**SECTION A: (20 MARKS)**

1. A
2. D
3. C
4. B
5. D
6. A
7. C
8. B
9. D
10. A
11. B
12. A
13. D
14. C
15. D
16. C
17. B
18. C
19. A
20. C

**SECTION B: (60 MARKS)**

1. (a). (i). **Give two advantages of first generation computers at their time of discovery**.

* *They were first compared to available machines.*
* *They had a lot of computer memory.*
* *They were relatively accurate.*
* *They were cheaper at the time.*

**(Any 2 x 1@)**

(ii).

* *Second.*
* *Fifth.*
* *Third.*

**(1 mark @)**

(b). **State three ways computer viruses are transmitted in a computer laboratory.**

* *Through downloading of resources of the internet.*
* *Gradual sharing of storage devices and media.*
* *Through file sharing.*
* *Through activities of hackers and crackers.*
* *Through installation of fake software (pirated)*

**(any 3 x 1@)**

(c). **List two physical identification devices used in computing to provide access.**

* *Iris recognition devices.*
* *Thumb print recognition devices.*
* *Voice recognition devices.*
* *Face recognition devices.*

**(any 2 x 1@)**

1. (a). (i). Distinguish a **plug** from a **port**. (01 mark)

A **plug** is the end piece of a cord for an electrical device that fit into a socket / port.

*while,*

A **port** is a hole or connection found on the front or back of a computer where a peripheral device is connected.

**(01 mark)**

**(ii). State two factors considered before buying a peripheral device.**

* *Cost of the peripheral device.*
* *Availability of the device.*
* *Warrant and guarantee provided.*
* *Manufacturer of the device.*
* *Compatibility issues.*
* *Needs of the organisation or user.*
* *Whether it can perform the intended purpose e.g. physical firewall.*
* *Level of security needed.*
* *Size of the organisation.*

**(Any 2 x 1@)**

**(b). Malemo wants to transfer work from one computer to another. State two solid state storage media he will use.**

* *Flash disk.*
* *Memory cards*
* *SD Cards*

(any 2 x 1@)

(c). **Explain the following error messages in relation to computer use:**

(i). **Device not ready.**

*Shows the user that the device is not available for use either it is offline say a printer of not connected properly.* **(01 mark)**

(ii). **Device not installed correctly.**

*After installation of device, this message device not installed correctly notifies the user that the device will not work with the operating system due to either missing some driver sets or compatibility issues.*  **(01 mark)**

(d). State **three** reasons for restarting a computer. (03 marks)

* *To get rid of irrecoverable errors in the software.*
* *When the computer slows down.*
* *To store /save new settings in the operating system.*
* *To restore integrity of the computer e.g. while using Deepfreeze, this throws away computer viruses.*

**(Any 3 x 1@)**

**Note:**

* **Deny causes for restarting e.g. computer virus.**
* **Deny circumstances under which a computer is restarted.**

1. (a). State **three** data types used in electronic spreadsheets.

* *Label / text.*
* *Number / values.*
* *Formula / functions.*
* *Date and time.*
* *Currency.*

**(any 3 x 1 @)**

(b).

(i). **State the result if =MAX(B2:B5)- MIN(B2:B5) is placed in cell B9.**

* *40* (01 mark)

(ii). **If quantity sold is to increase by 30%. What will be the formula needed to return new quantity projection for Sumbusa in cell E2.**

* + =PRODUCT(C2,130%)
  + = C2X130%

**(any 1 x 1)**

(iii). **Explain how you insert a thousand separator for data in cell range B2:C5.**

* *Format cells, numbers, select thousand separators.*
* *In the number category under the home menu, select the comma style.*

**(01 mark)**

(c). **State two database objects normally used to organise records.**

* + *Table.*
  + *Report.*
  + *Query.*
  + *Form.*
  + *Modules.*
  + *Pages.* **(any 2 x 1@)**

(d). (i). **If a criterion Month([Date of Birth])=1 in used in the query field for Date of Birth. Which months with this object return?**

* + *January.* **(01 mark)**

(ii). **State two advantages of using electronic databases.**

* *Allows storage of large amount of data for both live and archive data.*
* *Enables user sharing of data even remotely.*
* *Provides for quick searching and sorting of data.*
* *Allows users to carry out different analyses on data including calculations and comparisons.*
* *Provide a quick access to data by using various database facilities.*
* *Data can be entered and viewed in different ways as needed by the user.*
* *Takes a very small space compared to manual databases, therefore, it is cheaper to manage and store.*
* *Normally, accurate records are kept that are free from data redundancy.*

