

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

611 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.**

For Examiner's Use Only

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

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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)

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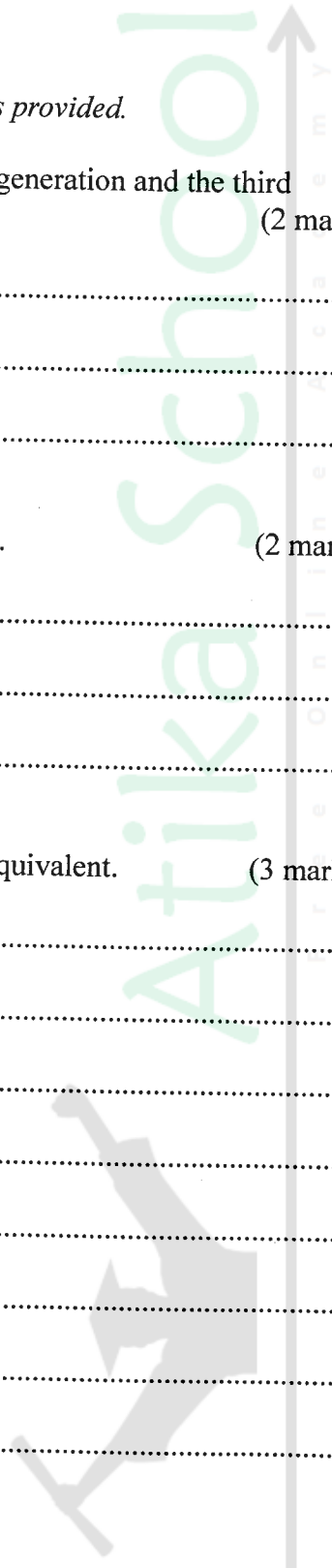
2. State **two** ways of ensuring proper ventilation in a computer room. (2 marks)

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

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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)

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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)

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

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

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

(a) Inbox (1 mark)

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(b) Draft (1 mark)

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

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

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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)

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

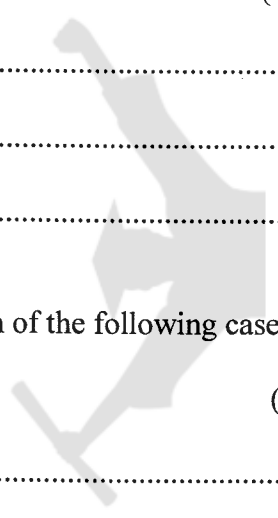
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11. State **four** factors to consider when selecting an input device for use in a computer room. (4 marks)

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

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

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

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

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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)

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

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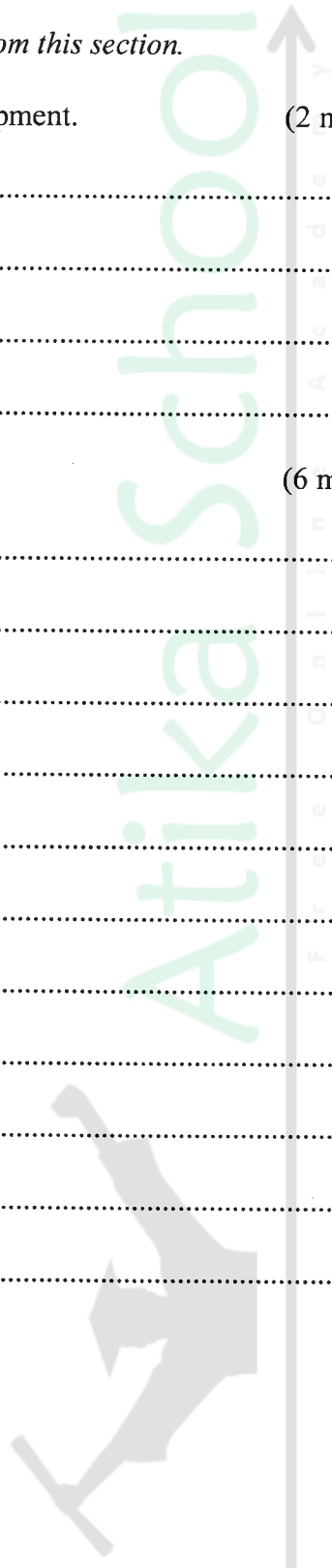
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- (c) To qualify to get a driving license, an applicant must be 18 years or over. Ten candidates applied for the driving license test. Draw a flow chart that would read the name and age of an applicant and display the names of those who qualify. (7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

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

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(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)

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

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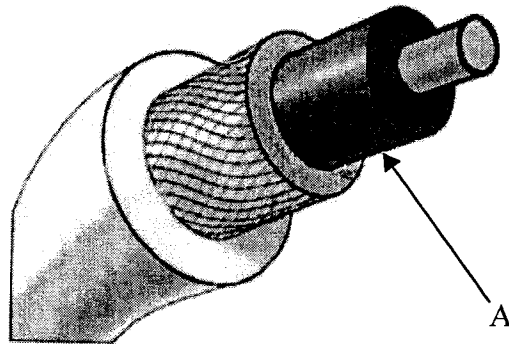
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- (d) The figure below shows a coaxial cable. State the function of the part labelled A.

(2 marks)



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18. (a) State **three** hardware devices that may be required to connect a computer to an existing local area network. (3 marks)

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- (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)

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(c) Interpret each of the following spreadsheet formula:

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

(2 marks)

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

(2 marks)

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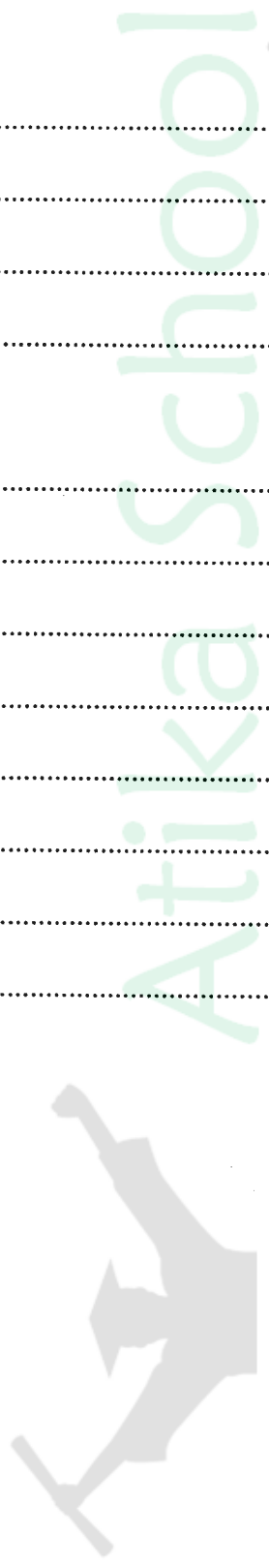
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(d) (i) The following are the fields of products table in a database created to store records of products manufactured in a factory:

- product number
- product name
- price
- product description

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

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

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

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

(i) Caps Lock (1 mark)

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(ii) Shift (1 mark)

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(iii) Home (1 mark)

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

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

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

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- (c) State **three** benefits gained from the advancement in technology in the music industry. (3 marks)

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