

Name

Index Number

School

Candidate's Signature

451/1

Date

COMPUTER STUDIES

PAPER 1

THEORY

2015

TIME: 2½ hours

MAKUENI COUNTY KCSE 2015 PREPARATORY EXAMINATION

Kenya Certificate of Secondary Education

COMPUTER STUDIES

Paper 1

(Theory)

TIME: 2½ hours

Instructions to candidates

- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) This paper consists of **two** sections; **A** and **B**.
- (d) Answer **all** the questions in section **A**.
- (e) Answer question **16** (compulsory) and any other **three** questions from section **B**.
- (f) All answers should be written in the spaces provided.
- (g) This paper consists of 14 printed pages.
- (h) Candidates should check to ensure that all pages are printed as indicated and that 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		

Sponsored by H.E. Prof. Kivutha Kibwana, Governor, Makueni County.

TURN OVER

SECTION A (40 marks)

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

1. (a) State two benefits of using a monitor as an output device when compared to a printer. (2 marks)

(i)

.....

(ii)

.....

- (b) (i) Identify the two types of storage media shown below. (1 mark)



(i)

(ii)

.....

.....

- (ii) Give two advantages of storing data in (ii) above over (i). (2 marks)

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2. Differentiate between the process of moving text and copying text. (2 marks)

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3. What is meant by software copyright? (2 marks)

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.....

.....

4. Differentiate between standard software and user developed software. (2 marks)

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.....

.....

5. Programs and data can be lost through various means. Give two measures that can be taken to avoid loss of data through unauthorized access. (2 marks)

(i)

.....

(ii)

.....

6. (a) Differentiate between a website and a blog. (2 marks)

.....

.....

.....

- (b) State two advantages of being able to use the internet and cell phone to access your bank account. (2 marks)

(i)

.....

(ii)

.....

7. Jane was trying to access her K.C.S.E results online immediately they were released. State three reasons why she might have encountered internet slowdown. (3 marks)

(i)

(ii)

(iii)

8. Use the following graphic below to answer the questions that follow.

```

C:\>dir
Volume in drive C has no label.
Volume Serial Number is CAD1-482C

Directory of C:\

20-Jun-14  10:59 AM    <DIR>          adobeTemp
19-Jun-14  05:50 PM    <DIR>          Intel
14-Jul-09   06:20 AM    <DIR>          PerfLogs
03-Mar-15   02:05 PM    <DIR>          Program Files
03-Jun-15   08:28 PM    <DIR>          Program Files (x86)
19-Jun-14   05:16 PM    <DIR>          Users
03-Mar-15   02:55 PM    <DIR>          Windows
             0 File(s)              0 bytes
             7 Dir(s)  180,431,577,088 bytes free

C:\>

```

- (a) What is the name given to the interface above? (1 mark)

.....

(b) State two limitations of the interface named in (8a) above. (2 marks)

(i)

.....

(ii)

.....

9. (a) Differentiate between power supply unit and interruptible power supply (UPS). (2 marks)

.....

.....

.....

(b) Explain two functions of the UPS. (2 marks)

(i)

.....

(ii)

.....

10. Computer aided learning (CAL) also known as computer assisted learning involves use of computers in education and training. State any three benefits of CAL to learning institutions. (3 marks)

(i)

.....

(ii)

.....

(iii)

.....

11. A student from Msingi Bora Secondary School wanted to know the storage media that could be used in the following file organization methods. State them. (2 marks)

(a) Serial

.....

(b) Direct

.....

12. Mwikati attempted to link two tables during database design. Mention two conditions that must be satisfied for the linking to be complete. (2 marks)

(i)

(ii)

13. Field properties specify finer details related to fields and table entries expected. Differentiate between validation rule and validation text as used in databases. (2 marks)

.....

.....

.....

