls. (1mk)
 - (ii). Data encryption. (1mk)
8. Identify **three** advantages of using modular programming in system development. (3mks)
9. Explain the following terms as used in computing cycle. (3mks)
 - (i) Fetch phase
 - (ii) Decode phase
 - (iii) Execution phase.
10. (a) Differentiate between Cache and Buffer memories. (2mks)
(b) List and give the functions of computer buses. (3mks)
11. (a) Explain any **two** factors that should be considered during output design. (2mks)

- (b) Why is observation sometimes disadvantageous when used in fact finding? (1mk)
12. Outline **two** major functions of UPS in computer laboratory. (2mks)
13. (a) State the use of:
- (i) Light pen (1mk)
 - (ii) Graphics tablet. (1mk)
- (b) Name any advantage of solid-state memories over other storage media. (1mk)
14. Outline **four** data types that can be entered into a spreadsheet. (2mks)
15. (a) Define virtual reality. (1mk)
- (b) List any **two** applications of virtual reality. (1mk)

SECTION B: (60 MARKS)

Answer question 16 and any other three questions from this section in the spaces provided.

16. (a) List **two** examples of
- (i) Third generation languages. (2mks)
 - (ii) Object oriented languages. (2mks)
- (b) Define
- (i) Object code (2mks)
 - (ii) Source code
- (c) Differentiate between a compiler and an interpreter. (2 mks)
- (d) A car rental firm leases its cars for Ksh..2500.00 per day. The manager give 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. (7mks)
17. (a) State any **three** duties of the following ICT personnel
- (i) Systems analyst. (3mks)
 - (ii) Database administrator (3mks)
 - (iii) Web master (3mks)
- (b) Name any **three** ICT courses offered in the Kenyan universities. (3mks)
- (c) Outline **three** advantages of telecommuting. (3mks)
18. (a) Define artificial Intelligence. (1mk)
- (b) Explain the application of artificial intelligence in the following areas (6mks)
- (i) Natural language processing
 - (ii) Robotics
 - (iii) Expert systems
- (c) Give any **three** symptoms of the following computer work-related disorders and two of their methods of prevention.
- (i) Computer vision syndrome. (4mks)
 - (ii) Repetitive strain injury. (4mks)
19. (a) Define the term ergonomics (1mk)
- (b) (i) Give any **three** advantages of using a fibre optic cable in data transmission. (3mks)
- (ii) Name **two** types of fibre optic. (1mk)
- (d) Explain the following terms. (3mks)
- (i) Multiplexing

- (ii) Bandwidth
 (iii) Baseband signal
 (e) Explain the use of these communication devices. (4mks)
 (i) Routers
 (ii) Hub
20. (a) Define Internet. (1mk)
 (b) Describe the transmission of data over a telephone line (4 mks)
 (c) Outline the 'line of sight' principle in wireless transmission. (2mks)
 (d) The first column in the table below contains the formula stored in cell F10 of a spreadsheet.
 Enter the formula as they would appear when copied to cell M20 of the same spreadsheet. (3mks)

Formula in F10	Formular in M 20
= D10* E10	
= A \$ 25	
= 4 * D \$ 13	

- (e) (i) Differentiate between multiprogramming and multiprocessing. (2mks)
 (ii) Give application areas of the following data processing modes. (3 mks)
 (a) Batch
 (b) Real time
 (c) On line

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Paper 2

QUESTION ONE

1. (a) Assume you are the Director AMACO INSURANCE COMPANY LTD you want to update your customers on the current dues as per the insurance cover each client have. Use mail merge to write an official letter to **FIVE CUSTOMERS** informing them of this. Your letter must meet the following conditions.
- Must have the header at the top with the company's name as the letter head. (2mks)
 - Must have a footer at the bottom indicating the current date and time, left aligned. (2mks)
 - The insurance will cover the vehicles and each client due, car number will not be the same. (2mks)
 - The address lines will include
 Title
 Fist name

Last name
Address
Country
Car no plate
Amount due (14mks)

