



# MASENO SCHOOL

Kenya Certificate of Secondary Education 2020

451/1-

## COMPUTER STUDIES

-Paper 1

(THEORY)

DEC. 2020 - 2 ½ hours

**451/1-Computer Studies- P1**

Friday: 11/12/2020

Time 11:00am – 1:30 pm

## THE MASENO SCHOOL MOCK

Name ..... Index Number.....

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

### INSTRUCTIONS TO CANDIDATES

1. Write your name, school and index number in the spaces provided above.
2. Sign and write date of examination in the spaces provided above.
3. This paper consists of TWO sections A and B.
4. Answer ALL questions in section A.
5. Answer question 16 and any the THREE questions from section B
6. ALL answers should be written on spaces provided on the question paper
7. This paper consists of 12 printed pages
8. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

### FOR EXAMINERS USE ONLY

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

*This paper consists of 12 printed pages.*

*Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing.*

**SECTION A (40 MARKS)**

**Answer ALL the questions in this section**

1. Explain the following input/ output terms as used in computer systems. Give an example for each (4marks)

(a) Read

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.....

(b) Write

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2. Brian uses a browser to research information for her business Give **three** functions of a browser. (3marks)

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3. List down **three** types of computer viruses (3marks)

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4. Define the following terms as used in disk management

(i) Partitioning (1mark)

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(ii) Defragmenting (1mark)

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5. Leonard has a new laser printer to print letters for his business. Leonard connects his printer to his computer using the USB port. Give **three** benefits of using the USB port to connect the printer to the computer.(3marks)

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6. State **Three** ways in which your school librarian can use a computer (3marks)

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7. Distinguish between simulation and virtual reality (2marks)

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8. Give the **denary** value of each of the three 12-bit binary values. (3marks)

(i) 000000001100

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.....

(ii) 000011000110

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(iii) 010011000001

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9. (a) One of the challenges that computer organizations face is unauthorized access to computer systems. Distinguish between logical access and physical access. (2marks)

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(b) State **One** way in which each of the types of unauthorized access to computersystems can be controlled. (2marks)

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10. Give **Two** possible ways of fitting the document in one page (2marks)

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11. Differentiate between real time processing and batch processing giving examples where each could be used (2marks)

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12. Give **Two** advantages of an electronic spreadsheet over traditional analysis ledger sheet (2marks)

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13. List **Four** E-mail services (2marks)

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14. Clive has a laptop computer that he uses for his business. He enters a username and password to log in to his laptop. Clive is worried about spyware being used to find out his username and password. Describe how spyware could be used to find out Clive's username and password. (3marks)

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15. Suggest **Two** possible causes of data and program loss in computer (2marks)

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(b) Draw a flowchart for the above algorithms

(5marks)

(c) Program documentation is writing of support materials explaining the program.

State **Three** types of program documentation

(3marks)

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17 (a) Six hardware devices are shown. Tick (✓) to show if each hardware device is an **Input**, **Output** or **Storage** device. (3 marks)

Tick (✓) to show if each hardware device is an **Input**, **Output** or **Storage** device

Hardware device	Input (✓)	Output (✓)	Storage (✓)
Solid state drive (SSD)			
Sensor			
Headphones			
Microphone			
USB flash drive			
Actuator			

- Solid state drive (SSD)
- Sensor
- Headphones
- Microphone
- USB flash drive
- Actuator

(b) Genevieve writes a paragraph about a barcode reader. Using the list given, complete the paragraph. Not all terms in the list need to be used.

- actuators
- binary
- black
- input
- microprocessors
- output
- sensors
- storage
- white

A barcode reader is an..... device. It shines a light at the barcode and the light is reflected back. The..... bars in the barcode reflect less light than the..... bars..... are used to capture the amount of reflected light and the different reflections are converted to ..... values.

c) Differentiate between the following terms as used in operating system. (4marks)

i) Interrupt handling

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ii) Error handling

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d) Identify the following interfaces (2marks)

i)



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iii)



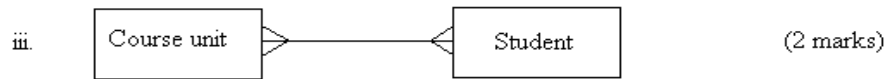
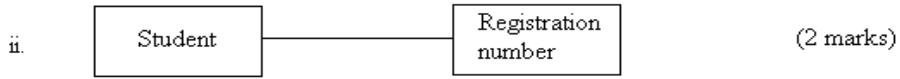
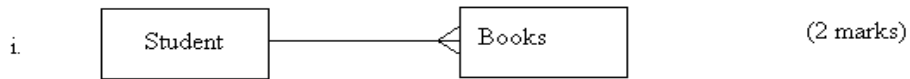
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e) Which of above cables is faster? (1mark)

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



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

(3 marks)

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ii. What is referential integrity

(2 marks)

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(c) Explain the following features of a report layout in design view

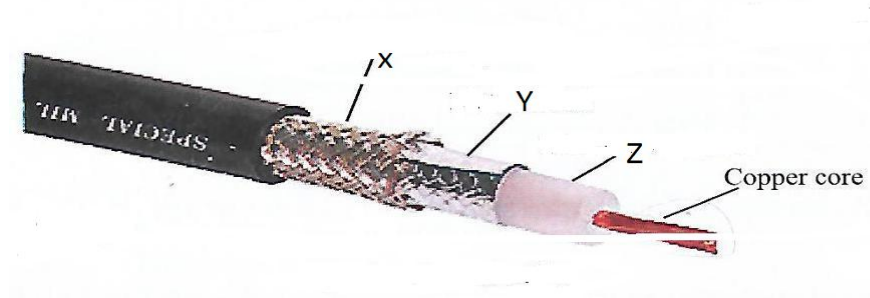
i. Report header

(2 marks)

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



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

.....

(ii) Name the parts labeled X, Y and Z (3marks)

X .....

Y.....

Z.....

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

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(b) (i) Explain the VSAT technology (2marks)

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(ii) Explain the differences between the Ethernet topology and token ring topology. (2marks)

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(c) (i) Explain the four main components of satellite communication systems (4marks)

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**20.** (a) i. What is system entropy? (1 mark)

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ii. Explain four factors to consider when designing a file during requirement specification (4marks)

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(b) Explain the following types of systems maintenance (4marks)

i. Perfective maintenance

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ii. Adaptive maintenance

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(c) State the advantages of questionnaire as mode of information gathering

(3 marks)

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(d) State three benefits of system prototyping

(3 marks)

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**THIS IS THE LAST PAGE**