14. Operating systems differ in terms of “look and feel” but they basically handle information in the same way. Give **three** factors that dictate how an operating system organizes information. (3 marks)

(i)

(ii)

(iii)

15. What do you understand by the term plug and play as used in computing? (1 mark)

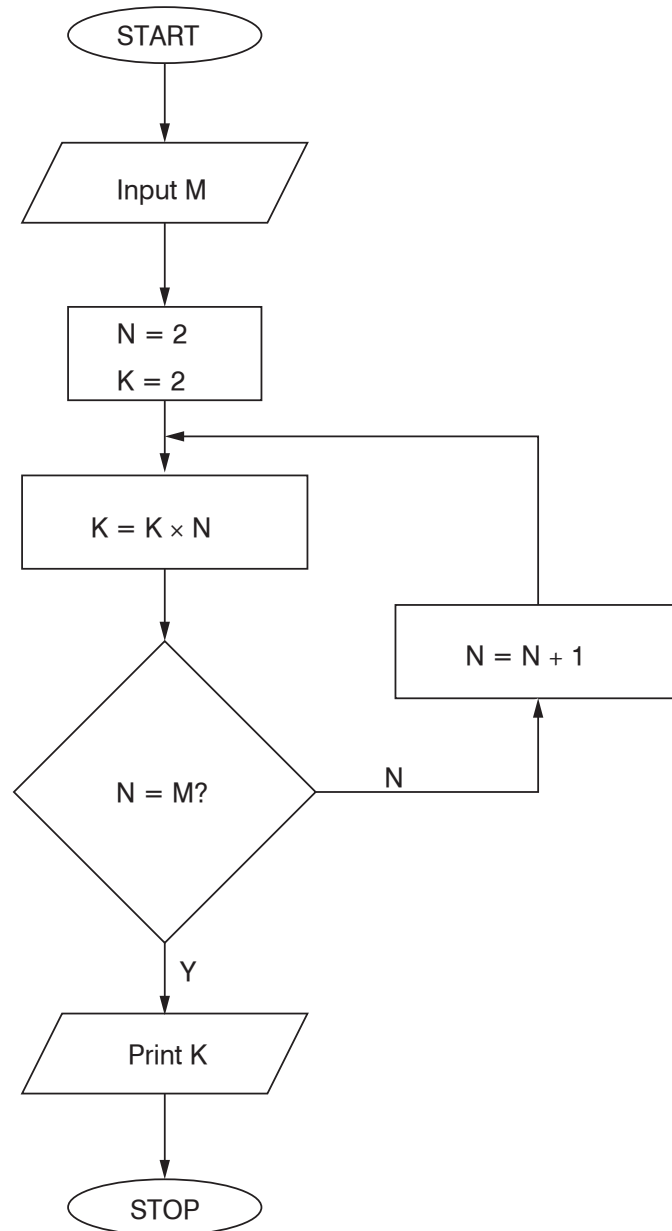
.....

.....

SECTION B (60 marks)

Answer question **16** and any other **THREE** questions from this section.

16. Study the flow chart below and answer the questions that follow.



(a) What would be the output if the value of M at input was:

(i) 4?

(2 marks)

(ii) 2?

(2 marks)

TURN OVER

(b) Write a pseudocode that does the same thing as the flow chart above. (7 marks)

(c) Modify the flow chart to sum up all the values of K calculated. (4 marks)

17. Makuu School shop which sells foodstuffs, books, stationery, etc. has a manual sales system. It is felt that it would be advantageous to computerize the system to make accounting, stock control and stock reordering more efficient.

(a) Explain each of the following steps in system development and implementation.

(i) Feasibility study

(1 mark)

.....

.....

(ii) Changeover

(1 mark)

.....

.....

(iii) Documentation

(1 mark)

.....

.....

(b) The system developers have recommended a batch system for order processing and interactive system for enquiry. Distinguish between batch and interactive processing. (2 marks)

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.....

.....

.....

