

Name..... Adm No...../
Date Candidate's Signature.....

451/1
COMPUTER STUDIES
Paper 1
MAY 2015
Time: 2 ½ Hours

TIGANIA SOUTH PRE-MOCKS 2015
Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES

- Write your **name, School** and **index number** in the spaces provided above.
- This paper consists of Two sections **A & B**
- Answer **ALL** the questions in Section **A**
- Question 16 is compulsory
- Answer any **THREE** questions in section **B**
- All answers to **ALL** questions must be written in the spaces provided in the question paper

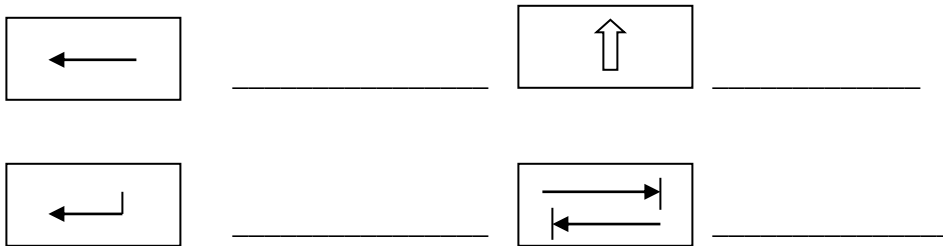
FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM MARKS	CANDIDATES SCORE
A	1-15	40	
B	16	15	
	17	15	
	18	15	
	19	15	
	20	15	
TOTAL SCORE		100	

SECTION A (40 MARKS)

Answer all the questions in this section in the spaces provided

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



- 3. Explain any **three** functions of system software in a computer (3mks)
- 4. 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)

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- 5. 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)

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- 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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- 6. Citing relevant examples state **two** advantages of integrated software as opposed to single purpose. (2mks)

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- 7. a. Define the term mail merging (1 mk)

- b. Name **two** files that are created in mail merging process (1mks)

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- 9. (a) Distinguish between a workbook and a worksheet as used in spreadsheets (2mks)

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.....
(b) What is the meaning of “what if analysis” with respect to spreadsheet? (1mk)
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.....

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)
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.....

12. What is the difference between logical and physical file? (2mks)
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.....

13. Explain any **three** types of computer processing files. (6mks)
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.....

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 them 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)

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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. 0.11011_2 (2 mrks)

(d) i. Convert $3BD_{16}$ to Octal. (3mks)

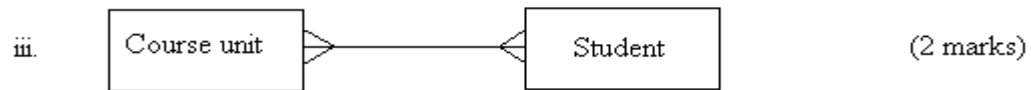
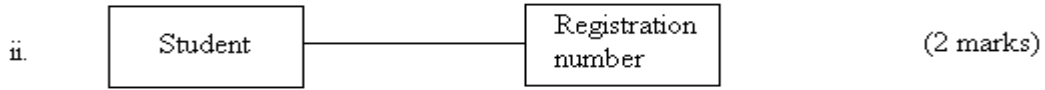
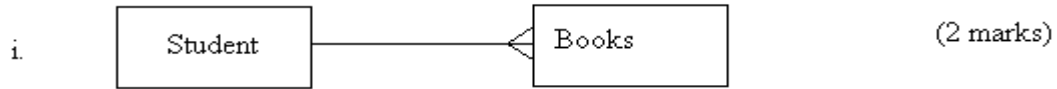
ii. Using one's complement, calculate $5_{10} - 9_{10}$. use six bit in your calculation. (3mks)

(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)

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ii. Outline the functions of a primary key (2 marks)

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(c) Describe the following types of database model

i. Network model (2 marks)

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ii. Relational model (2 marks)

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19. (a) i. What is an operating system? (1 mark)

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ii. Maintaining security is one of the functions the operating system. Explain how the operating system maintains security (2mks)

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iii. Explain how an operating system controls I/O devices. (2mks)

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(b) What does the following control measures against computer crime involve? (5 mks)

- i. 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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COMPUTER STUDIES

PAPER 2 (PRACTICAL)

MAY 2015

2 ½ HOURS

TIGANIA SOUTH PRE-MOCKS 2015

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

COMPUTER STUDIES

PAPER 451/2

INSTRUCTIONS TO CANDIDATES.

