

Name..... Adm No...../.....

Date ..... Candidate's Signature.....

451/1

**COMPUTER STUDIES**

Paper 1

TERM 2 2019

**Time: 2 ½ Hours**

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

**INSTRUCTIONS TO CANDIDATES**

- Write your **name, School** and **index number** in the spaces provided above.
- This paper consists of Two sections **A & B**
- Answer **ALL** the questions in Section **A**
- Question 16 is compulsory
- Answer any **THREE** questions in section **B**
- All answers to **ALL** questions must be written in the spaces provided in the question paper

**FOR EXAMINERS USE ONLY**

SECTION	QUESTION	MAXIMUM MARKS	CANDIDATES SCORE
A	1-15	40	
B	16	15	
	17	15	
	18	15	
	19	15	
	20	15	
TOTAL SCORE		100	

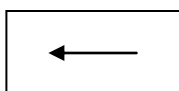
**SECTION A (40 MARKS)**

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

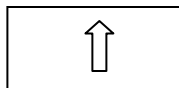
1. State any **two** peripheral devices that are powered by the system unit. (1 mk)

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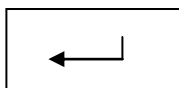
2. The following are symbols of some keys found on the keyboard. Name the keys represented by the symbols. (2 mks)



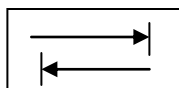
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3. Explain any **three** functions of system software in a computer (3mks)

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4. As a computer student you have been asked to assist in buying an input device. State any **four** factors to consider when buying input devices. (4mks)

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5. i. The arithmetic logic unit, the control unit and the main memory use electrical pathways or links called buses. State and explain the three types of buses. (3mks)

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ii. What is the role of special purpose memories in the microprocessor? (1 mk)

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6. Outline the **three** differences between primary memory and secondary memory. (3mks)

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7. Citing relevant examples state **two** advantages of integrated software as opposed to single purpose. (2mks)

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8. a. Define the term mail merging (1 mk)

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b. Name **two** files that are created in mail merging process (1mks)

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9. (a) Distinguish between a workbook and a worksheet as used in spreadsheets (2mks)

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(b) What is the meaning of “what if analysis” with respect to spreadsheet? (1mk)

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10. Define the following terms in relation to internet

(2 mks)

i). Downloading

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ii). Hyperlink

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11. Benjos was instructed by his teacher while typing a Microsoft word document to replace all the occurrences of the word MS with Microsoft. Highlight the steps to do this (3mks)

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12. What is the difference between logical and physical file? (2mks)

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13. Explain any **three** types of computer processing files. (6mks)

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14. Give a reason why HTML is not considered as a true programming language. (1mk)

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15. (a) Define the following computer crimes

(i) Piracy

(1mk)

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(ii) Industrial espionage

(1mk)

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**SECTION B (60 MARKS)**

*Answer questions 16 (COMPULSORY) and any other three questions in this section*

16. (a) Draw a flowchart for a program that is to prompt for N numbers, accumulate the sum and then find the average. The output is the accumulated totals and the average. (5 mks)

(b) Write a pseudo code for the above program. (4 mks)

(c) Explain **three** types of control structures use in programming. (3mks)

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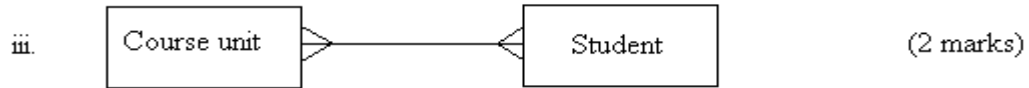
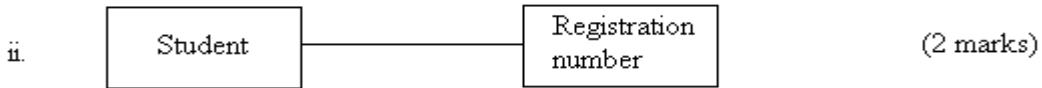
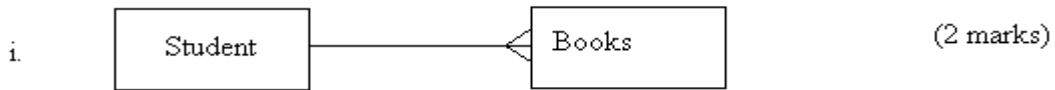
17. (a) i. Subtract  $110_2$  from  $11010_2$  (1mk)
- ii. Find the sum of binary number  $101.101_2$  and  $110.100_2$  (1mk)
- (b) i. Convert binary number  $11010110.1001_2$  into octal number. (1mk)
- ii. Convert binary number  $11010110.1001_2$  into hexadecimal number. (1 mark)
- (c) Convert the following numbers to their decimal equivalent
- i.  $11.011_2$  (2 marks)
- ii.  $0.11011_2$  (2 mrks)
- (d) i. Convert  $3BD_{16}$  to Octal. (3mks)
- ii. Using one's complement, calculate  $5_{10} - 9_{10}$ . use six bit in your calculation. (3mks)

(e) State the following types of transcription errors:  
i. 3455 instead of 3456

(2 marks)

ii. Simth instead of Smith

18. (a) State and explain the following types of relationship as used in database design



(b) i. Explain the difference between primary key and an index key as used in database application  
(2 marks)

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ii. Outline the functions of a primary key (2 marks)

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(c) Describe the following types of database model

i. Network model (2 marks)

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ii. Relational model (2 marks)

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19. (a) i. What is an operating system? (1 mark)

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ii. Maintaining security is one of the functions the operating system. Explain how the operating system maintains security (2mks)

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iii. Explain how an operating system controls I/O devices. (2mks)

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(b) What does the following control measures against computer crime involve? (5 mks)

i. Audit trail

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ii. Data encryption

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iii. Log files

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iv. Passwords

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v. Firewall

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(c) Briefly explain what happen during power on self test (POST) (3 mks)

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(d) Explain the functions of complementary metal-oxide semiconductor (CMOS) (2 mks)

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20. a) State **two** advantages and two disadvantages of the ring network topology (2mks)
- Advantage
- .....
- .....
- Disadvantages (2mks)
- .....
- .....
- b) State **two** roles and responsibilities of each of the following ICT professionals
- i) Webmaster (2mks)
- .....
- .....
- ii) Network Administrator (2mks)
- .....
- .....
- iii) Computer scientists (2mks)
- .....
- .....
- iv) System Administrator (2mks)
- .....
- .....
- v) Software Engineer (2mks)
- .....
- .....
- c) Explain the term accreditation as used in education (1mk)
- .....