**NAME ADM CLASS**

 **SIGNATURE**

**451/1 Paper one**

**COMPUTER STUDIES (Theory)**

**FORM FOUR**

**TERM 2 2021 EXAMS**

**2 ½ HOURS**

**MECS JOINT EVALUATION TEST**

**COMPUTER STUDIES PP1**

**FORM FOUR TERM 2 EXAMINATION 2021**

**INSTRUCTIONS TO CANDIDATES**

1. *Write your name and Admission number in the spaces provided above*
2. *Answer all questions in section A*
3. *In section B,* ***answer question 16(compulsory)*** *and* ***any other three*** *questions*
4. *This paper consists of 11 printed pages.*
5. ***Candidates should check the question papers to ascertain that all the pages are printed as indicated and that no questions are missing.***
6. ***Candidates should answer the questions in English.***

**FOR EXAMINER’S USE ONLY**

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

**SECTION A (40 Marks)**

**Answer all questions in this section**

1. **Name** the storage device that was introduced in each of the following computer generations
2. Second Generation (1 mark)

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1. Third Generation (1 mark)

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1. Fourth generation (1 mark)

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1. Fifth generation (1 mark)

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1. Mr. Tom, a games teacher at Tatu secondary school wants to invite several schools for basketball tournament. He was advised to use mail merging technique to create invitation letters for the respective schools to be invited. **State two** advantages of using this technique to create the letters. (2 marks)

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1. Susan came across the following examples of software while revising for her computer studies exam: *Linux, Quickbooks, Lotus wordpro, Windows 7,*

**Classify** each as either system software or application software. (2 marks)

*Linux*……………………………………………………………………..

*Quickbooks*……………………………………………………………….

 *Lotus wordpro*……………………………………………………………

*Windows 7*……………………………………………………………….

1. Figure 1 below shows symbols of ports in a computer system. **Identify** the peripheral device that is connected to each of them.



i)………………………………………………………………………………….. (1 mark)

ii)………………………………………………………………………………….. (1 mark)

1. **Distinguish** between *main memory* and *secondary memory* as used in computers (2 marks)

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…………………………………………………………………………………………………………………………………………………………A Five star hotel has decided to pay its suppliers using electronic payment method. **State two** benefits the hotel will benefit from making this decision. (2 marks)

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1. Annet would like to develop system documentation that will assist users when learning how to use her system. **State four** contents that such documentation should have. (4 marks)

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1. **State** a circumstance under which the following features could be applied to a publication
2. Text wrapping (1 mark)

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1. Object grouping (1 mark)

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1. Kennedy would like to edit a document prepared using word processing program. **Name four** editing keyboard keys that he could use to achieve his objective. (2 marks)

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1. a) **State two** ways an inserted formula can be applied to other cells in a spreadsheet (2 marks)

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b) Suzzie, a secretary at Achievers secondary school carries out her daily duties using computers and suffers wrist strain. **State two** ways she would use to reduce wrist strain. (2 marks)

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1. Sarah noticed that after copying a video file in her flash disk from a cyber café in town, the video file self-replicated in the flash disk filling all the available memory space.
2. **State one** possible cause for such occurrence (1 mark)

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1. **State two** ways that can be used to prevent the occurrence of such incidences (2 marks)

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1. Kirundi Secondary school would like to introduce the use of internet in the school’s computer lab. **Explain three** security issues that the students are likely to be exposed to. (2 marks)

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1. a) **State two** characteristics of a primary key field in a database system (2 marks)

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…………………………………………………………………………………………………………………………………………………………b) **State one** advantage of the *auto save* feature in a word processing program (1 mark)

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……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………a) Wireless Fidelity (WiFi) has become one of the most popular modes of internet connection in recent days. **State two** reasons for this trend. (2 marks)

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 b) **Explain** a reason why *bcc* option could be used when sending an email (2 marks)

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**SECTION B (60 Marks)**

**Answer question 16 (Compulsory) and any other three questions**

1. a) Andrew would like to develop a system using a programming language. **State three** factors he should consider when selecting the appropriate language (3 marks)

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b) **State** the **meaning** of the following terms as used in programming:

i) Interpreter (1 mark)

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c) Dennis designed the pseudo code below for a program that would be used for calculating the sum and average of all even numbers between 50 and 100 and display the results.

