NAME …………………………………..……… **DATE** …………………………………

INDEX NO. ……………..…………. **CANDIDATE'S SIGNATURE** ………….....…..………..

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
TIME: 2 ½ hours
4MCK 2016

4MCK

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
JUNE/JULY 2016
TIME: 2 ½ hours

Instructions to Candidates
(a) Write your name and index number in the spaces provided above.
(b) This Paper consists of two sections A and B.
(c) Answer **ALL** the questions in section A.
(d) Answer **question 16** (compulsory) and any other **THREE** questions from section B.
(e) All answers should be written in the spaces provided.
(f) This paper consists of 12 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

Section	Questions	Candidate's score
A	**1- 15**	
B	**16**	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

SECTION A (40 MARKS)
Answer <u>ALL</u> questions in this section in the spaces provided
1. a. State two ways of minimizing dust in the computer laboratory.   (2 marks)
   – **Covering Computers**
   – **Blowing computers regularly**
   – **Putting curtains in the windows**
   – **The floor should have a carpet**
   b. Why would one switch on the UPS before switching on the system unit and the monitor.   (1 mark)
      – **To protect computer incase of power instabilities i.e. surges and brown-outs**
2. State the following types of transcription errors:
   a. 1245 instead of 124S (letters)   (1 mark)
      – **Misreading**
   b. Borad instead of Board   (1 mark)
      – **Transposition**
3. Distinguish between count and count if as used in spreadsheets.   (2 marks)
      – **Count; counts cells that contain values in range of cells and count if; counts cells that meets a given criteria in a range of cells**
4. Suggest three reasons that would make workers in an organization unhappy with introduction of a computerized system.   (3 marks)
      – **Job replacement**
      – **Job displacement**
      – **Side effects of using computers**
      – **Retraining on use of computers**
5. Explain the following internet related terms.   (4 marks)
   a. Sign in
      – **To enter password to authenticate access to your email account**
   b. Search engine
      – **Program used in searching for material from the internet**
   c. Surf
      – **Browsing or accessing the internet**
   d. Sign up
      – **Registering to have an email**
6. State two functions of a compiler.   (2 marks)
      – **Translate high level languages to machine code**
      – **Detect and prints the syntax errors in the whole program at the end of the compilation**
      – **Organize the storage or variable used in program**
      – **Links the program with the OS**
7. State three factors that have led to slow growth of e-learning in Kenyan schools (3 marks)
      – **High cost of ICT equipment**
      – **Poor internet connectivity**
      – **Lack of skilled personnel in our school**
      – **Erratic/poor/non-available electricity**
8. Differentiate between system flow chart and program flow chart.   (2 marks)

- **System flowchart shows the logic of the system as a whole program while Program flow chart shows the logic of a module within the system.**

9. State two advantages of a laser printer over inkjet printers. (2 marks)
- **Print quality is good and neat**
- **Printing is high as it prints one page at a time**
- **The cost per page of the toner cartridge is lower than other printers**

10. Using well labeled diagrams, explain the two types of data signals. (4 marks)

11. a. Name two types of non-printable guides in DTP. (1 mark)
    - **Ruler guides**
    - **Column guides**
    - **Margin guides**
  b. State two ways in which your school librarian can use a computer. (1 mark)
    - **To access records or books and other library materials much faster**
    - **To keep updated records of books and materials in the library**
    - **To search titles of books for someone to borrow**
    - **To carry out research incase where there is connectivity**

12. Use the text below to answer the question that follow:

Ms-Word has the ability to check spellings within your document as you type or edit the document.
The *Spelling and grammar checker* is an inbuilt tool that helps the user to correct spelling errors and incorrect grammar structures. The words you type in are compared to those in its dictionary. However, the checker can only recognize errors of those words whose correct spelling is in its dictionary. This implies that, a correctly spelt word used wrongly cannot be detected. *For example*; if you mistype a word but the result is not a misspelling (e.g., typing "from" instead of "form" or "there" instead of "their"), the spelling checker will not mark the word. To identify those types of problems, the document should be carefully proof-read just before and after printing.
Importance
√ The grammar checker provides a quick & convenient way to find many common grammatical errors.
√ It also identifies mistakes in your document and offers suggestions that could be more effective, and user-friendly. In some cases, the grammar checker offers suggestions on how you can rewrite sentences.

  a) Identify five formatting features used in the above passage. (5 marks)
- **Bolding**
- **Italicization**
- **Bullets**
- **Line spacing**
- **Font type/size**

13. Dr Kim would like to demonstrate a concept using a computer program on his laptop to members of his village health committee. Give two reasons why he would prefer a laptop computer. (2 marks)
    - **Portable**
    - **Flexible**
    - **Battery life**
    - **Inbuilt input devices**

14. State three ways in which computer users can minimize Repetitive Strain Injury (RST)
(3 marks)

- **Arms should be comfortably by your side**
- **Wrists should be straight**
- **Hands should float about the keyboard**
- **Take regular breaks from your chair and have a brief walk**
- **Exercise regularly**
- **Relax**

15. The formula A4 + C$5 is typed in cell D4 and copied to cell H6. Write down the formula as it would appear in cell H6. (2 marks)
= A4 + G$5

Section B
Answer question 16 (compulsory) and three other questions from this section