**(Any 2 x 1@)**

1. (a) **State two causes of signal attenuation during data communication.**

* *Distance between devices.*
* *Distance from access point.*
* *Age of the computer.*
* *Computer viruses.*
* *Weather changes normally destabilise wireless networks.*
* *Natural environment, e.g. thick walls, trees, e.t.c. may cause signal attenuation for wireless networks.*

**(Any 2 x 1@)**

**(b). Give three factors to consider before setting up a Local Area Network.**

* *Number of computers to use.*
* *Needs of the organisation.*
* *Cost of setting up the network.*
* *Bandwidth and throughput considerations.*
* *Nature of devices to be used.*
* *Physical design of the workplace and environmental factors.*
* *Technical personnel to use.*
* *Networking devices needed.*

**(Any 3 x 1 @)**

**(c). Distinguish between a Webpage and a Website.**

*A* ***Webpage*** *is a single individual page in a website, while, a website is a collection of* ***WebPages****.*

(02 marks)

* ***Note: The two sides should be correct,***
* ***Allow for tabulator difference.***

**(d). State any three consideration for using images in your website.**

* + *Light weight pictures should be used.*
  + *Pictures of uniform sizes should be used.*
  + *Only relevant images shall be used.*
  + *Number of pictures to insert.*

**(any 3 x 1@)**

1. (a). What is a **word processor**?
   * *Is a computer program that is used to manipulate text based documents.*
   * *Is a computer program that is used to create, edit, save, format, print text based documents.*

**(02 marks)**

***Keyword - manipulate, text based documents.***

**(b) State three facilities that can be used to emphasise text in a word processor.**

* + *Bolding.*
  + *Underlining.*
  + *Striking through.*
  + *Changing font colours.*
  + *Changing font sizes.*
  + *Alternating font styles.*
  + *Inserting clip art.*
  + *Use of word art.*
  + *Adding boarders.*
  + *Using tables.*
  + *By indenting work.*
  + *Italicising.*
  + *Using text highlighters.*
  + *By numbering.*

**(any 3 x 1@)**

**(c). Give two items that can be adjusted using a place-holder on a slide.**

* + *Text colour.*
  + *Font size.*
  + *Text animation.*

**(Any two x 1@)**

(d). (i). **State two advantages of using a slide master in a presentation.**

* + *It stores information about the theme and slide layouts of a presentation.*
  + *Enables to use to add slide effects like animations, transitions from a central position.*
  + *It enables the user to save time that would have been wasted while dealing with individual slides.*

**(Any 2 x 1@)**

(ii). **Give one quality of a good presentation.**

* + *Should have a simple background.*
  + *Should have short and precise points.*
  + *Should have minimal animations.*
  + *Should have the required number of slides.*
  + *Should be clear.*
  + *Should have relevant graphics.*
  + *Should serve the intended activity.* **(Any 1 x 1@)**

1. (a). **State three ways genuine software is obtained by a user**.
   * *By downloading.*
   * *By creating own software.*
   * *By buying from authorised software vendors.*
   * *By getting it as a donation from software companies e.g. device drivers.*

(Any 3 x 1@)

(b). **Outline two activities utility programs carryout in relation to disk management.**

* + *Enabling disk defragmenting.*
  + *Enabling disk error checking.*
  + *Enabling disk partitioning.*
  + *Disc encrypting.*
  + *Entering disk passwords.*
  + *Enabling disk sharing and permissions.*
  + *Enables disk formatting.*
  + *Enables disk renaming.*
  + *Provides means for disk opening and closing.*

**(Any 2 x 1 @)**

(c). **Define the following terms in relation to computer programming:**

(i). **Variable.** **(01 mark)**

* + *Is a storage location / container paired with an associated symbolic name (an identifier), which contains some known or unknown quantity of information referred to as a value.*
  + (ii). **Declaration.**  **(01 mark)**
  + *It specifies what is held by a variable.*

(d). **State three characteristics of a good programming language.** (03 marks)

* + *Should be natural.*
  + *Efficiency.*
  + *Structured Programming Support.*
  + *Compactness.*
  + *Locality.*
  + *Extensibility.*
  + *Suitability to its Environment.*

**(Any 3 x 1@)**

**SECTION C: (20 MARKS)**

1. Your Dad has bought the following hardware devices to set up a small network.

(a). Identify the possible physical network topology you should set up using all the devices above. Give a reason for your answer. (04 marks)