(b) (i) Prepare the table below in Ms word and then apply formatting as follows and save as MSS (8 mks)

MEYSA SYSTEMS AND SERVICES					
Technical information			Action taken		
Machine description	Problems found		Diagnostic checks	Solutions	
Compaq / evo	hardware	software	Memory video	1	Replacing vga
6522	<input type="checkbox"/>	<input type="checkbox"/>	Faulty component	2	Installing drivers
Desktop	No display		VGA CARD	3	Rebooting system

(ii) Format the table with border line colour red and choose double line (5mks)

(iii) Shade the table to light green colour for the first two rows and light blue shading for the rest of the table (5mks)

(c) Type the paragraph below, save it as computer and apply formatting as stated (4mks)

Computer Program is a set of instructions that direct a computer to perform some processing function or combination of functions. For the instructions to be carried out, a computer must execute a program, that is, the computer reads the program, and then follows the steps encoded in the program in a precise order until completion. A program can be executed many different times, with each execution yielding a potentially different result depending upon the options and data that the user gives the computer.

(i) The text "computer program" should be the title, change its case to upper case font TREBUCHET

MS size
16,
colour
green

NAME	BASIC PAY	DEPARTMENT	AGE	STATUS
Peter	15000	Computer	34	Single
John	17000	Computer	44	Married
Kamau	19000	Finance	33	Divorced
Charles	21000	Research	33	Single
Johns	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
Njeri	37000	Finance	43	Single
Kimani	10000	Research	15	Single
Silamtoi	15000	Finance	35	Divorced
Tina	35000	Computer	25	Married
Moses	59000	Research	33	Single
Miriam	70000	Finance	56	Divorced
Maurice	32876	Computer	70	Divorced
Alphie	43876	Research	98	Divorced
Albert	48098	Research	32	Single
Langat	6500	Computer	12	Single
Phenny	29000	Finance	70	Single
Hilda	32000	Computer	13	Married

(2mks)

- (ii). Find the word 'instructions' look for its meaning in the computer dictionary and finally replace the word with new meaning from the dictionary . (3mks)
- (iii). Format the whole paragraph to justified alignment shading colour light green (3mks)
2. (a) Create a data base called personnel and create a table named Department (5 mks)
- (b) Create queries to determine (save each query using the alphabet numbers below)
- Number of people with basic salary greater than 32,000= (5 mks)
 - Number of people with basic salary less than 45,000= AND come from computer department . (5 mks)
 - Names of people who are either married or single (4 mks)
 - Those whose salary fall between 25,000/= and 50,000= (3 mks)
 - Those whose name begin with letter M or end in letter S (3 mks)

- (c) (i) Create a query to compute the new salary if there is an increment of basic pay by 50% (7 mks)
 (ii) Filter using query those who earn above 33000/= and aged between 39 and 70 (5 mks)
 (d) (i) Create a form using form wizard using the Department table above. (3 mks)

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COMPUTER STUDIES

PAPER 1

(THEORY)

TIME: 2½ HOURS

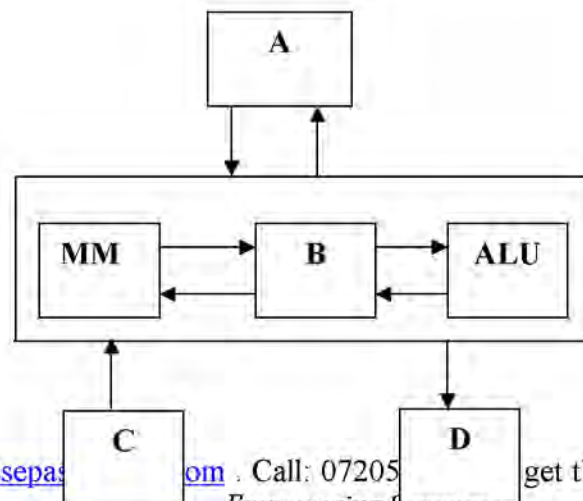
SECTION A. (40 MARKS)

Answer all questions in this section

SECTION A (40 marks)

Answer all questions in this section.

