**Computer Studies**

**Form Three Marking Scheme**

1. Mention two functions of a file extension
* ***Used to determine the content of a file***
* ***Used to search for a file in the computer***
* ***Help the operating system to choose the most appropriate program to open the file***

***Award 1 mark each max 2***

1. Describe how data is recorded on optical storage media
* ***The surface of the optical media is made up of lands and pit***
* ***When a laser beam hit the the surface of the optical media, the pit will absorb light and that will be interpreted as zero since there is no reflection.***
* ***When the light hits the land it is interpreted as one since there is reflection.***

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

1. What is normalization in databases
* ***It is the process of decomposing fields into separate but related tables to enhance flexibility in database manipulation.***

***Award 2 marks max 2***

1. State three causes of data loss in computing
* ***Improper shut down of the computer***
* ***Sudden power loss while the computer is in use***
* ***Accidental erasure***
* ***Crashing of the hard disk***
* ***Computer virus***
* ***Unauthorized access***

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

1. List three precautions taken against crashing of hard disk
* ***Correct procedure of shutting down the computer***
* ***Avoid dropping disk to the ground***
* ***Avoid dust***
* ***Avoid exposure to stronger magnetic fields***

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

1. Describe the following terms as used in data security
2. Social Engineering
* ***The act of soliciting for sensitive information from unsuspecting users***
1. Patches
* ***These refers to simple program code incorporated in a system to fix weakness in system that may make it vulnerable to threats***

***Award 1 mark each max 2***

1. Give two advantages of the higher number of pixels per square centimeter
* ***high quality images***
* ***High resolution of monitor***

***Award 1 mark each max 2***

1. Name four tools in Word processor that would help a user to minimize spelling mistakes when creating a document
* ***Autocorrect***
* ***Autocomplete***
* ***Spelling and grammar checkers***
* ***Redo and undo***

***Award 1 mark each max 4***

1. A computer is built from three types of physical components; processors memories and I/O devices. State the functions of each of the above components
* ***Processors they execute programs to convert data into information that is meaningful to the user***
* ***Memories store data and information semi-permanently and permanently***
* ***O/I devices they are used to key in data and display the output.***

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

1. What is the function of the following Microsoft Access field properties
2. Caption
* ***It is a more descriptive name for a field to be used in a table or form display.***
1. Validation Rule
* ***Is an expression that restricts the values to be entered in a field?***

***Award 1 mark each max 2***

1. During a computer lesson a student defined multitasking as a concept where a computer is able to process numerous task at the same time. Disagree or Agree with student then support your answer
* ***Disagree.***
* ***The computer uses the time slice principle to assign each task a fraction of the processor time then execute these tasks one at a time at very high speed such the user will view as if they are being executed at the same time***

***Award 1 mark each max 2***

1. Convert 12.12510 to binary number system **(3marks)**

***Whole number decimal part***

***11002 0.125\*2 =0.25***

 ***0.25\*2 =0.5***

 ***0.5\*2 =1.0***

***1100.0012***

1. Identify the type of interfacing cables represented in Figure 1 and 2

|  |  |
| --- | --- |
| **Figure 1** | **Figure 2** |

***USB cables HDMI cables***

***Award 1 mark each max 2***

1. What is software License
* ***A software license is a document that provides legally binding guidelines for the use and distribution of software***

***Award 2marks max 2***

1. State three non-printable guidelines supported by MS-publisher
* ***Ruler guide***
* ***Column guide***
* ***Margin guide***

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

1. Mention three emerging issues that affects the use internet
* ***Access to dirty sites e.g. pornography sites***
* ***Spread of drug trafficking***
* ***Rise of cyber crimes***
* ***Dehumanization***

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

1. State two differences between ones compliment and twos complement
* ***In ones compliment you bitwise while in twos compliment you bitwise and add one***
* ***In ones compliment the overflow is added while in twos compliment , the overflow is ignored***
* ***Ones compliment have two ways of representing a zero while twos complement have only one way of representing a zero***