16. Study the flowchart below and answer the questions that follow;
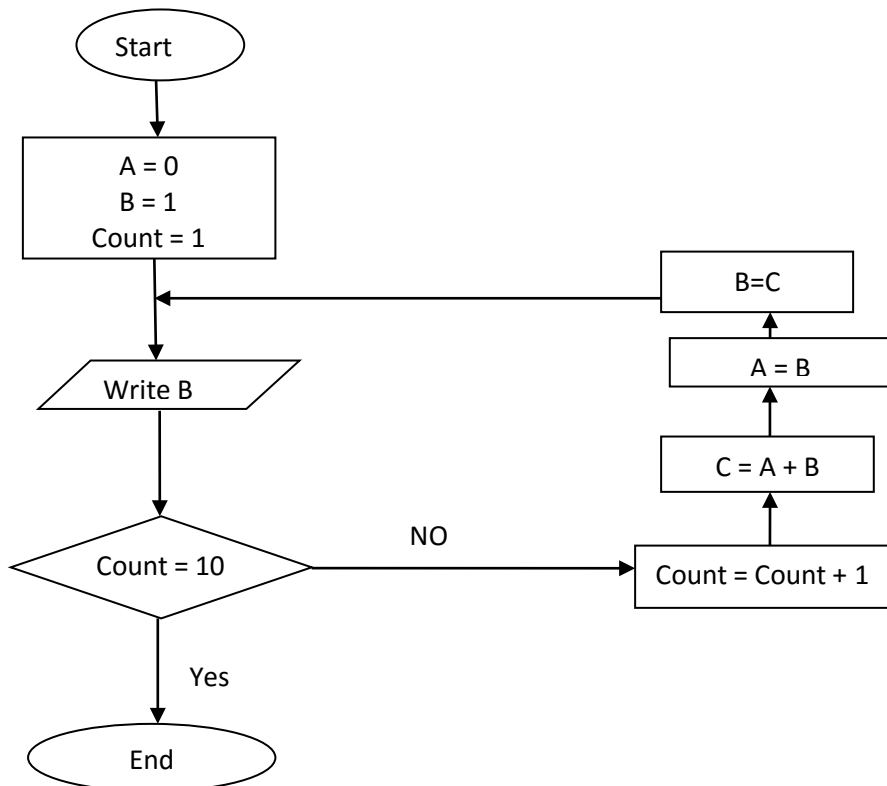
a) Write a pseudo code for the above flowchart   (7 marks)

Begin
Initialize
        A:0
        B=1
        REPEAT
    Display (B)
    COUNT = COUNT + 1
    C: = A +B
    A : = B
    B := C
    UNTIL COUNT = 10
End

b) List the outputs of the flowchart above.   (5 marks)

1, 1,2,3,5,8,13,21,34,55 (any ten integers)

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

17. a) Differentiate between soft systems and hard systems   (2 marks)
   - **In soft systems, goals and objectives are not clearly defined. In hard systems, goals and objectives are clearly defined and the outcomes from the processes of the systems are predictable.**
   - **Soft systems are usually the human activity systems their boundaries keep on changing**

b) Explain five characteristics of a system.   (2 marks)
   - **Holistic thinking**
   - **Purpose**

- **System boundaries and environment**
- **Operate within a specific framework, limits or space**
- **Subsystems**
- **Inputs and outputs**
- **Processes**

c) Define the term information system. (2 marks)
- **Is the arrangement of people, data and information that work together to support and improve the day-to-day operations of a business.**

d) Highlight three circumstances that necessitate the development of new information systems. (3 marks)
- **New opportunities**
- **Problems**
- **Directive**
- **Invention of new systems which are more successful than the existing ones**

e) What is prototyping as used in system development. (1 mark)

f) You are required to develop a registration system for your school.. State two ways in which you would gather the information required for the system development. (2 marks)

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18. a) Explain the impact of Information technology on organization in each of the following areas:
i) Competition (1 mark)

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ii) Pace of growth (2 marks)

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b) State three reasons why users may resist the introduction of information and communication Technology (ICT) to their place of work. (3 marks)

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c) i) State four components of electronic Point-of-sale terminal. (4 marks)

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ii) Give two advantages of using point of sale terminal as opposed to manual entry at a supermarket check-out counter. (2 marks)

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19. A school bought a computer system. The hardware items supplied include ; an 800 MHz processor, 64MB of RAM, a sound card, speakers, a monitor, a keyboard, a 120 GB HD, a floppy disk drive, a CD-Read/Write drive, a mouse, a modem, an inkjet printer and a joystick.
The software supplied include an Operating system, a BASIC interpreter, and the following packages; spreadsheets, word processors, art, graphics, database and games.

a) List three input devices from the given specifications   (3 marks)

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b) Explain the meaning of the following
   i)   80MHz   (1 mark)

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   ii)   64MB of RAM   (1 mark)

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   iii)   120GB HD   (1 mark)

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c) Some of the students in the school use the computer to do homework. Name the package used to
   i)   Do calculations and draw graphs   (1 mark)

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   ii)   Make a poster   (1 mark)

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   iii)   Write an essay   (1 mark)

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d) Students enjoy playing noisy computer games.
   i)   Which input device is only used for playing games (1 mark)

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Which hardware items are needed to produce sound   (2 marks)

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e) Distinguish between copying and moving text.   (2 marks)

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f) State 2 public universities where one can further her computer studies. (1 mark)
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20. a) Study the diagram below and answer the questions that follow;

i)   Name the communication media depicted in the above diagram   (1 mark)
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ii)   Name the parts labeled A,B,C and D   (4 marks)
A …….
B …….
C ……….
D …….

iii)   List two advantages of the above communication media   (2 marks)
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b) Define the term network topology.   (2 marks)
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c) Distinguish between logical and physical network topology   (2 marks)
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d) Distinguish between bounded and unbounded transmission media, giving two examples in each   (3 marks)
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e) What is a distributed system   (1 mark)

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