- Name **TWO** computer crimes. (1mk)
- Give an example of the following:
 - Keying device (1mk)
 - Pointing device (1mk)
 - Scanning device. (1mk)
- Give **TWO** reasons why operating systems were developed. (2mks)
- List **THREE** things which accompany newly purchased software. (3mks)
- A printer fails to work as expected when a document is sent to be printed. The user has checked that the on-line light of the printer is on and the printing paper is correctly inserted. Give **TWO** other possible reasons why the printing process failed. (2mks)
- Explain the difference between serial and parallel data transmission. (2mks)
- Programmers use programming languages to write programs. Based on this statement, distinguish between the following terms as applied in programming.
 - Source code and an object code. (1mk)
 - Machine language and assembly language. (1mk)
- Computer hardware components consists of control unit(CU), main memory(MM), arithmetic and logic unit(ALU), secondary storage devices, input and output devices. Study the diagram below and answer the questions that follow.



- Name the parts labelled A, B, C and D. (2mks)
9. Assuming that data is being transmitted using odd parity ASCII system, what could you deduce if each of the following bits are received?
- a). 10100101 (1mk)
- b). 10111001 (1mk)
10. a) What is a secondary storage device? (1mk)
- b) Give **THREE** reasons why DVD's are increasingly being used today. (3mks)
11. a). Explain the following features as used in word processing.
- i). Word wrap (1mk)
- ii). Thesaurus (1mk)
- b). The first column in the table below contains the formula stored in cell C10 of a spreadsheet. Enter the formulae as they would appear when copied to cell F15 of the same spreadsheet. (3mks)
- | FORMULA IN C10 | FORMULA IN F15 |
|----------------|----------------|
| =A5*B5 | |
| =A\$5 | |
| =4*B\$6 | |
12. Give **THREE** responsibilities of a systems analyst. (3mks)
13. a). What is meant by the term tele-commuting? (1mk)
- b). An organization intends to install tele-commuting in its operations. List **THREE** disadvantages that are likely to be encountered. (3mks)
14. a). Name the stage of systems development life cycle where an interview is used. (1mk)
- b). State **TWO** advantages and **TWO** disadvantages of using interviews at the stage in 14 (a) above.
- Advantages (1mk)
- Disadvantages (1mk)
15. a). Give **TWO** examples of desktop publishing software. (1mk)
- b). A computer teacher at Mpeketoni Girls High School tells students to always ensure that computers are connected to uninterrupted power supply. List **TWO** reasons why it's necessary to have this device in a computer lab. (1mk)

SECTION B (60 marks)

Answer Question 16 and any other three questions from this section.

16. A programmer uses program design tools to design a program that can list the odd numbers between 0 and 100.
- a). (i). Write a pseudo code for this problem. (5mks)
- ii) Draw a flow chart for the pseudo code in 16 a) (i) above. (6mks)
- b). Name **FOUR** data types used in structured programming. (4mks)
17. a). (i) Define the term information system.
- (ii) Differentiate between a closed system and an open system in relation to system boundary. (2mks)
- iii). Outline the stages of systems development life cycle in their logical sequence briefly describing what takes place at each stage. (7mks)

