

Marking Scheme

Computer Studies Paper1

Form Three –Term One -2024

1. Give two reasons why portable computers like laptops and tablets are becoming popular in the modern society

- *Portable therefore can be carried from one place to another with ease*
- *Have rechargeable battery*
- *Advance technology where peripheral devices are integrated as one unit*

Award 1 mark each max 2

2. Peter a computer student from Upper Hill switched on his computer that is installed with Window 10 during a practical lesson. The Teacher requested him to identify the notification area on the screen and note down the programs displayed. Name three programs that are likely to be listed by Peter

- *Antivirus software*
- *Network connections*
- *Date and Time*
- *Battery indicator*
- *Volume*
- *Action center*

Award 1 mark each max 3

3. Explain how data in a computer system can be secured using

(i) Password

- *Password is a string of characters used to prove one's identity, or authorize access to a resource. The user is expected to key in the correct password to gain access to the computer resources while wrong password leads to access denial*

(ii) Audit trail

- *This is a careful study carried out by computer experts to check the weak access point. The study will establish the weakness in the system so they addressed as soon as possible to eliminates threats to data security*

▪ *Award 1 mark each max 2*

4. Five students Walter, Faith, Mercy, Diana and Joachim scored the following marks in Mathematics 35, 76, 98, 44, and 54. They were recorded in cell C3 to C7. The teacher wanted to rank them in descending order so as to award them

(a) Write down an appropriate formula that the teacher used

- *=Rank(c3, \$C\$3:\$C\$7,0) The range must be absolute to score full mark*

Award 1 mark for the correct function
Award 1mark for correct bracket to bracket

(b) Their grades were assigned as follows

- 80-100 A
- 60-79B
- 40-59C
- Less Than 40Fail

Write the formula used to assign the grades above

▪ **=IF(C3>=80,"A", IF(C3>=60,"B", IF(C3>=40, "C","FAIL')))**

Award 1/2 for correct 4 condition max 2

5. State two functions of disk defragmenter

- **Maximize the use of the storage medium**
- **Enhance fast access of data**

Award 1 mark each max 2

6. Describe two ways that can be employed by data entry clerks to minimize on transcription errors

- **Data validation**
- **Data verification**
- **Using methods that capture data directly from source**

Award 1 mark each max 2

7. Give three ways of disseminating information to the target group after processing

- **Display on screens**
- **Hardcopy print outs**
- **Websites**

Award 1 mark each max 3

8. Mention three pieces of information that an operating system keep about a file

- **File size**
- **File Name**
- **File extension**
- **Date of creation/Modification**

Award 1 mark each max 3

9. Digitizer is one of the input devices that capture data directly from source. State three areas where Digitizer is extensively used

- **Used in Architectural and Engineering for capturing sketches**
- **Capturing signatures at the Bank and Registration of Person offices**
- **Medical personnel use digitizer tablets to digitize X-rays and to perform needle biopsies and orthopedic surgery**

Award 1 mark each max 3

10. Mention three parameters used to measure data integrity

- **Timeliness**
- **Accuracy**
- **Relevance**

Award 1 mark each max 3

11. State three circumstances that can necessitate a warm boot of a computer

- *When a computer hangs or freezes*
- *After installing a hardware*
- *After installing a software*
- *When a computer encounters an error*

Award 1 mark each max 3

12. State circumstances under which the following types of errors occur

- (a) Truncation error
 - *Occur when a real number have a large fractional part which cannot fit in the allocated memory space*
- (b) Overflow error
 - *Occur when the results of a calculation is too large to be stored in the allocated memory*
- (c) Logical error
 - *Wrong algorithm design*

Award 1 mark each max 3

13. Mention two factors that affects the cost a computer

- *Processor speed*
- *Portability*
- *Storage capacity (RAM and Hard Disk)*
- *Monitor (Monitor size and resolution)*

Award 1 mark each max 2

14. Describe three reasons to justify why Internet is regarded as an agent of moral degradation

- *Internet accelerate access to inappropriate contents like pornographic materials in turn interfere with our moral values*
- *Dehumanization is a vice being promoted by internet and ICT infrastructure where human beings tend to socialize so much with the computers instead of socializing fellow with human beings*
- *Internet and ICT platform promote cybercrimes which in the long run create negative impacts on our moral values*

Award 1 mark each max 3

15. Nabil a computer student noticed that every time he switched on his computer during practical lessons the computer fails to boot instead displays an error message “**Invalid System Disk**”. Identify two ways of resolving of this error

- *Reinstall the operating system*
- *Select the active partition as the startup drive*

Award 1 mark each max 2

16.

