

Name..... Adm. No.....
Date Student's Signature.....

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
JUNE 2014
TIME: 2 ½ HRS

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

451/1
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PAPER 1
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Instructions to candidates

1. This paper consists of TWO sections, A and B
2. Answer all questions in sections A.
3. Answer question 16 and any other THREE questions from section B.

FOR EXAMINERS USE ONLY

SECTION	QUESTION	SCORE
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
TOTAL MARKS		

*This paper consists of x printed pages.
Candidates should check to ensure that all pages are printed as indicated and no question is missing.*

SECTION A (40 marks)

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

- 1.(a) Headache, back and neck pain may result from use of computers. Explain **two** ways in which back and neck pain can be minimized. (2mks)

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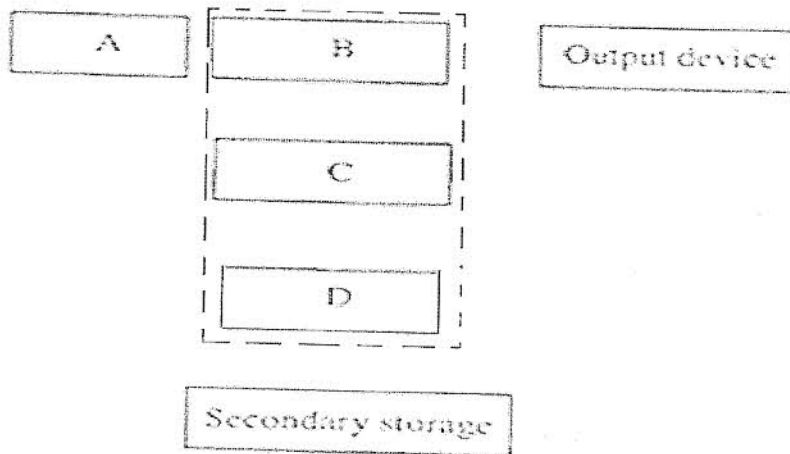
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- (b) State how computer have been made more users friendly for persons that are:

(i) Blind..... (1/2mk)

(ii) Without hands..... (1/2mk)

2. The diagram below represents the essential features of a computer system. Study the diagram and answer the questions that follow:



- (a) (i) Name and describe the following components

(4mks)

A.....

.....

B.....

.....

C.....

.....

D.....

.....

- (ii) On the diagram above, indicate the **direction** of data flow using arrows

(1mks)

3. KASSU High School intends to purchase new computer to be used by students in the e-learning room for accessing digital learning resources and personal research. Advise the school on **two** computer hardware system specification features to consider as a measure of enhancing performance of the computers. (2mk)

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4. Describe the following terms as used in Microsoft Word. (1mks)

(a) Text wrapping

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(b) Column breaks (1mks)

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5.(a) What are the following errors as displayed in a spreadsheet cell (1mk)

(i) #####

.....

.....

(ii) ##NUM! (1mk)

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(b) State the importance of the following terminologies as used in database. (1 marks)

(i) Enforcing Referential integrity

.....

.....

(ii) Validation rule (1 marks)

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7. Differentiate between *Margins* and *column guides* as used in DTP (2 mks)

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8(a) A systems analyst is responsible for the introduction of a new computerized system after the software has been written and tested, and its hardware purchased. Describe any **ONE** method of introducing this new computerized system. (2mks)

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(b) File conversion, in system development, refers to modifying or changing the format of files when a new system is introduced e.g. from manual to computerized. State any **THREE** factors considered before the file conversion process. (3mks)

9. The cartoon below suggests that computers will replace people. Give any **THREE** reasons why this may happen. (3mks)



10. A video rental shop uses a computerized system to record which videos have been loaned out. When a video is loaned out, the customers' data is recorded on computer file. Describe **TWO** computer processing files that will be needed to store permanent customer records and temporary records that keep on changing. (4mks)

11. Define *overflow error* with respect to computation of data (1mk)

12. Mention **one** ICT job that a college graduate can get in the video rental shop with regard to records management. (1mk)

13.(a) Define an 'electronic office' (1mk)

14. Give any **THREE** common office tasks that ICT could help in doing them. (3mks)

15. State any **TWO** advantages of using computers in computer aided design (CAD) (2mks)

SECTION B (60 marks)

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

16. a) State the **THREE** basic types of program control structures. (3 marks)

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- b) Draw a flowchart which will simulate the processing of Student's report. The simulation should be such that the user repeatedly inputs marks per subject for eight subjects using a looping control structure. The computer processes the total marks and mean score of the student.

- Note.
1. It is assumed that the student does eight subjects.
 2. The outputs required are; Average score and Total marks. (7 marks)

c) Construct a pseudo code for the above flowchart.

(5 marks)

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17. A) (i) What is a **Blog** in relation to internet services

(2marks)

(ii) Explain the impact of the internet in the *information security*

(2marks)

(b) Kunta would like to send photos to Kinte via e-mail. Outline the steps Kunta would follow to send the photos as file attachments

(3marks)

(c) Differentiate between the following in relation to data security and control

(4 marks)

(i) *Password* and *biometric* authentication.

(ii) *Privacy* and *Confidentiality*.

(d) Computer crimes include *Trespass*, *Hacking*, *Piracy* and *Sabotage*. Highlight each of them.

(4 marks)

18. (a)(i) What is the hexadecimal equivalent of 676_8

(2 Marks)

(ii) Use one's complement to solve the following sum: $-12+25$

(2 Marks)

(iii) Convert 34.175_{10} to its binary equivalent.

(2 Marks)

(b) Using six bits find the two's complement representation of -27_{10}

(5 marks)

(c) Find the difference in the following binary numbers;

(4 marks)

(i) $111011-10001$

(ii) $100011.101-1001.10$

19. (a) (i) Define Data Communication.

(2 marks)

(ii) In relation to data communication, distinguish between DTE and DCE with an example of each (3marks)

(b) Communication media can be classified into **guided** media or **Unguided** media. List any TWO examples in each case (2 marks)

(c) Using an illustration, explain how *fibre optic* cable transmits data. (4 marks)

(d) (i) List any TWO hardware devices that make up a bus network.

(2 marks)

(ii) State TWO disadvantages of bus networks.

(2 marks)

20. (a) (i) State any THREE factors you would consider before installing an operating system.

(3 marks)

apart from cost.

(ii) Distinguish between *software installation* and *software configuration* in relation to operating system

(2 marks)

(b) Abraham would like to distinguish between *System Tray* and *Task Manager*.

(i) Where are these TWO found?

(1 mark)

(ii) How are they different?

(2 marks)

(c) In relation to operating system, differentiate between;
(i) Kernel and Shell.

(2 marks)

(ii) Process and Page.

(2 marks)

(d) Mobile Operating System (OS) is software that allows Smart phones, Tablet PCs and other devices to run applications and programs. List any THREE examples of Mobile Operating Systems
(3 marks)