- b). i). A user wishing to access the internet may use a modem or an ISDN connection.
What is the purpose of a modem? (1mk)
- ii). Explain why using an ISDN connection to the internet eliminates the need for a modem. (1mk)
- iii). State **THREE** forms of communication that can be transmitted by an ISDN line. (3mks)
18. a). (i) What is data privacy? (1mk)
- ii). Give **FOUR** provisions of the Data Protection Act of 1984 regarding personal data. (4mks)
- b). List **FOUR** factors to be considered when choosing a data processing mode. (2mks)
- c). (i) What is an expert system? (1mk)
- ii) State **TWO** advantages and **TWO** disadvantages of using expert systems.
Advantages (2mks)
Disadvantages (2mks)
- d) Explain the following terms as applied in internet communication.
- i). Search Engine. (1mk)
- ii). Uniform Resource Locator (URL) (1mk)
- iii) Domain name (1mk)
19. a). List **TWO** characteristics of good information. (2mks)
- b). (i). What is a database management system? (1mk)
- ii). State and explain **THREE** database models. (3mks)
- c). Describe the following types of files.
- i). Master file. (2mks)
- ii) Backup file. (2mks)
- iii) Transaction file. (2mks)
- d). Explain the file organization methods given below.
- i) Serial. (1mk)
- ii) Indexed sequential. (1mk)
- iii). Random. (1mk)
20. a). Explain what is achieved by the following WINDOWS commands. (2mks)
- i). Save as
- ii). Save
- iii). Rename
- iv). Print preview
- b) (i). Identify and explain **TWO** types of network topologies and for each, give **TWO** advantages it has for its users. (6mks)
- ii). Convert 39.75_{10} to binary. (4mks)
- c). State and explain **THREE** types of program translators. (3mks)

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Paper 2

QUESTION ONE

- a) Using the information below, design an appropriate spreadsheet and enter the following data. Give the table an appropriate Title. Save as **D: ACTIVITY 1** (12mks)

Khadija scored 89 in English, 76 in Biology, 56 in *Computer*, 90 in Kiswahili and 48 in Math's.
Peter scored 78 in English, 89 in Biology, 67 in *Computer*, 90 in Kiswahili and 34 in Math's.
Jane scored 70 in English, 93 in Biology, 34 in *Computer*, 23 in Kiswahili and 69 in Math's.
Tasneem scored 72 in English, 36 in Biology, 79 in *Computer*, 85 in Kiswahili and 56 in Math's.
Rashid scored 90 in English, 98 in biology, 89 in *Computer*, 100 in Kiswahili and 35 in Math's.

- (b) Calculate the total marks for each student. Label it appropriately. Write on the paper provided the formula used for Tasneem. **(6mks)**
- (c) Calculate the average for English, Biology, *Computer*, Kiswahili and Math's and Total score for the class. Label this average appropriately and write on the paper provided the formula for obtaining these average marks for *Computer*. Save as D:\ **Activity 2 (8mks)**
- (d) Arrange the records in a descending order by total score. **(4mks)**
- (e) Count all students whose total score is above 60% and place your result in an empty cell. Label the result appropriately. Write on the paper provided the formula used. Save as D:\ **Activity 3. (6mks)**
- (f) The school would like the remark PASS for students whose total score is 50% and above and FAIL otherwise. Generate an appropriate cell. Label the row/column as REMARK, Write down the formula used for Peter. Save as D:\ **Activity 4. (6mks)**
- (g) Plot a bar graph for the following averages. English, Biology, *Computer*, Kiswahili and Math's. Add a title and label the X and Y axes appropriately. Save your graph as D:\ **Activity G. (6 Marks)**
- h) Print Activity1, Activity 3, Activity 4 and Activity G. **(2mks)**

QUESTION TWO

- (a) Create a database file named D:\HOTELS to store the following data. Make the passport Id unique record identifier (the primary key) **(20marks)**