***Award 1 mark each max 2***

1. Give four benefits of using binary representation in computing
* ***It is easier to construct electrical circuit based on the ON and OFF logic***
* ***Binary technology help to create devices that are reliable***
* ***Binary representation help in creating devices that are energy efficient***
* ***Binary representation can be used to represent all forms of data***

***Award 1 mark each max 4***

1. 10012 is a binary representation of a negative number. Workout the likely positive equivalents in base ten
* ***Assume that the last bit is a sign bit representing –ve number 1001 will be 001***

 ***001 = 1***

* ***Assume that 1001 is ones complement of a number then you bitwise not the number 1001 =0110 = 6***
* ***Assume that 1001 is twos complement of a number the subtract one from it then recomplement 1001-1 = 1000 recomplemt to get 0111 =7***

 ***Award 1 mark each max 4***

1. Convert 7658 to Hexadecimal number system

 ***7 =111***

 ***6 =110 1mk***

 ***5=101***

 ***1 1111 0101 1mk***

 ***=1F5H 1mk***

1. Use twos complement to subtract 1510  from 01102

***15 =1111 ½***

 ***1c =0000 ½***

 ***2c=0001 ½***

 ***0110***

 ***+ 0001***

***0111 ½ =01112 1mk***

1. The table below is an extract from a spreadsheet program showing transaction details of Ferry uniform Distribution. Use it to answer the questions that follow

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **A** | **B** | **C** | **D** | **E** |
| **1** | Customers | Items Bought | Price | Quantity Bought | Date Bought |
| **2** | Leeny Distributors  | Tunic | 600 | 1000 | 06/03/2021 |
| **3** | Maky Distributors | Stocking | 300 | 1500 | 07/04/2021 |
| **4** | Top Hill Distributors | Pullover | 1000 | 7000 | 14/05/2021 |
| **5** | Kagiri Distributors | Tie | 150 | 3000 | 13/06/2021 |
| **6** | Lonny Distributors | Shirt | 500 | 2000 | 23/06/2021 |
| **7** | Maky Distributors | Shirt | 500 | 1500 | 30/06/2021 |
|  |  |  |  |  |  |

1. Identify two data types used to represent data in the table above
* ***Label***
* ***Values***

***Award 1 mark each max 2***

1. State how cell E7 will be presented using R1C1 style
* ***R7C5***

***Award 1 mark max 1***

1. Use a function to get the following
* Average price **(1mark)**

***= AVERAGE ( C2: C6)***

***Award 1 mark max 1***

* The item with the least price **(1mark)**

 *=* ***MIN (C2 :C6)***

***Award 1 mark max 1***

1. Using absolute cell referencing. Determine the new cost of Pullover and tie given that a discount is awarded on each item bought as follows

Price equal or above 500 = 5%

Price of below 500 =10%

* ***PULLOVER = 0.95\* $ C $4***
* ***TIE =0.9\* $ C $ 5***
* ***Award 2 marks each max 4***
1. Mention three ways of disseminating processed information to the users
* ***Electronic presentation through radio and television***
* ***Distribution of hard copies***
* ***Broadcasting through the internet***

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

1. Outline three methods that can be used to prevent transcription errors during data entry
* ***Use devices that capture data directly from source***
* ***Use of validation rule to prevent entry wrong data.***
* ***Carry out data verification***

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

1. Why is a control panel referred to as a computer toolbox
* ***It provides tools used to maintain and make changes in the computer set up***

***Award 2 marks max 2***

1. State three functions of the recycle bin
* ***Hold deleted files temporarily***
* ***Restore deleted files***
* ***Used to discard delete files from the computer***

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

1. Give the functions of the following disk management operations

Disk defragmentation

* ***To collect files together so that they can be accessed faster***

 Disk partitioning

* ***In order to run two operating system on the same computer***
* ***For Backing up***

 Formatting

* ***To create sectors so that data can be stored on the disk***

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

1. Describe the following features of Spreadsheet
2. Automatic recalculation **(2marks)**
* ***The spreadsheet automatically changes the results of a formula when the values within the formula are changed***

***Award 2 marks max 2***

1. WhatIF
* ***This is a feature that is used to predict the future trends in a particular field.***

***Award 2 marks max 4***

1. What is filtering
* ***Is a quick and efficient method of finding and working with a subset of data in a list***

***Award 1 mark max 1***

1. Name four number format applied in Microsoft Excel
* ***General***
* ***Currency***
* ***Date***
* ***Fraction***

***Award ½ mark each max 2***

1. Describe the following data types as supported by Ms-Access
2. Calculated
* ***This is a data type that is used to store data created from a formula.***
1. Auto number
* ***This is a numerical value used in ms-access to automatically increase the values in a field***
1. Attachment
* ***Used to store one or more files containing pictures , sounds or videos of word document.***

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

1. Briefly describe how a relationship can be established between
2. Husband and Wife

Husband

Wife



* ***One to one. for one particular husband , he can only have only one wife ............ 1mk***
1. Student and Subject



Student

Subject



* ***One to many – for one particular student he or she can take more than one subject ...... 1mk***

 ***Award ½ mark each for the diagram max 1***

1. Explain four types of action queries
* ***Make table query – used to create a new table from the dynaset of a query***
* ***Delete query –delete specified table from one or two tables***
* ***Append query – add data in a table from on or more table***
* ***Update query – change the data within the table so that the table reflect the current position***

***Award 1mark each max 4***

1. The table shown below is an extract from a database use it to answer questions that follow

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| PNo | National ID | First Name | Last Name | Date Employed | Salary | Gender |
| 201 | 12234 | Faith | Karembo | 16-03-2009 | 4000 | M |
| 203 | 12454 | Alice | Malaika | 16-03-2010 | 3700 | F |
| 207 | 22734 | Daniel  | Nzomo | 16-03-2012 | 6000 | M |
| 208 | 12234 | Patricia | Moraa | 16-03-2011 | 3800 | F |

1. Choose the most appropriate data type for Gender and PNo
* ***Gender – short text***
* ***Pno – number***

***Award 1mark each max 2***

1. Given that table name is employee Records write a sql statement that can be used to display the following fields in the dynaset First Name, PNo, Last Name and Salary >5000 **(3marks)**

***SELECT [employees Records] .First Name. [employees Records]. PNO, ............ 1mark***

 ***[employees Records]. [Last Name]***

***FROM [employees Records] ...................................................... 1mark***

***WHERE ((([employees Records]. [Salary])>``5000``)) ................... 1mark***

1. State four ways in which computer virus can be prevented
* ***Smart browsing/avoid suspicious links***
* ***Avoid opening mail attachment before scanning them for virus***
* ***Avoid using removable storage devices***
* ***Installing and updating of an anti-virus software***

***Award 1mark each max 4***

1. Give two reasons to justify why unstable power supply is considered as security threat
* ***It may lead to data loss***
* ***May damage the sensitive parts of the computer cause malfunction***

***Award 1mark each max 2***

1. Briefly explain how software piracy can be minimized especially in developing countries
* ***Make software cheap to increase affordability. this ensures that only copyrighted software is used by everyone***
* ***Set installation password. This helps to deter illegal installation of the password.***
* ***Enacts laws to take care of intellectual property right***

***Award 1mark each max 2***

1. Distinguish between the following pair of terms **(4marks)**
2. Uploading and Downloading
* ***Uploading refers to the process of transferring information from a local computer to the internet while downloading refers to the process of transferring information from a remote computer to a local storage***
1. Blog and Portal
* ***A blog is website that contains personal information that can easily be updated while a portal is specialized website that offers restricted services.***
* ***Award 2marks each max 4***
1. Describe two factors that affects the provision of internet based services
* ***Speed of the internet service provider. The faster the speed the faster the provision of internet based services.***
* ***Reliability of the data terminal equipment.***
* ***Internet coverage. Internet based services are limited to areas with internet connectivity***

***Award 1mark each max 2***