* + *It is a* **star topology** *because it has the* **8 port switch** *that will enable cables to meet in a central location.*

**(02 marks for each underlined statements)**

(b). Briefly, describe the use of each of the devices above in relation to building a network. (12 marks)

* + *Pick the* ***clipping tool*** *to cut the UTP* **CAT6e cable** *in the required distance to span.*
  + *Using a clipping tool, terminate both ends of the UPT CAT 6e cable using the* **RJ45 modules***.*
  + *Connect each computer of the* **6 Dell computers** *with the terminated cable and the other end connected to the* **8 port switch***.*
  + *Upgrade the RAM size by slotting* **a new 8GB RAM chip** *in one of the Dell computers which will work like a server computer for the network.*

**(02 marks @)**

**Note: Any device that has been used well, award 2 marks. Do not follow the sequence of doing it like in above.**

(c). **Outline four advantages of establishing a network for your Dad’s cafe.** (04 marks)

* + *Helps to Manage Data*
  + *Easy to share data*
  + *The access is flexible*
  + *Share office equipment*
  + *Share the internet*
  + *Cut costs with software*
  + *Communication*

**(04 marks x 1@)**

1. (a) With the help of examples define the term software testing. ***(06 marks)***

**Testing** is the process of running computer software to detect/find any errors (or bugs) in the program that might have gone unnoticed.

During program testing, the following details should be checked;

* + - The reports generated by the system.
    - The files maintained in connection to the system’s information requirements.
    - The input to the system.
    - The processing tasks.
    - The controls incorporated within the system.

For the program to be assumed as correct, several testing needs to be conducted by the programmer to ascertain/establish their validity.

There are several methods of testing a program for errors. These include:

1. Dry running (Desk checking).
2. Translator system checking.
3. Functional testing.
4. Use of Test data.
5. Use of debugging utilities.
6. Diagnostic procedures.
7. System test with actual data.

(b) Mutuku took a loan of Ugx. 400,000 from a local bank at an interest rate of 10% payable in four years. Assuming you wish to develop a computer program that will keep track of monthly repayments:

1. Identify the input, processing and output requirements for such a program. ***(04 marks)***
2. Design the algorithm for the program using a simple flowchart and pseudocode.  ***(10 marks)***
   1. **Requirements**:

**Input**  - Initial amount borrowed

- Interest rate

- Number of years

**Processing** - equation to calculate Yearly repayments and Monthly **repayments**.

**Output**  - Monthly repayments calculated by the process

* 1. **Pseudocode:**

START

INPUT Initial amount borrowed

INPUT Interest rate

INPUT Number of years

Calculate Yearly repayments

Monthly repayments = (Yearly repayments / 12)

OUTPUT Monthly repayments

STOP

**Flowchart:**

PRINT Monthly repayments

ENTER Initial amount, Interest rate, number of Years

Calculate Yearly repayments & Monthly repayments

1. **You are provided with the following computer components:**

* **Computer set,**
* **printer cartridge,**
* **printing papers,**
* **USB Cable,**
* **power socket,**
* **64 bit plug and play USB- supported printer**.

(a). Describe how the above components are connected to have a finally working printer. (12 marks)

* *Unpack the* ***printer cartridge*** *and fit it in the cartridge cabinet of the printer.*
* *Open the paper tray and* ***slide in the printing papers****.*
* *Connect a* ***USB cable*** *to the USB port on the system unit and the* ***64 bit plug and play USB - supported printer****.*
* ***Connect a power cable*** *into the power socket and the other end into the printer.*
* *Power the computer and after sometime, power the printer to enable the computer to detect it.*
* *If detected, it will run a self-installation process and will prompt you that the printer is ready for use.*

**(Each meaningful process, 2 marks)**

(b). **Explain how you can correct paper jam in the printing process.**

* *Power down the printer.*
* *Remove the papers from the paper tray.*
* *Open the cartridge cabinet as well.*
* *Check by open possible areas where the jam might have been caused.*
* *If detected, remove the paper by pulling it forward.*
* *If you are sure that it is cleared, replace all the items removed at the start.*
* *Power the printer.*

**(Any complete logical explanation, 2 marks for each process)**

(C). Draw a **sketch** of a QWERTY key board and include the following keys

* Enter
* Tab
* Caps lock
* All functional keys
* Space bar ***(09 marks)***



**END**