NAMES	PASSPORT	AGE	MALE	HOTEL	HOTEL CHARGE	DATE OF VISIT
Bank Moon	UN017/98	42	YES	SERENA	\$3'000.00	3.02.98
Barbara Bush	US009/98	58	NO	INTER-CONTINENTAL	\$6,000.00	2.12.98
Hilary Clinton	USO15	38	NO	WINDSAR	\$7,000.00	1.02.98
Nana Anan	UNO16/98	42	NO	HILTON	\$8,000.00	1.10.98
Akata Mary	UG013/98	68	YES	HILTON	\$4,500.00	1.02.98
Jakaya Kikwete	TZ001/98	68	YES	HILTON	\$6,300.00	1.05.98
Desmond Tutu	SA007/98	79	YES	WINDSAR	\$7,000.00	3.04.98
Mashell Graca	MG011/98	51	NO	INTER-CONTINETAL	\$10,000.00	3.05.98
Kennedy Njoroge	KE001/98	45	YES	LAICO	\$6,000.00	1.06.98
Margaret Thatcher	GB010/98	72	NO	SERENA	\$9,200.00	1.02.98
Museveni Kaguta	UG00/98	52	YES	WINDSAR	\$8,000.00	1.11.98
Jalal Talabani	IQ005/98	64	YES	LAICO	\$3,200.00	3.05.98
Al Bashir	LB006/98	48	YES	WINDSAR	\$11,000.00	3.12.98
Salva Kilr	SD014/98	50	YES	HILTON	\$8,000.00	1.12.98
Jacob Zuma	SA012/98	67	YES	SERENA	\$11,000.00	2.11.98

- b) ii) Sort the table in ascending order of age. (3 Marks)
- iii) Save the table as D Hotels 2 (3 Marks)
- c) Insert a field that will accommodate the continents of their origin. Note that passport ID UNO 17/98, UN016 98, USOI5/98, US009/98 are from America. UG013/98, TZ001/98, SA007/98, MQ011/98, KE001/98, UG003/98, LB006/98, SDOI4/98, SDOI4/98 AND SAO 12/98 from Africa 1Q005/98 Asia and GB010/98 Europe. Save as D: Hotels 3 (6marks)
- d) i) Create a query that contains the field passport ID, Names, Date of Visit, Hotel Charge and age for all members who visited Kenya hotels after 2/12/98 and are above 60 years of age or their Hotel charge paid is less than \$ 7,000.00 Write down the query expression used. Save as **D: QueryH** (6 Marks)
- ii. Create a total query that will give total hotel charges .Save as **D:Query T** (4marks)
- e) i) Excluding the male field, create a report and give it a title " President Visit" 6marks)
- (ii) Save the report as **D: Report P** (2Marks)
- iii) Print Hotels, Hotels 2, Hotels 3, Query H, Query T, Report P (3mks)

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COMPUTER STUDIES

PAPER 1

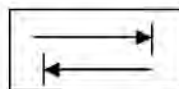
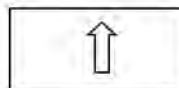
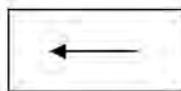
(Theory)

TIME: 2 ½ HOURS

SECTION A (40 MARKS)

Answer all the questions in this section in the spaces provided

- State any **two** peripheral devices that are powered by the system unit. (1 mk)
- The following are symbols of some keys found on the keyboard. Name the keys represented by the symbols. (2 mks)



- Explain any **three** functions of system software in a computer (3mks)
- As a computer student you have been asked to assist in buying an input device. State any **four** factors to consider when buying input devices. (4mks)
- i. The arithmetic logic unit, the control unit and the main memory use electrical pathways or links called buses. State and explain the three types of buses. (3mks)
- ii. What is the role of special purpose memories in the microprocessor? (1 mk)
- Outline the **three** differences between primary memory and secondary memory. (3mks)

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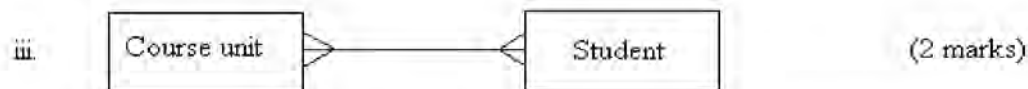
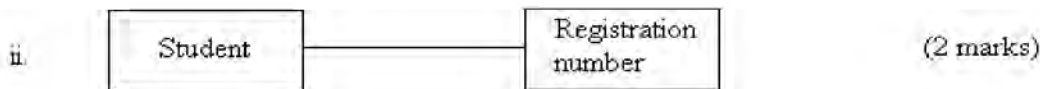
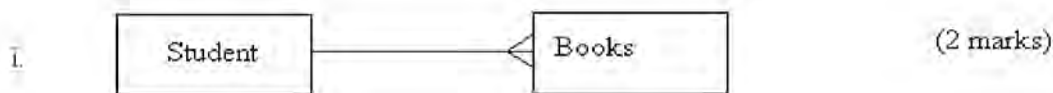
END

