Name…………………………………. Index Number……………………… Class:..................
451/1
Computer Studies
Paper 1
(THEORY)
July 2013
2½ hours

KENYA NATIONAL EXAMINATION COUNCIL
SUPA JET EXAMINATION
Computer Studies
Paper 1
(THEORY)
2½ hours

INSTRUCTIONS TO CANDIDATES

Write your name and index number in the spaces provided above.
*This paper consists of **TWO** sections; **A** and **B***
*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.

Section	Question	Candidates Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
TOTAL SCORE		

1. Define the following terms   (3 Marks)
   i)   Computer Laboratory

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   i)   Microcomputer

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   ii)   Give two characteristics attributed to microcomputers

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2. As a student was entering into a computer laboratory he realized that he had broken three rules that a student should observe while getting in. As a captain remind him on any two rules that he should have observed while getting into the laboratory.   (2Marks)

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3. a) Your father has sent you to assist him buy computer software from Mitsimu Computers in Nairobi. As a computer student how will you explain the meaning of the following terms before acquiring the software and how will it help you acquire the best software?   (2 Marks)
   i.   Authenticity

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   ii.   Compatibility

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   b) Give the difference between Optical tape and Optical Card   (2 Marks)

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4. IEBC is a company in Kenya that deals with printing geographical maps. As a computer technician which type of an output device would you advice them to acquire?   (1Mark)

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   d)   i) Scanners are categorized based on the technology used in capturing data. Name them: (1Mark)

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ii) Distinguish between a touch screen and an interactive board (2Marks)

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iii)   State any two types of flat screen monitors (1Mark)

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5. a) Define the following terms: (2 Marks)
    i)   Deadlock

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    ii)   Interrupt request

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    b) i) What is a file as used in Operating system? (1Mark)
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    ii) State four details that must be found in every file (2 Marks)
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6.   Mr. Mzungu a teacher in Mombasa polytechnic runs a small business within his premises. His work includes writing CDs and troubleshooting computer hardware. In his laptop files are scattered all over his computer screen. Which technique will you advice him to use in order to bring files together? Differentiate it with disk partitioning. (3 Marks)

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7. a) Define the following forms of unauthorized access of data (2Marks)
    i)   Industrial Espionage

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    ii)   Surveillance

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    b) Give two control measures against unauthorized access (2Marks)
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8. What is a translator? (1 Mark)

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ii) Explain any two types of translators (2Marks)

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9. State three circumstances that necessitates development of a new system (1½Marks)

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10. Name four factors to consider when designing a file (2Marks)

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11. I) Differentiate between system flowchart and a program flowchart (2Marks)

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ii) Outline any two contents of a user manual (½Mark)

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12. a) What is a communication medium as used in networking (1Mark)

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13. Name the two types of communication medium (1Marks)

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14. Give the difference between the following: (3 Marks)

      i)   Router and brouter

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      iii)   Intelligent hub and switching hub

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      iv)   Modems and codecs

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15. State two advantages of automated production (1 Mark)

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16. The following grading system was adopted in pioneer Aviation School, if the student scores below 40 he is asked whether he want to continue or go home, if he wants to continue he is sees the principal otherwise he goes home.

MARKS	GRADE
70-100	A
60-69	B
50-59	C
40-49	D
BELOW 40	E

Perform the following and ensure marks outside the range aren't accepted.

a. Using CASE selection write a pseudo code to solve the above problem. (5 Marks)

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b. Draw a flowchart to solve the above problem. (5 Marks)

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c. State three factors to consider when developing a pseudo code. (3 Marks)

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d. I) Distinguish between source code and object code. (1Marks)

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ii) Mention two ways of detecting errors in a program (1 Marks)

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17. I) An employer keeps the following employee details in his database. Empno, Empname, Dept, DateEmployed, Salary and status.

a. Name the most appropriate primary key and give a reason. (2 Marks)

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b. For each item in the student details above, indicate its most appropriate data type as used in database. (3 Marks)

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c. Explain why input screens are better data entry designs than entering data directly to the table.

(2 Marks)

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d. I) Name and describe any two types of database models. (4 Marks)

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ii) Give two functions of a system analyst. (2 Marks)

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iii) Differentiate between a *software engineer* and a *computer engineer*. (2 Marks)

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18. a) Using 8 bits binary notation, find the two's complement perform the following arithmetic operations.

(6 Marks)

a. $34_{10} - 33_{10}$

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b. $28_{10} - 12_{10}$

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i) Work out the decimal equivalent of the following binary numbers. (6 Marks)

1. 101.11_2.

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2. 111101_2.

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c) Using illustrations, explain how data is represented on a magnetic media (3Marks)

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19. a) i) What is the difference between a paste board and control palette as used in Desktop Publishing?

(2Mark)

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ii) Name three tool bars, other than formatting and standard tool bar on the publisher window (3Marks)

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b) Name three different ways of creating a new publication (3 Marks)

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c) i) Explain how you would go about putting the photograph of your local sports hero on a publication

(2Marks)

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ii) Give two examples of publications created with DTP and briefly explain why desktop publishing is the

better option for the task. (3 Marks)

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d) Why is it a good practice to print preview a document before printing it? (2Marks)

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20. a) Name three ways of representing a signed binary number (3Marks)

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b) Name two types of computational errors (1Marks)

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c) State and explain three types of data processing modes. (6Marks)

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d) i) There are three target groups of any type of documentation. Name them.   (3Marks)

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ii) Distinguish between file conversion and a file attribute   (2Marks)

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