**MARKING SCHEME**

**FORM 3 COMPUTER STUDIES**

1. a) Distinguish between a **computer drive** and **computer driver**. (2marks)

* *A computer drive is a hardware component that facilitates storage and retrieval of data on a removable storage device while a computer driver is sets of instructions installed or incorporated to the operating system that controls the functionality of specific peripheral device.*

b) Define the term **peripheral devices**. (2marks)

* *These are the devices that are connected to the CPU via the ports on the system unit.*

c) Apart from keyboard and mouse, give **five** devices connected to the system unit. (5marks)

* *Monitor*
* *Data projector*
* *Modem*
* *Joystick*
* *External HDD*
* *Printer*

d) State **two peripheral** devices connected to the computer via PS2. (2marks)

* *Keyboard*
* *Mouse*

e) Jane encountered desktop computer with the following features

* *3.0 USB ports*
* *4.0 GB primary storage*
* *19” TFT VDU*
* *500 SATA HDD*
* *Linux 7.1*
* *AVG antivirus*

1. Give **three** reasons for wide use of USB gadgets in the society today. (3marks )

* *Allow multiple peripheral devices on a single port*
* *Quality data transmission*
* *Faster data transmission*

1. What is the meaning of the following specifications: (4marks)

*- 4.0 GB primary storage- The RAM Capacity of the Computer (1\*1=1 mark)*

*-19” TFT VDU (1 \*1=1mark)*

*- 500 SATA HDD (1 \*1=1mark)*

*-Linux 7.1 (1\*1=1 mark)*

2) i) Give **six factors** to consider when selecting an **OS** to install in your computer. (6marks)

* *Processor speed*
* *Purpose of the computer*
* *Memory size*
* *Compatibility and*
* *Upgradeability*
* *User needs*
* *User friendliness*
* *Make of the computer*

ii) State **three** advantages of using command-line based operating system when working with a computer. (3marks)

* *They do not take up a lot of space of memory hence boot faster than the GUIs.*
* *They have direct access in most hardware devices.*
* *They are cheaper to acquire as some can be downloaded free of charge.*
* *They can run on lower bit hardware systems such as 32-bit computers.*
* *They are more stable.*
* *They are more secure.*

3. Describe **three symptoms** of a computer infected by virus. (3marks)

* *Hang ups*
* *Shutting down frequently*
* *Error messages*
* *Quizzical messages*
* *file increase and decrease*

4. i) Define the term **utility** **software**. (2marks)

* *These are the programs that assist the computer system to run smoothly.*

ii) Give **four** examples of utility software. (4marks)

* *Text editors*
* *Language translator*
* *Linker and loader*
* *Sort and merge*
* *Diagnostic tools*
* *Time utility*
* *Antivirus*
* *Copy utility*
* *Calendar graphics editor*

5. State **four** properties that an operating system displays about a file. (4marks)

* *File size*
* *Date modified*
* *File type*
* *File name*
* *Author*
* *Date created*
* *Time created*
* *Date and time accessed*

6. a) Define a **microcomputer**. (2marks)

* *A computer who’s CPU (processor) has been implemented with a microprocessor.*
* *It is a small, relatively inexpensive computer with a microprocessor as its CPU.*
* *It is a small computer that contains a microprocessor as its central processor.*

b) State **five** reasons for the increased use of microcomputers in government offices. (5marks)

* *They are small and fit in a small storage space.*
* *They are light weight hence can be carried to areas where their services are required.*
* *For laptops the monitor, system unit, keyboard units are attached together hence making its use to be pleasant.*
* *Reduced costs i.e. are cheaper than the minicomputers and mainframe computers.*
* *High processing speed*
* Are small in size (occupy less office space)
* Are more energy efficient (i.e. consume less power)
* Are more reliable in doing various functions than the early mainframe computers
* Are versatile (i.e. can be used for many different tasks)

7. State **four** facilities that will ensure proper ventilation in a computer laboratory. (4marks)

* *Large & enough windows and doors*
* *Installing fans*
* *Installing air conditioning system*
* *Avoid overcrowding of either machines or people in the room*

8. State **three** advantages of Optical Character readers or recognition as a method of input. (3marks]

* *No transcription errors are encountered. A transcription error is caused by typing wrong data.*
* *Documents are captured directly from the source; this speeds up the process of inputting data.*
* *Printing requires no special equipment or machines.*
* *The source document is human-sensible, hence easily understood.*
* *It is cost effective method of input because the document can be turned around.*

9.a)Give four benefits of computerizing filling system (4marks)

* *Saves time and enhances productivity*
* *Minimizes on physical storage space*
* *ensures security of data*
* *prevents duplication*
* *files are easily accessed*

*b) briefly describe* ***two*** *features of random file organization method*

* *records are stored randomly*
* *records are accessed directly*

10. State **three** advantages of Liquid crystal display (LCD) monitors over cathode ray tube monitors as used in computers. (3marks)

* *They are compact and light weight hence portable/less bulky /occupy less space.*
* *They consume less power*
* *They do not suffer from geometrical distortions/ angle distortion.*
* *They do not cause eye fatigue.*
* *They support many advanced technologies.*
* *They can be made in almost any size and shape.*
* *They support higher resolution.*

*11. convert the following numbers*

*i.7.562510 to binary 3marks*

*710-1112*

*0.562510-0.10012*

*Ans* ***111.10012***

*ii.DDFF3416 to binary 3marks*

*D-1101,D-1101,F-1111,F-1111,3-0011,4-0100*

*Ans****1101110111111111001101002***

*iii.use twos complement solve 2010 - 1510 (3marks)*

*2010-101002*

*1510-11112*

*1111-01111*

*ones complement 01111-10000*

*twos complement 10000*

*+ 1*

*10001*

*10001+10100=(1)00101*

*Ans* ***001012***

*12.*. List down any **four** hardware components you can add or upgrade in a computer system. (4marks)

* *Processor (CPU)*
* *Ports e.g. USB ports/ SCSI ports*
* *Hard disk*
* *DVD drives/ tape drives*
* *RAM memory*
* *Expansion slots*

13. i) Briefly explain the following terms: (5marks)

* ***Cell*** *– intersection between a row and a column in a spreadsheet.*
* ***Range*** *– a range of cells.*
* ***Label*** *– text with no numerical value*
* ***Value*** *– constant, a number value-content of a cell.*
* ***Function*** *– a computation that is predefined by an electronic spreadsheet.*

ii) Use the sample worksheet provided to answer the questions below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F |
| 1 | Items | Jan | Feb | Mar | April | Total |
| 2 | Fees | 400 | 460 | 400 | 400 |  |
| 3 | Food | 300 | 350 | 305 | 270 |  |
| 4 | Electricity | 100 | 100 | 100 | 100 |  |
| 5 | Fuel | 150 | 150 | 150 | 150 |  |
| 6 | Transport | 380 | 270 | 150 | 300 |  |
| 7 | Total |  |  |  |  |  |

a) Write down the **data type** that is stored in cell C5. (1mark)

* *Value -150*

b) What cell contains the data item representing transport for the month of February? (1mark)

* *C6*

c) Write down the formula that may be used to compute the total in cell F6. (2marks)

* *=Sum(B6:E6)*

d) Name any **two** types of **graphs** that may be supported by spreadsheets. (1mark)

* *Pie charts*
* *Line graphs*
* *Bar graphs*

14. a) Describe **three** comparisons of traditional method of typing a document on a typewriter against using a word processor. (6marks)

* *Word processor enable users to store documents for future editing while typewriter you have to retype the documents again.*
* *Typing using word processor is easier and more efficient than typewriter becoz some actions are automated.*
* *Word processor enable user to proof read and spell check documents on the screen before printing which makes them look neat and presentable.*
* *Word processors have superior document formatting features which makes more attractive.*
* *Word processors allow multiple copies printing unlike typewriter.*

b) List **two** arithmetic operations that can be performed on a row of numeric data in a word processing table. (2marks)

* *Sum*
* *Average*
* *Maximum*
* *Minimum*

c) Explain the following terms as used in word processing. (3marks)

*Indenting – reducing the size of a text block to set that section apart from the rest of the text.*

*Alignment – the positioning of text with respect to the right and left margin of page. This can be to the left, right, centre or justified.*

*Word wrap- a feature of a word processing software that ensures that a word that will not fit at the end of line will automatically be placed at the start of the next (new) line.*

d) List four text formatting features of a word processor. (4marks)

* *Bolding*
* *Italicizing*
* *Underlining*
* *Fonts*
* *Drop caps*
* *Change case*
* *Superscript/subscript*