(i) Perform the following number system conversion

(a) $342\frac{6}{16}$ base 10 to Binary

2	342	
2	171	Rem 0
2	85	Rem 1
2	42	Rem 1
2	21	Rem 0
2	10	Rem 1
2	5	Rem 0
2	2	Rem 1
2	1	Rem 0
2	0	Rem 1

$0.375 \times 2 =$	0.75
$0.75 \times 2 =$	1.5
$0.5 \times 2 =$	1.0

101010110.011₂

Method 1 whole number part

Method 1 fraction part

Award ½ each for M1 and 2

Award 1 mark for correct answer

(b) 1FAH to Decimal

$$(16^2 \times 1) + (16^1 \times 15) + (16^0 \times 10)$$

$$256 + 240 + 10 = 506_{10}$$

Award 1 mark for the method and 1 mark for the answer

(c) FBH to Octal

$$F = 1111$$

$$B = 1011$$

$$\begin{array}{ccc} 11 & 111 & 011 \\ 3 & 7 & 3 \end{array}$$

$$373_8$$

Award 1 mark for the method and 1 mark for the answer

(ii) Using 8-bit notation, perform the two's complement on $25_{10} - 15_{10}$, leaving your answer in decimal number system (4 marks)

$$25 = 00011001$$

$$15 = 00001111$$

$$11110000 \dots\dots 1C$$

$$11110001 \dots\dots\dots 2C$$

$$\underline{00011001}$$

$$(1)00001010$$

Binary equivalent for 25 and 15 award 1 mark each

1c and 2c award ½ a mark each

Award 1 mark for the answer

(iii) Perform binary operation in the arithmetic expression below

$$1010.10_2 + 111.01_2 - 101.11_2$$

$$1010.10 + 111.01 = 10001.11$$

$$10001.11 - 101.11 = 1100.00$$

Award 1 mark for the method and 1 mark for the answer

(iv) Given that 1011_2 is a negative number workout its three possible decimal equivalents

- *First Assumption Prefixing assign bit*

$$1011 \quad 011 = 3$$

$$-3$$

- *Ones complement*

$$1011 \quad \text{negate}$$

$$0100 \quad 4$$

$$-4$$

- *Two complement*

$$1011 - 1 = 1010$$

$$\text{Negate} \quad 0101 = -5$$

Award 1 mark each max 3



17.

- (i) Maranda Modern Bookshop sells computer accessories and need orders for supplies. A spreadsheet application is used to represent the orders as shown below. Use it to answer the questions that follow

	A	B	C	D
1	Item	Price Per Item	Number Ordered	Cost (Kshs)
2	Mouse	450	10	
3	Keyboard	300	5	
4	Flash Disk	600	4	
5	TP link	1000	4	

- (a) Use absolute reference , write a function that can be used to calculate the total amount to be paid for Keyboard

- $=\text{Sum}(\$B3:\$C\$3)$ Or $=\$B\$3*\$C\3

Award 2 marks max 2

- (b) Identify data types in cell C4 and D3

- **C4 –Value**
- **D3-Function /Formula**

Award 1 mark each max2

- (c) Write a function used to display total number of items whose Number Ordered is 4

- $=\text{Count}(C2:C5, =4)$

Award 2 marks max 2

- (ii) Hassan realized that an image he was working with on with Word processing was too big to fit on portrait page. Name two features provided by Word processor that will help Hassan to fit the image on the page

- **Cropping**
- **Reducing**

Award 1 mark each max 2

- (iii) State three advantages of using templates when preparing documents in Ms-Word

- **Saves time and money**
- **Easy to use**
- **Create presentable documents**
- **Consistent document layout /appearance**
- **Readily available**

Award 1 mark each max 3

- (iv) Mention four sources graphics in Ms-Word

- **Drawing**
- **Pictures from Download**
- **Smart Art**
- **Pictures from Gallery**
- **Screen shot**
- **Import from another application**

Award 1 mark each max 2

18.

(i) What is a dynaset

- **Refer to the results of a query**

Award 2 marks max 2

(ii) State the difference between bound and unbound control with respect to database

- **Bound control is one whose source of data is a field in table or query while unbound control is control that is not link to any data source**

Award 2 marks max 2

(iii) Use an illustration to explain the following database models

(a) Relational

- **Data elements in a database are stored in relation or table. Relationship can be created between table such that a record or records from one table relates to another or other records in another table**

AdmNO	Name	Class	DOB
12543	Paul Ochieng	Form 2 Orange	12/02/2004
23456	Malcom Denis	Form 2 White	03/05/2005
23456	Steve John	Form 2 Pink	31/12/2004

ReceiptNo	AdmNo	Amount Payable	Amount Paid	Balance
R2342	12543	20000	20000	0
R7685	23456	30000	25000	5000
R4533	56789	40000	30000	10000

(b) Flat file

- **Flat file database model hold only one set of data and it is not any different from the manual file**

Book Title	Longhorn Computer Studies Form 1
ISBN	00110105678
Publisher	Longhorn
Author	Chemwa
Edition	Second
Revised	2018

Award 1 mark each for the explanation max 2

Award 1 mark each for the example max2

(iv) The table below is an extract from a database use it to answer the questions that follows

Product Code	Product Name	Unit cost	Quantity	Total
01001101	Maize	2000	10	20000
01223030	Millet	1000	20	20000
10239345	Wallet	100	10	1000
19019001	Sweet	1000	5	5000

(a) Give the most appropriate data type for Product code and Total

- **Product code-Text**
- **Total –Calculated**

Award 1 mark each max 2

(b) Assume that the table above represent the result of a query. State the expression that should be entered at the builder to calculate the total

- ***[Unit cost]*[Quantity]***

Award 2 marks max 2

(v) State three functions of a primary key

- ***Unique identification of records in a table***
- ***Create relationships between tables in a database***
- ***To search for records***

Award 1 mark each max 3



19.

(a) Define the following terms

(i) Downloading

- ***Downloading is the transmission of a file or data from one computer to another over a network, usually from a larger server to a user device.***

(ii) