

Name.....

Index No...../.....

School.....

Date

Candidate's Signature.....

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
JULY / AUGUST - 2010
TIME: 2 ½ HRS

NANDI CENTRAL DISTRICT JOINT EVALUATION TEST - 2010
Kenya Certificate of Secondary Education (K.C.S.E)

451/1
COMPUTER STUDIES
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(THEORY)
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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	
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
TOTAL MARKS		

*This paper consists of 12 printed pages.
Candidates should check to ensure that all
pages are printed as indicated and no question(s) is missing*

SECTION A (40 Marks)

Answer ALL the questions in this section.

1. (a) Distinguish between Optical scanners and Magnetic ink scanners. (2marks)

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- (b) The automated input technique where keying of input data is originated is sometimes referred to as: (½ mark)

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2. (a) Explain the difference between digital signal and analog signal in data communication. (2marks)

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- (b) Give two ways in which computers are used in communication industry. (2marks)

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3. (a) Name two special purpose memories found either inside or outside the microprocessor. (2marks)

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- (b) Distinguish between an accumulator and an address register. (2marks)

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4. (a) Define the following terms as used in disk management.

(i) Formatting: (1 mark)

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(ii) Partitioning (1 mark)

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(iii) Compressing (1 mark)

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(iv) Defragmenting. (1 mark)

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(b) Distinguish between multi-tasking and multi-user operating system. (2marks)

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5. (a) Give two importance of internet. (2marks)

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(b) Explain the following terms as they are used in internet.

(i) Sign in (1 mark)

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(ii) Surf (1 mark)

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(iii) Downloading (1 mark)

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6. (a) Define desktop publishing. (1 mark)

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(b) Explain **one** purpose of desktop publishing. (1 mark)

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7. (a) Differentiate between Source program and Object code in programming. (2marks)

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(b) State the **stages** of program development in their logical sequence. (3marks)

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8. Covert 126_8 to Hexadecimal equivalent. (1 mark)

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9. Explain **one** paragraph formatting features. (1 mark)

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10. (a) What is an Information system? (1 mark)

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(b) Give **two** roles of information manager. (2marks)

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11. Explain the following database models. (2marks)

(i) Hierarchical model

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(ii) Relational model.

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12. Give **one** advantage of an electronic spreadsheet over traditional analysis ledger sheet. (1 mark)

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13. Define the term data security. (1mark)

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14. Explain one type of transcription error in data processing. (1mark)

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15. Outline **three** stages of data collection. (½marks)

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SECTION B (60 Marks)

Answer question 16 and any other three questions in this section.

16. Chemweno deposits 8500 shillings in a microfinance company at an interest rate of 15% per annum. At the end of each year, the interest earned is added to the deposit and the new amount becomes the deposit of that year.

- (a) Write an algorithm for a program that would track the growth of the deposits over a period of five years. (6marks)

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(b) Draw a flowchart for the above algorithms. (7marks)

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(c) List **four** Selection Controls used in writing a program. (2marks)

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17. (a) Define the term 'Data integrity' (2marks)

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(b) Give **three** ways in which one would curb threat to data integrity. (3marks)

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(c) Explain the following electronic data processing modes giving relevant examples Where they are used.

(i) Real time processing. (2mark)

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(ii) Distributed data processing. (2mark)

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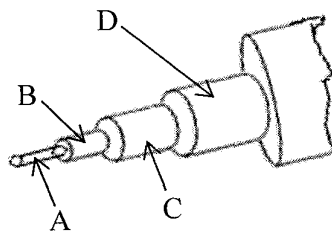
(d) Give **three** components of a computer based information system. (3marks)

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(e) Computer hardware is categorized according to the types of operations it performs. List **three** operations. (3marks)

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18. Study the diagram below and answer the questions that follow.



(a) (i) Name the above cable as used in data communication media. (1mark)

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(ii) Name the parts labeled A, B, C and D (4marks)

A:

B:

C:

D:

(iii) Highlight any **three** advantages of the above cable. (3marks)

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(b) (i) What is an Uninterruptible Power Supply (UPS). (2mark)

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(ii) Explain **two** functions of UPS. (2marks)

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(c) (i) Give **two** advantages of sound output devices. (2marks)

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(ii) Why are CD-ROM and CD-R referred to as WORM? (1mark)

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19. Information and Communication Technology is relatively a new area of study which is advancing. Due to this reason, everyone is expected to keep abreast with the changing trend of Information and Communication Technology (ICT).

(a) (i) Explain how ICT has affected employment. (3marks)

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(ii) Explain **two** health problems that have resulted from prolonged use of computers. (4marks)

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(b) (i) What is artificial neural network? (2marks)

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(ii) Give **two** features (attributes) of neural networks. (2marks)

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(c) Explain characteristics of a system.

(i) Holistic thinking. (2marks)

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(ii) System entropy. (2marks)

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20. (a) (i) Distinguish between a system analyst and a programmer. (2marks)

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(ii) List **two** types of job opportunities that are available in the field of computer hardware. (2marks)

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(b) Highlight any **two** factors you would consider before enrolling for an ICT course in a college. (2marks)

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(c) Give two disadvantages of observation when used in fact finding. (2marks)

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(d) Explain the following changeover strategies.

(i) Parallel changeover. (2marks)

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(ii) Phased changeover. (2marks)

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(e) Explain briefly each of the following in data security.

(i) Firewalls. (1mark)

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(ii) Data encryption.

(1 mark)

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(iii) Sabotage.

(1mark)

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