 START

 Set sum to 0

 FOR num = 0 to 100 DO

 num = num + 1

 Sum = num + sum

 Average = sum/count

 END

 PRINT Sum, Average

 STOP

1. After carrying out a dry run of the pseudocode, Dennis found out errors in it. **Identify** **three** logical errors that he might have found. (3 marks)

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ii) Draw a flowchart for a corrected version of the pseudo code in part (i) above (7 marks)

1. `a) The table below shows items extracted from David’s retail shop spreadsheet. Use it to answer questions (i) to (ii)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **A** | **B** | **C** | **D** |
| **1** | **Item** | **Unit Price** | **Quantity**  | **Total Cost** |
| **2** | Bread | 60 | 10 |  |
| **3** | Milk | 50 | 15 |  |
| **4** | Matchbox | 20 | 10 |  |
| **5** | Toothpaste  | 120 | 10 |  |
| **6** | **TOTAL AMOUNT** |  |

i) Using cell references only, write a function that would be used to calculate the total cost of milk

(2 marks)

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ii) Using a cell references only, write a formula that would be used to calculate the total amount spent on all items. (2 marks)

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b) **Distinguish** between *hacking* and *cracking* as used in computer security (2 marks)

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…………………………………………………………………………………………………………………………………………………………c) **State** the **function** of each of the following parts of a spreadsheet window

i) Formula bar (1 mark)

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ii) Name box (1 mark)

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d) **State** the circumstance under which OLE object data type is suitable when designing a table in a database (1 mark)

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…………………………………………………………………………………………………………………………………………………………e) **Explain** the function of a flowchart in system design (2 marks)

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1. **Distinguish** between *multi user operating system* and *multi-tasking operating system* (2 marks)

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1. When purchasing a printer, Atieno was advised to consider its *compatibility* and that it should be *plug and play*. **State** the meaning of these two terms:

i) Compatibility (1 mark)

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ii) Plug and play (1 mark)

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1. a) **Explain one** challenge likely to be experienced in a closed system (1 mark)

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b) Every organization requires an information system

i) Define an information system (1 mark)

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ii) **Explain two** reasons an organization may change an existing information system (4 marks)

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c) Testing systems after construction is a very critical process in systems development. **State three** areas an effective testing should cover. (3 marks)

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…………………………………………………………………………………………………………………………………………………………e) The use of ICT has affected every aspect of human life. **State three** ways ICT in which ICT can be used to enhance physical fitness of the members of the society. (3 marks)

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1. a) **Distinguish** between *freeware* and *open source* software (2 marks)

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b) **Describe** how operating systems handle the following in a computer system

i) Errors (1 mark)

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c) **State** the purpose of the following in a computer

i) Cache Memory (1 mark)

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ii) System clock (1 mark)

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iii) Motherboard (1 mark)

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d) Mark, an employee of an institution used his computer to access his boss’s computer to get some confidential information and gave it to one of its clients at a fee.

1. **State** the type of crime committed by Mark (1 mark)

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1. **State two** ways of protecting data against the crime committed by Mark (2 marks)

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e) Using two’s complements, **perform** the calculation 4110 - 1510 leaving your answer in decimal notation

(5 marks) …………………………………………………………………………………………………………………………………………………………………………………………………………..............…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

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1. a) **Identify four** data collection methods that may be used in data processing cycle (2 marks)

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b) **State three** benefits of using time sharing data processing mode in a leaning institution (3 marks)

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c) **Differentiate** between *webmaster* and *web designer* (2 marks)

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d) The network set up below is formed by combining two LANs. Use it to answer the questions (i) – (v) below.

**LAN B**

**P**

**LAN A**

**Q**

1. **Identify** the network devices labelled:

P ………………………………………………………. (1 mark)

Q……………………………………………………….. (1 mark)

1. **State** the importance of device P in the network (1 mark)

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1. What is the name given to the combined topology in the figure above (1 mark)

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1. **Identify** the network topology A and B

P ………………………………………………………. (1 mark)

Q……………………………………………………….. (1 mark)

1. **State two** problems a network administrator may encounter in management of LAN A (2 marks)

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