NAME: ……………………………………………………… ADM NO: …...……………………….

SIGNATURE: ….……………………………………… DATE: ……………………………………

**451/1**

**COMPUTER STUDIES**

**PAPER 1**

**THEORY**

**TIME 2 ½ HOURS**

 **FORM 4 LANJET EXAMINATIONS**

 **MARCH/APRIL 2024**

 **Kenya Certificate of Secondary Education (KCSE)**

COMPUTER STUDIES

PAPER 1

THEORY

**INSTRUCTION TO CANDIDATES**

* Write your name and Admission number in the spaces provided above
* *This paper consists of* ***two*** *sections A and B.*
* *Answer* ***ALL*** *questions in section A.*
* *.Answer question* ***11*** *and any other* ***THREE*** *questions from section B.*
* *All answers should be written in the spaces provided on the question paper.*
* This paper consists of **12** printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.

**For Examiners Use Only**

|  |  |  |
| --- | --- | --- |
| **SECTION** | **QUESTIONS** | **CANDIDATE’S SCORE** |
| **A** | **1-15** |  |
| **B** | **16** |  |
| **17** |  |
| **18** |  |
| **19** |  |
| **20** |  |
| **TOTAL SCORE** |  |

**SECTION A**

Answer **All** the questions in this section in the spaces provided

1. State **two** reasons why it is advisable to follows the correct procedure when shutting down the

 computer at all times. (2 marks)

2. Name and give the function of the following key symbols.

 (i) (1 mark)

 

 Name…………………………………………………………………………………………………..

 Function……………………………………………………………………………………………….. .………………………………………………………………………………………………………...

 (ii) (1 mark)

 

 Name…………………………………………………………………………………………………..

 Function……………………………………………………………………………………………….. .………………………………………………………………………………………………………...

3. A computer virusis a destructive program that attaches itself to other files and installs itself without

permission on the computer when the files are opened for use. Give **three** ways in which computers can protected against virus attack (3marks)

4. State **three** characteristics of computer main memory (3 marks)

5. A printer fails to work as expected when a document is sent to be printed. The user has checked that

 the on-line light of the printer is on and the printing paper is correctly inserted. Give **two** other

 possible reasons why the printing process failed. (2 marks)

6. Describe the following terms as used in computer data security

 a) Firewalls (1 mark)

 b) Audit trail. (1 mark)

7. State **four** ways in which computers areused in banks (2 marks)

8. A student typed a passage in Microsoft word and the last line of the letter flowed to the second

 page.

 a) What name is given to such last line that flowed to the second page (1 mark)

 b) State **three** ways in which the student could have the letter to fit one page without changing the

 paper size (3 marks)

9. Explain the following terms as used in Microsoft Excel spread sheet package. (3marks)

 a) Range

 b) What if analysis

 c) Automatic recalculation

10. State the data processing mode most appropriate for the following scenarios: (4 marks)

 a) To prepare payroll for workers in Central Bank of Kenya

 b) For automated production control in a chemical manufacturing industry

 c) Managing ATMs transactions for KCB Ltd in different towns in the country

 d) Prepare examination report forms at the end of an academic year

11. A school has decided to network its computers so that it can distribute information to all its

 departments. The school also intends to upload the information to parents. The various services are

 to be provided by servers. Briefly describe the services provided by (3marks)

1. Print server

1. File server

1. Mail server

12. Using an illustration, describe the term text direction as used in DTP (2 marks)

13. i) Define the following terms as used in a database

 a). Attribute (1 mark)

 b). Database model (1 mark)

 ii) State **two** objectives of normalization as used in databases (2 marks)

14. Differentiate between asystem administrator and a database administrator as used in computers . (2 marks)

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15. State **two** advantages of using automated production inindustries (2 marks)

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**SECTION B**

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

16 a) State the best application area for the following programming language (4marks)

1. FORTRAN ………………………………………………………………………………
2. Mercury ………………………………………………………………………………….
3. PHP ………………………………………………………………………………………
4. C ……………………………………………………………………………………….....

 b) State **two** differences between compiler and interpreter (2marks)

|  |  |
| --- | --- |
| **Compiler** | **Interpreter** |
|  |  |
|  |  |

1. Study the following pseudocode then answer the questions that follow:

Start

R =2

While R<=6 Do

Y=2 + (R^R) + 4

Print Y

R = R + 2

End while

Stop

 (i) Work out the output from the pseudocode (4marks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 (ii) Translate the above pseudocode to a flowchart (5 marks)

17. a) Differentiate between the following:

1. Intranet and Extranet (2 marks)

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..…………………………………………………………………………………..

…………………………………………………………………………………………………………

1. Modulation and demodulation (2 marks)

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1. Dial-up and direct ISP connection (2 marks)

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..…………………………………………………………………………..

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 b) Explain the importance of the following

 (i) Web portal (1mark)

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..………………………………………………………………….

 (ii) Hyperlink (1mark)

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..…………………………………………………………..

 (iii) Blog (1mark)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

 c) Name the parts in the following addresses:

 (i) tkariuki@equitybank.co.ke (2marks)

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

 (ii) www.starshines.sc.ke (2marks)

……………………………………………………………………………………………………………………………………………………………………….…………………………………………..………………………………………………………………………………………………………...

 d) Explain the concept of teleworking (2marks)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..………………………………………………………………..

18.a) Fill the gaps in the following table (6marks)

|  |  |  |
| --- | --- | --- |
| **Category of software** | **Use** | **Example** |
| DTP |  |  |
|  |  | AutoCAD |
|  | Used for statistical analysis of values |  |

 b) Name the disk management activity described below (5 marks)

(i) Creates logical drives in a disk …………………………………………………………………….

(ii) Deletes idle files to create more disk space ……………………………………………………….

(iii) Aligns tracks and sectors in a disk ……………………………………………………………….

1. Allows contents of a file to occupy contiguous sectors for faster access..………………………..
2. Creation of copies of important files on another drive…………………………………………….

c) Explain what the following commands will accomplish once executed

(i) C: \> Copy S\* E: (2marks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….…………………………………………………..

 (ii) D:\>Deltree Subjects (2marks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….…………………………………………………...

19. a) Using examples of a school setup, explain the following changeover strategies (9 marks)

1. Straight change over

1. Parallel change over

1. Phased change over

b) Give **two** implications of a poorly implemented system change over strategy (2 marks)

c) Explain any **two** characteristics of a system (4 marks)

1. a) Give **three** ways of representing signed binary numbers in a computer (3 marks)

1. Perform the following binary arithmetic and leave your answer in denary form (6 marks)
2. 1101.1012+1011.012+111.112

1. 10001.10012-1011.1112

1. Convert the following:
2. -3410 to twos complement (3 marks)

1. 7 4/5 10 to binary (3 marks)