

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)
- | | |
|---|--|
| <ul style="list-style-type: none"> • <i>Monitor</i> • <i>Data projector</i> • <i>Modem</i> | <ul style="list-style-type: none"> • <i>Joystick</i> • <i>External HDD</i> • <i>Printer</i> |
|---|--|
- 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*
- i) 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*
- ii) What is the meaning of the following specifications: (4marks)
- | | |
|---|--------------|
| - 4.0 GB primary storage- <i>The RAM Capacity of the Computer</i> | (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)
- | | |
|--|---|
| <ul style="list-style-type: none"> • <i>Processor speed</i> • <i>Purpose of the computer</i> • <i>Memory size</i> • <i>Compatibility and</i> | <ul style="list-style-type: none"> • <i>Upgradeability</i> • <i>User needs</i> • <i>User friendliness</i> • <i>Make of the computer</i> |
|--|---|
- 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)
- | | |
|---|--|
| <ul style="list-style-type: none"> • <i>Hang ups</i> • <i>Shutting down frequently</i> • <i>Error messages</i> | <ul style="list-style-type: none"> • <i>Quizzical messages</i> • <i>file increase and decrease</i> |
|---|--|
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 whose 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 filing 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. 7.5625_{10} to binary 3marks

$7_{10} = 111_2$

$0.5625_{10} = 0.1001_2$

Ans **111.1001_2**

ii. $DDFF34_{16}$ to binary 3marks

$D = 1101, D = 1101, F = 1111, F = 1111, 3 = 0011, 4 = 0100$

Ans **$110111011111111100110100_2$**

iii. use twos complement solve $20_{10} - 15_{10}$ (3marks)

$20_{10} = 10100_2$

$15_{10} = 1111_2$

$1111 - 01111$

ones complement $01111 - 10000$

twos complement 10000

+ 1

10001

$10001 + 10100 = (1)00101$

Ans **00101_2**

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
- Maximum
- Average
- 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*
- *Fonts*
- *Italicizing*
- *Drop caps*
- *Underlining*
- *Change case*
- *Superscript/subscript*