

Name:School.....

Adm No.Sign.....

451/1
COMPUTER STUDIES
Paper 1 (Theory)
2 ½ Hours

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

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- Answer all the questions in section A
- Answer question 16 and any other THREE questions from section B.
- All answers should be written in the spaces provided on the question paper.

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Section	Question	Candidate's Score
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
TOTAL SCORE		

*This paper consists of 11 printed pages
Candidates should check the question paper to ensure that all the printed pages are printed as indicated
and no questions are missing.*

SECTION A (40MKS): Answer all questions in this section

1. (a) Give any TWO uses of a joystick (2mks)

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(b) Define what direct data capture device is (1mk)

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2. State the meaning of computer malware (1mk)

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3. (a) Differentiate between cropping and resizing as used in DTP. (2mks)

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(b) Assume that cell F5 to F10 in a spreadsheet contains numeric value of salary earned by some workers and cell F12 contains the value of 5%. Write a formula that will be used to increase the value stored in cell F5 by 5 percent; (3mks)

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4. State **THREE** application areas of speech output devices (3mks)

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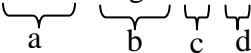
5. Outline **TWO** purposes /uses of optical disks (2mks)

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6. Differentiate between distributed processing and multi-processing (2mks)

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7. Identify the underlined parts of the following email address: alicen@gmail.co.ke. (2mks)



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8. (a) Distinguish between READ and WRITE as used in storage media. (2mks)

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(b) State TWO functions of Inter Record Gap (IRG) in magnetic tapes. (2mks)

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9. Define pixels as used in monitor (2mks)

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10. Give an explanation why computer laboratory should have (2mks)

i. Good ergonomics

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ii. Uninterruptible power supply

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11. Highlight two measures that need to be put in place to avoid risks associated with electric shock (2mks)

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12. a) Explain two functions of network servers (2mks)

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b) i) Define the term crosstalk as used in networking (2mks)

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ii) Explain briefly how the token ring network functions (2mks)

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13. State two disadvantages of robots in an industry (2mks)

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14. Explain two parts of a task bar (2mks)

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15. Describe TWO elements of Graphical User Interface (2mks)

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b) Design a flowchart for the above case.

(7mks)

17. a) Distinguish between physical and logical topology, giving an example in each case.(2mks)

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b) High Height Academy wanted to network computers in their school's computer Laboratory so that they can share resources. The computer laboratory has 30 computers. The schools' network administrator wanted all computers on the network to act as servers and clients at the same time where there was no dedicated server. The computers and other devices were each to be connected to a common **switch**.

i) Identify the category of local area network that was proposed by the network administrator.

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ii) State two disadvantage associated with the proposed network category. (2mks)

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iii) What category of LAN would you advice the administrator to use and why? (3mks)

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iv) Identify the type of topology to be used in the networking and state two advantages of this network topology. (3mks)

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v) Identify **four** resources that will be shared on the network. (2mks)

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c) List **two** disadvantages of fiber optic cable. (2mks)

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18. a) List **four** ways in which data integrity can be compromised. (4mks)

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b) Distinguish between Logical file structure and physical file structure. (2mks)

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c) Describe biometric security. (2mks)

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d) Give **four** general rules that must be observed to keep within the law when working with data and information. (4mks)

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e) Describe Computer based simulation, giving an area of application and an advantage for simulation program. (3mks)

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19. a) A teacher had a document of 20GB in a hard disk. He wanted to transfer the document into a CD of 700MB. Determine the number of CD's he requires. (3mks)

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b) Discuss the two types of Compact disks. (4mks)

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c) State any **three** disadvantages of a magnetic diskette. (3mks)

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d) Highlight **three** characteristics of a flash memory. (3mks)

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e) Discuss any two functions of secondary devices (2mks)

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20. a) Compute the value of x in the following expressions

(i) $24.35_{10} = X_2$

(3mks)

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(ii) $6AB_H = X_{10}$

(2mks)

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(b) Using twos complements compute the following using 8 bits binary

(4mks)

$25_{10} - 20_{10}$

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c) Subtract the following binary numbers using the One's Complement method.

(3mks)

$(11101)_2 - (1010)_2$

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d) Convert 6057_8 to Hexadecimal.

(3mks)

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