**NAME ……………………………………..……………….. DATE …………………………………………….**

**INDEX NO. …………….……….……..…..… CANDIDATE’S SIGNATURE …………..…..…………………**

**OPENER EXAMINATION: TERM 1 2024**

**COMPUTER STUDIES**

**PAPER 1**

**(THEORY)**

**TIME: 2 ½ hours**

**FORM 4**

**Instructions to Candidates**

1. Write your name and index number in the spaces provided above.
2. This Paper consists of two sections A and B.
3. Answer **ALL** the questions in section A.
4. Answer **question 16** (compulsory) and any other **THREE** questions from section B.
5. All answers should be written in the spaces provided.
6. This paper consists of 15 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

**FOR EXAMINER’S USE ONLY**

|  |  |  |
| --- | --- | --- |
| **Section** | **Questions** | **Candidate’s score** |
| **A** | 1. **15** |  |
| **B** | **16** |  |
| **17** |  |
| **18** |  |
| **19** |  |
| **20** |  |
| **TOTAL SCORE** |  |

**SECTION A (40 MARKS)**

***ANSWER ALL THE QUESTIONS IN THIS SECTION.***

1. State the purpose of each of the following memories in a computer system (2 marks)
2. RAM

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

1. Hard disk
2. …………………………………………………………………………………………………………………
3. List **two** files used in mail merging ( 2 marks)

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

1. Explain the following terms as used in desktop publishing (3 marks)
2. Embedded object

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

1. Auto flow

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

1. Zoom

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

1. State four ways of identifying an illegal copy of an operating system ( 4 marks)
2. …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
3. …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
4. …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
5. …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
6. State any three disadvantages of using the magnetic tape (3 marks)
7. …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
8. …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
9. ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………….…
10. (a) Subtract 1102from 110102 (1mk)

(b) Find the sum of binary number 101.1012 and 110.1002  (1mk)

(c) Convert binary number 11010110.10012 into octal number. (1mk)

1. List **three** uses of DVDs. (3mks)

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

1. How does an operating system manage computer memory. (2mks)

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

1. List **four** factors to be considered when purchasing an operating system. (2mks)

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

1. List **three** ways by which you can provide a common link or relationship between the tables in a database software. (3mks)

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

11. Describe the following terms as used in internet.

(a) Webpage (1mark)

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

(b) Blog (1mark)

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

(c) Hyperlinks (1mark)

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

1. Web portal (1mark)

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

1. Give **four** advantages of DTP over a word processor (2marks)

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

13. Differentiate between the following

(i) Kerning and tracking (2marks)

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

(ii) Margins and column guides (2marks)

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

1. Give importance of having the following in computer laboratory;- a) Standard furniture in the laboratory (1mark)

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

1. Distinguish between ROM and RAM (2marks)

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

**SECTION B (60 MARKS)**

***Answer question 16 and any other THREE questions in this section***

1. Study this flowchart and use it to answer questions that follow

YES

NO

S= 1

ENTER Y

Y = Y/10

Y < 10?

S = S+1

PRINT S

1. Give the expected output from the flowchart when the value of Y is (6 marks)
2. 48

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

1. 9170

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

1. 800

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

1. Write the pseudocode that can be used to create a program represented by the above flowchart (6 marks)

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

1. State three advantages of low-level languages (3 marks)
2. ……………………………………………………………………………………………………………………
3. ……………………………………………………………………………………………………………………
4. ……………………………………………………………………………………………………………………
5. (a) Subtract 01112 from 10012 (2marks)

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

(b) Using two’s compliment, subtract 7 from 4 and give the answer in binary notation. (4marks)

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

(c) Convert

1. 91C16 to octal (3marks)

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

1. 3778 to hexadecimal (3marks)

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

1. 9.62510 to binary (3marks)

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

1. (a) List and describe four strategies for converting from an old system to a new system. (4mks)

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

(b) (i) Distinguish between private data and confidential data (2mks)

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

(ii) What can be done to stop illegal access to a computer laboratory by unauthorized people (3mks)

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

(c) (i) List **four** areas that would be considered in the requirement specification. (4mks)

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

(ii) Name any **two** areas covered in feasibility report during system analysis and design. (2mks)

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

1. A computer diskette in drive A has folders for **MEMOS** for an administrator. Each of these folders is labelled according to the relevant months. The secretary created the folders for each months memo for each of access. Study the table below

|  |  |  |
| --- | --- | --- |
| **MEMO 1** | **MEMO 2** | **MEMO 3** |
| Warning  Lateness  Assembly | Inaccuracies  Auditing  Fraud | Careless talk  Inefficient  Meeting |

* 1. Assuming that the secondary was working from the diskette, draw the corresponding tree structure (6mks)
  2. (i) The secretary wanted to create a folder to store a memo in Fraud folder. State the path for that folder. (2mks)

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

(ii) Suggest how the secretary can ensure that the work in that diskette is not spoilt. (1mk)

…………………………………………………………………………………………………

(iii) The content of the file is not viewed by any other person apart from her. (1mk)

…………………………………………………………………………………………………

(c) (i) List any two devices under the control of the operating system. (2mks)

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

(ii) Explain how each one of these devices are controlled by the OS

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

1. The information below is maintained by the patron of wildlife club in a school. Study it and answer the questions that follows.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Class** | **Admission number** | **Membership number** | **Group** |
| Aruya  Mercy  Ominde  Caro  Miriam  Zach  Antony  Januaris  Pauline  Mary  Daniel | 4E  3E  2N  4W  3N  2E  2W  4N  3E  1W  1N | 3740  3802  3949  3762  3800  3925  3926  3946  3805  4029  4013 | S001  T001  T003  M001  A001  S002  N001  AB001  T002  N002  M002 | Serengeti  Tsavo  Tsavo  Mara  Amboseli  Serengeti  Nairobi  Aberdare  Tsavo  Nairobi  Mara |

1. Describe the field values, records and file (3 marks)

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

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

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

1. State the most appropriate data type for the fields

i) Admission number (1mark)

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

ii) Membership number (1 mark)

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

1. State most appropriate primary key for the list (1 mark)

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

1. If a database was to be created for the list; forms, Tables, queries and reports are likely to be used
2. State the purpose of each of the objects (4 marks)

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

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

ii) Which objects cannot be used to store date in the list (3 marks)

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

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

1. i) How many field values are in the list (1 mark)

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

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

1. How many records are in the list (1 mark)

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

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