(c) Give **two** reasons why the clerical staff at Makuu shop might have been uneasy with the prospect of computerization. (2 marks)

(i)

(ii)

(d) State and explain any **two** careers associated with development of new computer systems.

(4 marks)

(i)

.....

(ii)

- (e) A team of experts developed the program quickly using rapid application development technique. Describe this technique giving **one** advantage and **one** disadvantage. (4 marks)

.....

.....

Advantage

.....

.....

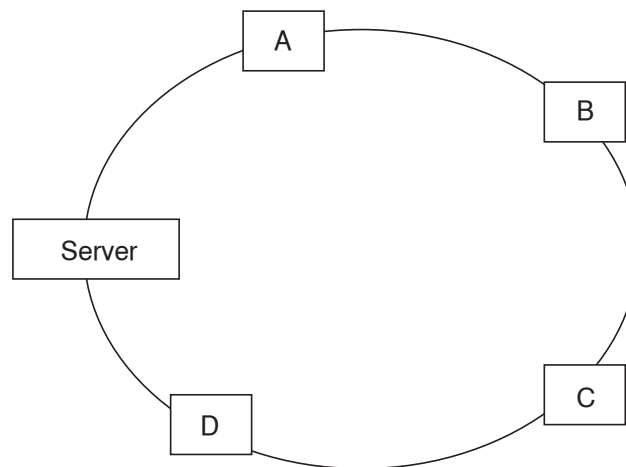
Disadvantage

.....

.....

18. (a) (i) Identify the topology below.

(1 mark)



.....

- (ii) Give one disadvantage of the above topology.

(1 mark)

.....

- (b) How can attenuation be rectified?

(1 mark)

.....

- (c) Differentiate between Data Terminal Equipment and Data Communication Equipment, stating two examples of each. (4 marks)

.....

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.....

.....

(d) Outline two advantages of using fibre cables. (2 marks)

(i)

(ii)

(e) (i) Define the term 'noise' in data transmission. (1 mark)

.....

.....

(ii) Name two sources of noise in data transmission. (2 marks)

(a)

(b)

(f) State three functions of operating systems that are unique to network operating systems. (3 marks)

(i)

(ii)

(iii)

19. Consider the MS Excel extract below.

F5 fx								
	A	B	C	D	E	F	G	H
1	JARSONS INTERNATIONAL SCHOOL							
2	NAME	ADMN	KIS	MATH	ENG	TOTAL	MEAN	POSITION
3	Jacob	2030	80	85	47			
4	Mary	2056	62	26	49			
5	Hauston	2045	78	45	85			
6	Ken	2086	96	95	94			
7	Oron	2048	76	57	68			

- (a) Give the reference of the **active cell** in the extract above. (1 mark)
-
- (b) Write down a **function** that can be used to get the mean mark for Mary. (2 marks)
-
- (c) Write down a function that can be used to extract the **highest mark in math**. (2 marks)
-
- (d) Kamau entered the formula = A5 + B5 + C5 + D5 + E5 in cell F5. What answer did the computer display? (2 marks)
-
- (e) A student used formulae to compute the **mean** and **position**. He also changed the contents of the cell **D3**. State any other two cells whose values should change automatically. (2 marks)
-
-
- (f) Differentiate between sorting and filtering data in spreadsheets. (2 marks)
-
-
- (g) What is a chart wizard in spreadsheets? (1 mark)
-
-
- (h) Describe the three components of a spreadsheet. (3 marks)
-
-
-
-
-
-
20. (a) Explain **three** common coding schemes used to represent characters in computing. (3 marks)

(i)

.....

(ii)

.....

(iii)

.....

(b) Perform the following arithmetic operations.

(i) $19_{10} - 4_{10}$ using ones complement

(4 marks)

(ii) $AD_{16} - 1011_2$ using twos complement giving your answer in base 16.

(5 marks)

(c) Convert the following number to its binary equivalent.

(3 marks)

10.375_{10}