**Term 1 - 2023**

**COMPUTER STUDIES (451/1)**

**FORM FOUR CAT 1**

**Time: 1 ½ Hours**

**MARKING SCHEME**

**SECTION B (40 MARKS)**

1. Give three measures an organization need to put in place to prevent threats from sabotage

* ***Install security monitors***
* ***Use biometric system to restrict access to computer room***
* ***Assign access privilege’s to different computer users***
* ***Motivate the employees so that they sense of belonging***

***Award 1 marks each max 3***

1. Describe any three types of data that can be accepted in spreadsheet cells

* ***Label are texts or alphabetic characters which cannot be manipulated mathematically***
* ***Value usually refer to numeric characters or special symbols that cane manipulated mathematically***
* ***Formula is a user defined mathematical expression used to create a relationship between cells and returns a value in the chosen cell***
* ***Function is a inbuilt formula available in spreadsheet program that the user can quickly use instead of having to create one every time a calculation is to carried out***

***Award 1 mark each max 3***

1. Mention three factors to consider before installing an operating system

* ***Processor speed***
* ***Memory size***
* ***Hard disk capacity***
* ***Display***

***Award 1 mark each max 3***

1. Enumerate three data management tools available in spreadsheet

* ***Sorting***
* ***Filtering***
* ***Graphs***
* ***Form***
* ***Subtotal***
* ***Data validation***

***Award 1 mark each max 3***

1. Describe three ways in which ICT can be used to run a taxi business in a busy town like Nairobi

* ***Use of navigation software to locate client destinations***
* ***Communicate with clients via sms, calls, whatsapps and twitter***
* ***Advertisement via social media, website and electronic displays***
* ***Create e-payment platforms***
* ***Use computer application to keep books of account***
* ***Tracking system for remote management***

***Award 1st three @1 mark each max 3***

1. State a stage in system development life cycle where each of the following activities are carried out
2. Performing system audit

* ***Review and Maintenance***

1. Listing hardware and software requirement of the system

* ***Requirement specification***

1. Establishing whether the system to be developed is cost effective

* ***Problem Definition***

***Award 1 mark each max 3***

1. Convert the decimal number 30 to its binary equivalent (3marks)

The number is the same as 30.375

|  |  |
| --- | --- |
| ***2*** | ***30*** |
| ***2*** | ***15 rem 0*** |
| ***2*** | ***7 rem 1*** |
| ***2*** | ***3 rem 1*** |
| ***2*** | ***1 rem 1*** |
|  | ***0 rem 1*** |

***30 = 111102***

***0.375 x2 = 0.75***

***0.75 x 2 = 1.5***

***0.5 x 2 = 1.0***

***= 0.011***

***11110.0112***

1. Briefly describe three ways in which internet platforms have revolutionized business activities

* ***Internet platform promote e-payment which enable clients settle the bills electronically without using hard cash***
* ***Encourage e-commerce where selling of goods and services take place in the internet***
* ***Internet platform provide various a way of advertisement which reach so many people in world***
* ***Internet base businesses can operate 24 hours***
* ***Promote efficient communication between business partners regardless of their location***

***Award 1st three @1 mark each max 3***

1. Give three ways of preventing transcription errors during data entry

* ***Dara verification /Double checking***
* ***Use methods that capture data directly from source***
* ***Dara validation***

***Award 1st three @1 mark each max 3***

1. Describe the term desk checking as used in computer programming

* ***It is a concept used to detect errors in a computer program by going through the program while on paper***

***Award 2 marks max 2***

1. Describe three security services offered by the operating system in a computer

* ***Back up- The operating system have facilities for creating duplicate copies of original file which be used to reconstruct the system in case of file failure or loss***
* ***User name and password – Operating system have a routine responsible for creating user names and passwords to authenticate the users when gaining access to the system***
* ***Logs- The operating system have a security file which store all the activities taking place in the computer***
* ***System restore is a feature in Windows operating system that allows the user to revert their computer's state to that of a previous point in time***
* ***Firewalls and Patches –Operating System regularly provide patch updates and firewall for monitoring network traffic, and enforcement of secure access through least privileges and user controls.***

***Award 1st three @1 mark each max 3***

1. When an image inserted in a desktop publishing document is selected, handlers on its placeholder appears. State two uses of these handlers

* ***Resizing the image***
* ***Rotating the image***
* ***Changing the shape***
* ***Flipping over the image***
* ***Award 1st three @1 mark each max 3***

1. Use flowcharts to demonstrate two ways of implementing a For loop in a program

***For loop counts upwards For loop counts downwards***

**Condition**

**Statements**

**Upper Limit=Loop Variable -1**

**Loop Variable =Upper Limit**

**Loop Variable = Lower Limit**

**Condition**

**Statements**

**Lower Limit=Loop Variable +1**

***Accept the use of variable like K, X , Y***

***Award 1 mark max 2 for correct well labelled diagram***

***Do not award description***

1. Use appropriate example to explain how records are accessed in sequential file organization using binary search method

* ***This method repeatedly divide a set of records in a file in two halves***
* ***The search only proceeds to the halve with the intended record***
* ***For example if the file have records serialized as 20, 30, 60 70,100, 200, 205, and 300 and the computer is searching for record number 205 , the search will begin at 100 ignoring the first half***

***Award 1st three @1 mark each max 3***

1. Write down the correct syntax for each of the following Excel functions given that C1,C2,C3,C4 and C5 contain 50,60,45,56 and 10 respectively
2. RANK

* ***=Rank(C1, $C$1:$C$5,0)***

1. COUNTIF

* ***=Countif(C1:C5, “>45”)***

***Award 1st two @1 mark each max 2***