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# KENYA NATIONAL EXAMINATION COUNCIL

## KCSE 2007

### COMPUTER PAPER 1

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# Computer Studies Paper 1

Name ..... Index number ...../.....

451/1  
COMPUTER STUDIES  
Paper 1  
(THEORY)  
Oct./Nov. 2007  
2½ hours

Candidate's signature .....

Date .....

**THE KENYA NATIONAL EXAMINATIONS COUNCIL**  
Kenya Certificate of Secondary Education  
COMPUTER STUDIES  
Paper 1  
(THEORY)  
2½ hours

*Write your name and index number in the spaces provided above.  
Sign and write the date of the examination in the spaces provided above.  
This paper consists of TWO sections; A and B.  
Answer ALL the questions in section A.  
Answer question 16 and any other THREE questions from section B.  
All answers should be written in the spaces provided on the question paper.*

### For official Use Only

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

**This paper consists of 14 printed pages**

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

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**Turn over**

**SECTION A (40 marks)**

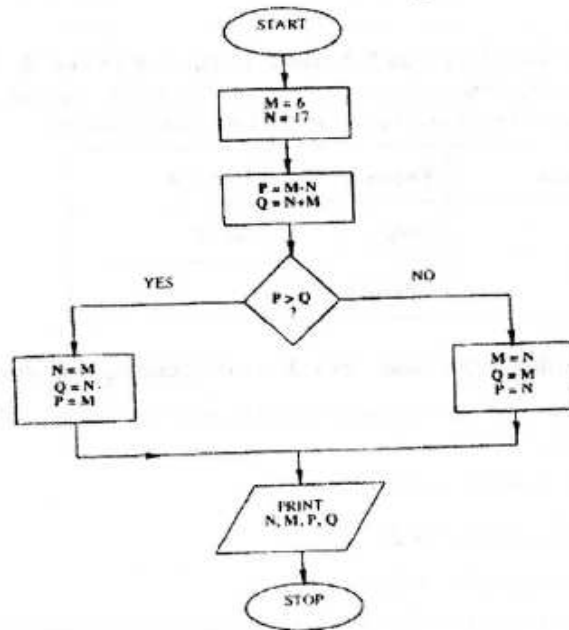
Answer **ALL** the questions in this section in the spaces provided.

- 1 Describe the computer booting process. (2 marks)
- 2 State the functions of the following keys on the computer keyboard: (2 marks)
- (a) backspace .....
- (b) insert (ins). .....
- 3 Jane has noticed the following problems in her computer:
- ◆ it is taking a longer time to start up;
  - ◆ it is often hanging;
  - ◆ applications are taking longer to load.
- State **three** possible causes of these problems and how they can be solved. (3 marks)
- 4 (a) Define authenticity as used in software selection. (1 mark)
- (b) List **four** ways of acquiring software in an organization. (2 marks)
- 5 Some of the storage disks available are: Zip disks,  $3\frac{1}{2}$  inch floppy disks, DVDs and  $5\frac{1}{4}$  inch floppy disks. Arrange these devices in an ascending order of storage capacity. (2 marks)
- 6 You have been asked to change your computer password. State a precaution you need to take in order to avoid each of the following:
- (a) forgetting the password (1 mark)
- (b) hacking. (1 mark)
- 7 State **four** benefits of using a computer in a school library. (2 marks)
- 8 Using six bits, find the two's complement of  $-23_{10}$ . (4 marks)
- 9 Explain data series, axis and legend as used in spreadsheet charts: (3 marks)
- data series .....
- axis .....
- legend. ....
- 10 (a) Describe the term data integrity. (2 marks)
- (b) State **four** situations in which data may lose integrity. (2 marks)
- 11 State the function of each of the following:
- (a) network interface card (1 mark)
- (b) network protocol (1 mark)
- (c) hub. (1 mark)
- 12 List **four** types of publications that can be designed by using desktop publishing software. (2 marks)
- 13 Differentiate between the following pairs of terms as used in database design: (2 marks)
- (a) input mask and design
- (b) table and query. (2 marks)
- 14 List **four** factors to be considered when purchasing an operating system. (2 marks)
- 15 Write an algorithm to compute the area of a triangle. (2 marks)

**SECTION B (60 marks)**

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

16 (a) Study the flowchart below and answer the questions that follow.



(i) Name the control structures used in the flowchart. (2 marks)

(ii) Determine the values of M, N, P and Q. (4 marks)

(iii) Write the pseudocode for the flowchart. (7 marks)

(b) List **four** functions of an assembler. (2 marks)

17 (a) Define the following web related terms:

(i) web browser (1 mark)

(ii) hyper link (1 mark)

(iii) hyper text document. (1 mark)

(b) List **six** activities performed on the web. (3 marks)

(c) An institution has ten stand-alone computers.

(i) Suggest with reasons the most appropriate topology required to inter-connect the computers. (3 marks)

(ii) State the necessary steps required to connect the computers to the internet. (4 marks)

(d) Below is an e-mail address:

ggitau @ moest . edu . ke  
 ↑        ↑        ↑        ↑  
 (i)    (ii)    (iii)    (iv)

Name the parts labelled : (2 marks)

- (i) .....
- (ii) .....
- (iii) .....
- (iv) .....

**18** A computer C directory has folders for **Form 1, Form 2, Form 3 and Form 4**. Each class has student's folders labelled according to their admission number. The students create their own folder for the subject they are studying based on the table shown below.

Form 1	Form 2	Form 3	Form 4
OS	SP	Prog.	ADB
WP	DTP DB	Internet	

- (a) Assuming there is one student per class, draw the corresponding tree structure. (6 marks)
- (b) (i) A form four student wants to create a folder to store her project. State the path for that project folder. (2 marks)
- (ii) Suggest how the student can ensure that:
  - work is not lost in case the hard disk fails; (1 mark)
  - the project is not copied by other students. (1 mark)
- (c) (i) Other than I/O devices, list other three devices under the control of the operating system. (3 marks)
- (ii) Explain any one of the devices named in (c)(i) above. (1 mark)
- (d) Define the term trouble shooting. (1 mark)

**19** A manager wishes to replace the current manual system with a computerised one.

- (a) Describe **three** main areas that must be evaluated to justify the replacement. (6 marks)
- (b) List the **three** areas that would be considered in the requirements specifications. (3 marks)
- (c) State and explain **three** ways that can be followed to replace the current system. (6 marks)

**20** (a) A headteacher keeps the following student details in a database: Name, Address, Town, Date of birth, Marks scored, Fees paid.

- (i) Name the most appropriate primary key. Give a reason. (2 marks)
- (ii) For each item in the student's details above, indicate its most appropriate datatype as used in the database. (3 marks)
- (iii) Explain why input screens are better data entry designs than entering data directly to a table. (2 marks)
- (b) List **two** career opportunities associated with databases. (2 marks)

- (c) Distinguish between:
- (i) a table in word-processing application and a table in a database application (2 marks)
  - (ii) mouse pointer and insertion point. (2 marks)
- (d) Outline the steps to be followed in order to merge cells in a word processing table. (2 marks)