

Name..... Adm. No.....

Date Student's Signature.....

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
MARCH 2013
TIME: 2 ½ HRS

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

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
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Instructions to candidates

1. This paper consists of TWO sections; A and B
2. Answer all questions in sections A.
3. Answer question 16 and any other THREE questions from section B.

FOR EXAMINERS USE ONLY

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

This paper consists of 10 printed pages.

Candidates should check to ensure that all pages are printed as indicated and no question is missing.

SECTION A (40 MARKS)

ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

1. (a) Define the term document reader as used in relation to scanners. (1mk)

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- (b) The diagram below shows coded data that could be input into a computer.



- (i) Name the device that can be used to input the above data (1mk)

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- (ii) Where would the above method of input be applied? (1mk)

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- (iii) For the application you have given above (b)(ii), state TWO kinds of information that this type of input may contain. (2mks)

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2. (a) Give THREE differences between a laser printer and dot-matrix printer (3mks)

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3. Describe a speech synthesis system (2mks)

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4. (a) Differentiate between system software and application software as used in computer systems (2mks)

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(b) Explain any THREE functions of system software in a computer (3mks)

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5. Define the term firmware as used in computing (1mk)

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6. State any THREE ways in which an organization can acquire software (3mks)

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7. (a) Define the term text wrapping as used in word processors (1mk)

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(b) Give any TWO advantages of word processors over a conventional typewriter (2mks)

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8. Give any THREE functions of the central processing unit (CPU) (3mks)

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9. State the difference between a data bus and a control bus as used in relation with the CPU (2mks)

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10. (a) Distinguish between a workbook and a worksheet as used in spreadsheets (2mks)

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(b) What is the meaning of “what if analysis” with respect to spreadsheets ? (1mk)

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11. Below is an address used to access an internet file. What name is given to the underlined address? (1mk)

http: www.mokasa.com/styleguide/advent.html

12. An organization wishes to get connected to the internet so as to enhance its business operations. State any TWO factors they should consider before subscribing to an internet service provider (ISP). (2mks)

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13. Describe the following terms as used in data security

(i) Audit trail (1mk)

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(ii) Proxy server (1mk)

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14. State any THREE harmful effects of computer viruses (3mks)

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15. Give limitations of primary memory over secondary storage (2mks)

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SECTION B (60 MARKS)

ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS FROM THIS SECTION

16. (a) State any THREE standard coding schemes used in computing and electronic systems. (3mks)

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- (b) Using TWO's complement, perform the following arithmetic leaving your answer in binary form (3mks)
 $10_{10} - 13_{10}$

- (c) (i) A student appears in an examination, which consists of total 10 subjects having maximum marks of 100. The admission number of the student, name, and the marks obtained in various subjects, are supplied as input data. Draw a flowchart for the algorithm to calculate the percentage marks obtained by the student in this examination, and to print it along with the name and admission number. (6mks)

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(ii) State THREE advantages of using a flowchart when developing a program. (3mks)

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17. (a) State any THREE reasons why DVDs are increasingly being used today (3mks)

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(b) (i) State any TWO advantages of using a primary key in database management systems (2mks)

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(ii) Give ONE importance of data types in database systems (1mk)

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(c) (i) State ONE disadvantage of using rapid application development (RAD) in system development. (1mk)

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(ii) Describe ‘system entropy’ as used in system development (2mks)

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(iii) State any TWO information contained in a system user manual. (2mks)

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(d) Outline any THREE limitations of low level programming languages (3mks)

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(e) Define the term dry-running as used in programming (1mk)

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18. (a) (i) Explain ONE way in which an operating system manages devices on a network (1mk)

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(ii) Give any THREE reasons why command line operating systems are unpopular today (3mks)

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(b) State any THREE advantages of electronic spreadsheets (3mks)

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(c) (i) What is the meaning of desktop publishing (1mk)

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(ii) List TWO types of desktop publishing software (2mks)

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(d) (i) Distinguish between data validation and data verification (2mks)

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(ii) State any THREE application areas of real-time processing system (3mks)

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19. (a) Define what is meant by the following terms:

(i) Virtual reality (1mk)

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(ii) Expert systems (1mk)

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(b) (i) Outline any FOUR advantages of embracing ICT in automated production (2mks)

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(ii) Explain how the use of ICT may negatively affect the environment (2mks)

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(c) (i) Explain ONE way in which the World Wide Web enhances multimedia (2mks)

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(ii) State FOUR interactive sensory equipment used in virtual reality (2mks)

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(d) (i) What is data communication? (1mk)

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(ii) Distinguish between guided media and unguided media as used in communications (2mks)

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(e) State any TWO advantages of having a wireless fidelity (WIFI) in a school environment (2mks)

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20. (a) Define information system (1mk)

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(b) Explain any THREE ways in which computers are applied in traffic control (3mks)

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(6mks)

(1mk)

(2mks)

(2mks)

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