

THE KENYA NATIONAL EXAMINATIONS COUNCIL
Kenya Certificate of Secondary Education

451/1

– **COMPUTER STUDIES** – Paper 1

(THEORY)

Nov. 2019 – 2½ hours



Name Index Number

Candidate's Signature Date

208

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** and any other **three** questions from section **B**.
- (f) All answers should be written in the spaces provided on the question paper.
- (g) This paper consists of **16** printed pages.
- (h) Do **not** remove any pages from this booklet.
- (i) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (j) Candidates should answer the questions in English.

A011

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1-15	40	
B	16	15	
		15	
		15	
		15	
Total Score			



919282



SECTION A

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

1. State the hardware technological differences between the second generation and the third generation computers. (2 marks)

.....
.....
.....

- 208 2. State two ways of ensuring proper ventilation in a computer room. (2 marks)

.....
.....
.....

3. Convert the decimal number 20.373 to its binary number system equivalent. (3 marks)

.....
.....
.....
.....
.....
.....
.....
.....
.....

A011

4. Peter has installed internet in his home computer in order to use it for browsing. State **three** ways in which he would prevent viruses from infecting the computer. (3 marks)

.....

.....

.....

.....

.....

5. State **three** ways of transforming a picture embedded in a Desktop Publishing programme in order to fit in a designated space on a document. (3 marks)

.....

.....

.....

.....

6. Differentiate between a *line printer* and a *page printer* as used in computers. (2 marks)

.....

.....

.....

.....

.....

.....

7. Describe *virtual reality* as used in computers. (2 marks)

.....

.....

.....

.....



8. State the function of each of the following features of an email software:

(a) Inbox (1 mark)

.....
.....
.....

(b) Draft (1 mark)

.....
.....
.....

208

9. (a) Explain the term *toggle key* as used in computer keyboard. (2 marks)

.....
.....
.....
.....

(b) List examples of toggle keys on a computer keyboard. (2 marks)

.....
.....
.....

A011

10. State the type of error that would occur in data processing for each of the following cases:

(a) Entering the number 315 instead of 351. (1 mark)

.....

(b) Entering the text "Kwys" instead of "Keys". (1 mark)

.....



11. State **four** factors to consider when selecting an input device for use in a computer room. (4 marks)

.....

.....

.....

.....

.....

208

12. State **three** functions of Un-interruptible Power Supply (UPS). (3 marks)

.....

.....

.....

.....

.....

A011

13. Distinguish between a *page break* and a *column break* as used in a word processor. (3 marks)

.....

.....

.....

.....

.....



14. State three factors to consider when selecting an operating system to instal in a computer. (3 marks)

.....

.....

.....

.....

.....

208 15. Differentiate between *analogue data* and *digital data* as used in computers. (2 marks)

.....

.....

.....

.....

.....

A011



SECTION B

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

16. (a) Explain the term *dry running* as used in program development. (2 marks)

.....

.....

.....

.....

(b) Explain **three** properties of an algorithm. (6 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

208

A011



- (c) To qualify to get a driving license, an applicant must be 18 years or over. Ten candidates applied for the driving license test. Draw a flow chart that would read the name and age of an applicant and display the names of those who qualify. (7 marks)

208

110

17. (a) State **four** outcomes that may result from using incorrect requirement specifications during systems development. (4 marks)

.....

.....

.....

.....

.....

.....

.....

(b) A school opted to use direct change over approach when installing a new system. Explain **three** challenges that the school may face as a result of this approach. (6 marks)

.....

.....

.....

.....

.....

.....

.....

(c) State **three** reasons that may lead an organisation to instal an intranet. (3 marks)

.....

.....

.....

.....

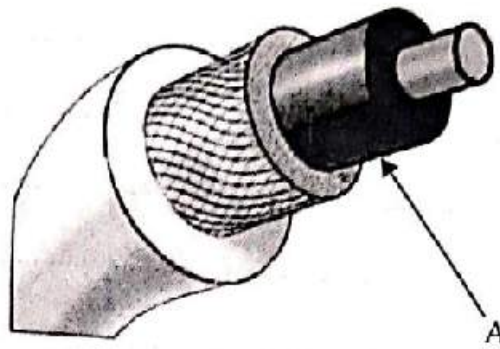
203

A011



(d) The figure below shows a coaxial cable. State the function of the part labelled A.

(2 marks)



208

.....

.....

.....

.....

18. (a) State three hardware devices that may be required to connect a computer to an existing local area network.

(3 marks)

A011

.....

.....

.....

.....

.....

(b) A publisher intends to use a desktop publishing programme to create a publication which is to have many graphics. State three ways in which the graphics may be acquired for this purpose.

(3 marks)

.....

.....

.....

.....

.....

(c) Interpret each of the following spreadsheet formula:

(i) =countif(D2:D9, ">"&B4)

(2 marks)

.....
.....
.....
.....

(ii) =sumif(B3:B11, "4M", D3:D11)

(2 marks)

.....
.....
.....
.....
.....
.....
.....
.....

208

A011



(d) (i) The following are the fields of products table in a database created to store records of products manufactured in a factory:

- product number
- product name
- price
- product description

I. State the appropriate data type for each field. (2 marks)

.....

.....

.....

.....

II. State three properties to be put in place during table design to ensure integrity of the data entered. (3 marks)

.....

.....

.....

.....

208

A011



19. (a) Explain **three** features of a graphical user interface as used in computers. (6 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(b) State the function of each of the following computer keyboard keys:

(i) Caps Lock (1 mark)

.....

.....

.....

(ii) Shift (1 mark)

.....

.....

.....

(iii) Home (1 mark)

.....

.....

.....

208

A011



(c) Using two's complement notation, determine the value of the operation $25_{10} - 29_{10}$ (6 marks)

208

A011

20. (a) Distinguish between *Computer Aided Instruction (CAI)* and *Computer Aided Learning (CAL)*. (4 marks)

.....

.....

.....

.....

.....

.....

.....

.....

(b) (i) State four activities that may be carried out when disposing off an old system in an organisation. (4 marks)

.....

.....

.....

.....

.....

.....

.....

(ii) State four ways of getting user specifications during systems design. (4 marks)

.....

.....

.....

.....

.....

.....

