

Name.....

Index No.

School

451/1

COMPUTER STUDIES

THEORY

Paper 1

Time: 2 ½ Hours

Kenya Certificate of Secondary Education (K.C.S.E)

Instructions To Candidates

- This paper consists of two sections A and B.
- Answer all question in section A
- Answer question 15 is Compulsory and Other Three questions from this section B
- All answers should be answered in the spaces provided on the question paper.

For Examiner's Use Only

Section	Question	Score
A	1 - 14	
B		
Total Score		

*This paper consists of 12 printed pages.
Candidates should check the question paper to ensure that all
pages are printed as indicated and no questions are missing.*

**SECTION A (40MKS)
ALL QUESTIONS IN THIS SECTION**

1. Give any two differences between fourth and fifth computer generations (2mks)

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2. List three ways in which computers are used in education. (3mks)

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3. a) Define the term booting (1mk)

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b) Explain the difference between cold and warm booting. (2mks)

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4. State the use of

a) Tab key (1mk)

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b) home key (1mk)

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5. Distinguish between

(a) Web master and web designer ((1mk)

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(b) Parallel and serial cables (1mk)

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6 a) Define a computer memory (1mk)

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b) Give three examples of special purpose memories (1 ½ mk)

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c) Explain the difference between logical and physical files (2mks)

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7. Perform the following binary operations giving your answer in decimal

a) 11101.11

11111.11 + (2mks)

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b) 1111.11

1101.01 - (2mks)

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8. a) What is search engine ? (1mk)

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b) State three examples of search engine

(1 ½ mks)

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.....
9. a), identify the program control structures represented by the flowchart segments above

i. (1 mk)

ii. (1 mk)

iii. (1 mk)

b. Differentiate between control structure (i) and (ii) (1 mk)

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10. You are provided with the worksheet below study it and answer the questions that follow

	A	B	C	D
1	Books	Pens	Pencils	
2	200	175	60	
3	375	260	460	
4	450	700	511	
5				

a) If cell D1 represents the total value of books pens and pencils. Determine the formulae for the total value of cell D1 used. (1 mk)

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b) If the formula of cell D1 is copied to cell D3. Determine resulting value of cell D3 (1mk)

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c) Give the type of cell referencing that is used in cell D3. (1mk)

11. State the application areas of

a) CAM (1mk)

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b) CAD (1mk)

12. E-mail is becoming preferable means of communication these days, give two Advantages of adopting this technology in work place and at home (2mks)

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13. Give two ways of protecting data in a networked environment. (1mk)

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14. Highlight any four effects of the internet on society today. (4mks)

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SECTION B (60MKS)

ANSWER QUESTION 15, IS COMPULSORY AND ANY OTHER THREE QUESTIONS FROM THIS SECTION.

1 5 a) Define the terms

i) Flowchart (1mk)

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ii Algorithm (1mk)

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iii) Pseudo code (1mk)

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b) The gross salary of employees of Kenya Airways sales agency is based on basic salary and other additional benefits, which is computed as follows: basic salary and other additional benefits, which

i) Employees who have worked for the company for more than five years receive an additional pay of 10% to their basic salary

ii) Monthly salary bonus based on monthly sales of air tickets are rated as shown in the table.

Monthly air tickets sales	Bonus rate (%)
Above 50,000	25
Between 25,000 and 50,000	15
Below 25,000	10

Draw a flowchart for a program that would be used to compute the gross salary then output each employee's basic salary and show all the benefits (9mks).

c) i) What is an array ? (1mk)

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ii) State two properties of an array (2mks)

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16 a) i) What is information system ? (1mk)

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ii) Explain three purpose of information system. (3mks)

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ii) With use of a diagram explain the development of system life cycle (6mk)

b) i) Define system entropy (1mk)

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ii) State two main factors that may lead to system entropy. (2mks)

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c) Explain why HTML is not a true programming language (2mks)

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17 a) i) Define electronic point of sale terminal? (1mk)

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ii) Explain two advantages of using this system. (2mks)

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iii) Give an application areas of this system. (1mk)

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b) List four elements of a network (2mks)

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c) State three types communication media of the following

i) bounded (1 ½ mks)

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ii) unbounded communication (1 ½ mks)

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d) Explain two advantages and two disadvantages of unbounded communication (4mks)

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e) Give any two communication devices required by a network to be fully operational (2mks)

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18 a) State and explain the role of the following

i) Software engineer (2mks)

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ii) Computer trainer (2mks)

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b) Explain the effect of information communication technology in

i) Job opportunities (3mks)

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ii) Environment (3mks)

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iii) Automated production (3mks)

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c) Distinguish between sequential and indexed sequential as used in file organization (2mks)

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19 a) State the application area of

i) Magnetic ink character recognition (1mk)

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ii) Optical mark reader (1mk)

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b) Define the terms

i) **Byte** (1 mk)

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ii) Nibble (1mk)

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c) List any four objects used in the database (2mks)

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d) Explain any two features of word processor (2mks)

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e) Use two's complement method to perform the binary operation below
 $37_{10} - 17_{10}$ (3mks)

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f) Write the BCD code for 29_{10} (1mk)

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g) What is distributed data processing ? (1mk)

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ii) Explain two advantages of distributed data processing in an organization (2mks)

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iii) State one problem of adopting this system in an organization. (1mk)

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