7. Citing relevant examples state **two** advantages of integrated software as opposed to single purpose. (2mks)
8. a. Define the term mail merging (1 mk)
b. Name **two** files that are created in mail merging process (1mks)
9. (a) Distinguish between a workbook and a worksheet as used in spreadsheets (2mks)
(b) What is the meaning of "what if analysis" with respect to spreadsheet? (1mk)
10. Define the following terms in relation to internet (2 mks)
 - i). Downloading
 - ii). Hyperlink
11. Benjos was instructed by his teacher while typing a Microsoft word document to replace all the occurrences of the word MS with Microsoft. Highlight the steps to do this (3mks)
12. What is the difference between logical and physical file? (2mks)
13. Explain any **three** types of computer processing files. (6mks)
14. Give a reason why HTML is not considered as a true programming language. (1mk)
15. (a) Define the following computer crimes
 - (i) Piracy (1mk)
 - (ii) Industrial espionage (1mk)

SECTION B (60 MARKS)

Answer questions 16 (COMPULSORY) and any other three questions in this section

16. (a) Draw a flowchart for a program that is to prompt for N numbers, accumulate the sum and then find the average. The output is the accumulated totals and the average. (5 mks)
- (b) Write a pseudo code for the above program. (4 mks)
- (c) Explain **three** types of control structures use in programming. (3mks)
17. (a)
 - i. Subtract 110_2 from 11010_2 (1mk)
 - ii. Find the sum of binary number 101.101_2 and 110.100_2 (1mk)
- (b)
 - i. Convert binary number 11010110.1001_2 into octal number. (1mk)
 - ii. Convert binary number 11010110.1001_2 into hexadecimal number. (1 mark)
- (c) Convert the following numbers to their decimal equivalent
 - i. 11.011_2 (2 marks)
 - ii. 0.1101_2 (2 mrks)
- (d)
 - i. Convert $3BD_{16}$ to Octal. (3mks)
 - ii. Using one's complement, calculate $5_{10} - 9_{10}$. use six bit in your calculation. (3mks)
- (e) State the following types of transcription errors: (2 marks)
 - i. 3455 instead of 3456
 - ii. Simth instead of Smith
18. (a) State and explain the following types of relationship as used in database design



(b) i. Explain the difference between primary key and an index key as used in database application

(2 marks)

ii. Outline the functions of a primary key

(2 marks)

(c) Describe the following types of database model

i. Network model

(2 marks)

ii. Relational model

(2 marks)

19. (a) i. What is an operating system?

(1 mark)

ii. Maintaining security is one of the functions the operating system. Explain how the operating system maintains security

(2mks)

iii. Explain how an operating system controls I/O devices.

(2mks)

b) What does the following control measures against computer crime involve?

(5 mks)

1. Audit trail

ii. Data encryption

iii. Log files

iv. Passwords

v. Firewall

(c) Briefly explain what happen during power on self test (POST) (3 mks)

(d) Explain the functions of complementary metal-oxide semiconductor (CMOS) (2 mks)

20. a) State **two** advantages and two disadvantages of the ring network topology

Advantage (2mks)

Disadvantages (2mks)

b) State **two** roles and responsibilities of each of the following ICT professionals

i) Webmaster (2mks)

ii) Network Administrator (2mks)

iii) Computer scientists (2mks)

iv) System Administrator (2mks)

v) Software Engineer (2mks)

c) Explain the term accreditation as used in education (1mk)