- Type your **name** and **index** number at the top right hand corner of each printout.
- Sign and write the date of the examination below the name and index number on each printout.
- Write your name and index number on the compact disks
- Write the name and version of the software used for each question attempted in the answersheet.
- Passwords **should not** be used while saving in the compact disks
- Answer all the **questions**
- All questions carry equal marks.
- All answers **must** be saved in your compact disks
- Make a printout of the answers on the answers sheets provided.
- Hand in **all** the printouts and the compact disks

QUESTION 1

- (a) Using a DTP program, design the publication using the sample given in the next page as your reference and save it as Polite Notice. (29mks)

In your design take into account the following

- The size of the publication should be A4, portrait orientation. (1mk)
- (b) The page margins should be set all-round at 0.6” (inches) or 15.24mm – (Left, Right, Top and Bottom) (2mks)
- (c) Format the header to 45pts font size; add a double outline border of 3pts. In weight (2mks)
- (d) The text inside the star object should be reverse text, Bold and 20pts. (3mks)
- (e) The numbered and bulleted lists should be formatted to 18pts with paragraph spacing of 1.5 pts. (1mk)
- (f) Format the arrow lines pointing to the circle outlining the numbered and bulleted lists, and the circle to 2pts in weight with the text inside the circle formatted to 18pts. (2mks)
- (g) The vertical text “Remember to abide” should be formatted to font size 20pts and underlined with thick dots. (1mk)
- (h) (i) Format the line above the “All the Best “ text to 4.5pts in weight.
(ii) Format the text “All the Best “ to font size 22pts centered and interlaced. (2mks)
- (i) Print the publication. (1mk)

POLITE NOTICE!

CLASSROOM RULES

Remember to abide to all these rules to avoid any problem.

1. **NO FOOD** or drink in any of the ICT classrooms.
 2. **NO RUNNING** in the classrooms
 3. All bags should be **LEFT** under the workstation
 4. All students must **STAY** at their own workstation and not interfere with other students' work
- To all Students all Times
- Students must no **TOUCH** or **PLAY** with any wires or sockets.
 - Students must not **SWING** on their chairs or **PUSH** them around the room
 - Always **ARRANGE** the chairs and desks in the ICT classroom
 - Students should only access their **OWN** user areas



All The Best in Your Academic Endeavour's

QUESTION 2

SaidiaKazi is non-governmental organizations giving manual jobs to unskilled labourers in rural areas to enable them have a way of earning a living. They issue them with tools in order for them to do the job assigned to them. They have asked you to computerize their stores to enhance their issuance of various tools.

The following files are held by the manual system.

<u>Stores.</u>	<u>Issues</u>
Tool ID	Tool ID
Tool description	Quantity
Condition	Number in Group
	Issue date
	Return date

Required

- (a) Create a database named **SaidiaKazi**, and add two tables named **Stores** and **Issues** using the details given above. (11 mks)
- (b) Add an appropriate primary key to the stores table and a foreign key into the issues tables during the design. (2 mks)
- (c) The organization needs to keep track of the store tools issued to each of the group. Create a relationship between the two tables and reinforce referential integrity to enable them to do this. (5 mks)
- (d) Create columnar forms for each of the tables above and save them as Storetooleyform and Issuingtoolsform respectfully or create a form with a sub-form with the parent and the child forms having the suggested names. (10 mks)

(e) The following list of tools and tools issuing list was available as at 11th March 2015.

Stores table

Tool ID	Description	Condition
KK01	Shovels	New
KK23	Fork Jembe	Good
KK40	Mattock	Fair
KK60	Axes	Fair

Issue table

Tool ID	Group	Number of members	Quantity	Issue date	Return date
KK01	1	4	4	11/01/2015	28/01/2015
KK40	4	7	7	12/02/2015	
KK60	8	3	3	14/01/2015	
KK01	7	10	10	16/01/2015	17/02/2015

Use the appropriate form you have created to enter the records shown above. (8 mks)

(f) Add a validation rule and text that, validates data entry such that, the number of members in a given group should be more than one and less than ten (3 mks)

(g) (i) The management wishes to know the tools that have not been issued to any of the groups. Create a query that finds these tools, name it toolsnotissued. (3 mks)

(ii) You have been asked to produce a report of the tools that have not been returned to stores.

Create a report named toolsout of these tools having the following fields Toolid, Description, Group, Quantity and IssueDate. (4 mks)

(h) Print

(4 mks)

(i) The two tables

(ii) Query

(ii) Report