Name: ………………………………………………………… Index no ……..…................................

School: ………………………………………………......…. Candidate's sign …………………....

Date: ……………………………………………………………

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
MARCH/APRIL 2011
TIME 2 ½ HOURS.

MOKASA JOINT EVALUATION EXAMINATION
Kenya Certificate of Secondary Education (K.C.S.E.)

Computer Studies
Paper 1

INSTRUCTION TO CANDIDATES

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

FOR OFFICIAL USE ONLY

SECTION	QUESTIONS	QUESTION'S ACTUAL SCORE	CANDIDATES SCORE
A	1-15		
B	16		
	17		
	18		
	19		
	20		
	TOTAL SCORE	100	

Answer All Questions In This Section

1. How has integrated circuits (IC)contributed to the reduction in size of computers (2mks)
2. All computer systems ,regardless of size , perform five basic operations for converting input data into useful information. State any four basic operations in this case (2mks)
3. Give any two functions of RAM (2 mks)
4. Describe the process of Power on Self Test (POST) during booting up of a computer (2mks)
5. Differentiate between the fooling pair of terms as used in word processing
   i) Title case and sentence case (2marks)
   ii) Alignment and indentation
6. List any TWO ways of merging a word document with its data source (2mks)
7. a)What is Auto filter as used in spread sheets (1 mark)
   b) Explain what the following expression means in a workbook (1mk)
   =sheet11B3:$C8
8. List any two specialized services provided by web portals on the internet (2mks)
9. Many people are worried about the introduction and use of computer database.(1 mk)
   a) Give one reason why this is so (1mk)
   b) State two ways in which the police can benefit from the use of computerized databases
10. State any THREE ways in which data can be loss in a computer system (3mks)
11. a)Distinguish between batch and interactive data processing modes (2mks)
12. state two advantages of electronic point of sale terminal systems (EPOS) 2 mks
13. a) State any THREE purposes of optical disks (3mks)
    b)Explain why a flash disk or memory stick is refereed to a solid state storage media (1mk)
14. A boat designer uses a computer to assist in designing a new boat. The first stage is to take plan of the boat.
    a) Name TWO input devices that could be used for this work(apart from akeyboard), stating in each case why they are used (2mks)
    b) Name TWO output devices that could be used , stating in each case for what they are used. (2mks)
15. a) What is a computer file? (1 mk)
    b)State FOUR advantages of using a computerized filling system (2mks)
    c)What is inter –record gap in serial file organization (1 mk)

SECTION B (60 MARKS)
Answer question 16 and any other three questions from this section

16. A student appears in an examination , which consists of total 10 subjects having maximum marks of 100. the administration number of the student, his/her name, and the marks obtained by him/her in various subjects , are supplied as input data.
a) Draw a flow chart for the algorithm to calculate the percentage marks obtained by the student in this examination , and to print it along with his/her admission number and name. (8 mks)
b) Why is it necessary to use a flowchart when interpreting a program ?(2mks)
c) State guidelines that are followed when designing a flowchart (5 mks)
17. A large company uses an electronic mailing system (EM) to communicate between its offices located I n different geographical sites (Using WAN) as well as between offices in the same building (Using a LAN)
    a) What does a WAN stand for?
    b) Plain any TWO communication methods that can be used within a WAN (4 mks)
    c) Give TWO advantages of using an electronic mailing system compared with the telephone system. (2mks)
    d) i)   Give any THREE reasons why the public telephone network is not always suitable for data communication between computers? (3 marks)
       ii)   State THREE possible solutions that could be adopted in addressing the problem in Q17 d (i)

above. (3 mks)

e) Every person using an EM system needs to have an identifier, which can be found but by all other users. Why is it necessary? (2marks)

18. a) i)   What is the purpose of a feasibility report in system development ?(1 mk)
     ii)   List FOUR sections that should be included in the feasibility report (4 mks)

   b) i)   A programmer wrote a software by rapid prototyping . Explain what is meant by rapid prototyping (2mks)
     ii)   Describe a changeover procedure that system consultants might recommend for system implementation (2 mks)

   c) Give reason why system review process is important in system development (2mks)

   d) Explain any FOUR techniques used in fact – finding (4 marks)

19. a) State THREE components that constitute an expert system (3 mks)

   b) Explain briefly FOUR main application areas of artificial intelligence (4mks)

   c) Differentiate between the following terms
     i) Computer aided design and computer aided manufacturing (2 mks)
     ii) Computer aided instruction and computer aided learning (2mks)

   d) List FOUR interactive sensory devices that are used with virtual reality gear (4 mks)

20. a) Almost all computers use binary numbers for internal computations. Give THREE reasons to justify this statement (2 mks)

   b) Perform the following computation s
     i) Find the BCD complement of 37_{10} (1 mk)
     ii) Using 8-bit coding scheme, subtract 56_{10} from 92_{10} using ones complement method (4mks)
     iii) Subtract 1100_2 from 10011_2 (3 mks)
     iv) What is the decimal equivalent of the binary number110.101_2? (3 mks)

   c) Add 1101_2 to 1111_2 (1 mk)