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Paper 2

1. The information below was extracted from CMC vehicle selling business

Buyer Name	Buyer Address	Buyer Town	Vehicle Reg NO	Vehicle Type	Vehicle Make	Vehicle price	Buyer Number	Amount paid
peter	254	Nakuru	KAJ 001	Matatu	Nissan	1200000	B001	800000
john	678	Eldoret	KAJ 002	Bus	Mazda	2400000	B002	2000000
Ken	963	Nairobi	KAJ 003	Saloon	Toyota	800000	B003	600000
Peter	147	Nakuru	KAJ 004	Pick up	Peugeot	1000000	B004	700000
Roy	456	Bungoma	KAJ 005	Lorry	Isuzu	3000000	B005	2000000
Glen	789	Webuye	KAJ 006	Pick up	Toyota	1800000	B006	1600000
John	678	Eldoret	KAJ 007	Bus	Scania	7500000	B002	7500000
Ken	963	Nairobi	KAJ 008	Matatu	Toyota	1300000	B003	1300000
Phillip	159	Kisumu	KAJ 009	Saloon	Nissan	900000	B007	900000
Peter	254	Nakuru	KAJ 010	Pick up	Isuzu	1500000	B001	1200000
Ken	357	Kisumu	KAJ 011	Saloon	Peugeot	700000	B008	700000
Glen	789	Webuye	KAJ 012	Bus	Isuzu	10000000	B006	9500000
Peter	147	Nakuru	KAJ 013	Matatu	Nissan	2700000	B004	2700000

- a) Create a database file named CMC (2 marks)
- j) Using the information in the table, create a table to hold vehicle detail and another to hold buyer details. Name them **tblvehicle** and **tblbuyer** respectively (4 marks)
- k) Enforce referential integrity between two tables. (2 marks)
- l) Create different input screen for each table, giving them appropriate title. Name them **frmvehicle** and **frmbuyer**. Use them to enter data into the tables. (12 marks)
- m) Display a report only showing the details of the buyers who have cleared paying for the vehicle. Name the report **rptcleared** with "CLEARED BUYERS" as the title of the report. (10 marks)
- n) Using the two tables create an outlined report showing the customer details, the total amount paid by each customer and the total amount received by CMC during this time. Name the report **rptnilbal** and the title as "SUMMARY REPORT PER BUYER." (8 marks)
- o) Create a query to display the vehicle details with balances of less than 500,000 but not less than 300,000. Name the query as **qrymidbal**. (7marks)
- p) Create a report showing the vehicle type, the total sales for each type and the grand total. (3 marks)
- q) Print **tblvehicle**, **tblbuyer**, **rptcleared**, and **rptnilbal** and **qrymidbal** landscape orientation with footers being your last name and index number at the centre of the page. (2 marks).

2. Use a spreadsheet to manipulate data in the table below.

Adm. NO	Name	Stream	Comp	Art	Bus	Eng	Mat	STUDENT MEAN	RANK
C001	Barasa	H	56	45	36	56	26		
C002	Wangila	K	58	57	90	54	23		

C003	Wafula	H	48	56	54	45	25		
C004	Wanjala	K	78	95	78	46	24		
C005	Kerubo	H	49	86	68	35	52		
C006	Akinyi	K	56	45	25	63	54		
C007	Odhiambo	H	75	78	45	65	56		
C008	Okunyuku	K	89	69	65	53	51		
C009	Nekesa	H	69	58	45	54	52		
C010	Simiyu	H	85	46	78	52	53		
	TOTAL								
	TOTAL	FOR H							
	TOTAL	FOR K							

- a) Enter the data in all bordered worksheet and auto fit all columns. Save the workbook as **mark1** (15 mks)
- b) Find the total marks for each subject (3 mks)
- c) Find total for each subject per stream using a function. (5 mks)
- d) Find mean mark for each student using a function (5 mks)
- e) Rank every student in descending order using the mean (5 mks)
- f) Create a well labeled column chart on a different sheet to show the mean mark of every student. Save the workbook as **mark2**. (7 mks)
- g) Using **mark1**, use subtotals to find the average mark for each subject per stream. Save the workbook as **mark3** (7 mks)
- h) Print **mark1**, **mark2**, and the **chart** (3 mks)

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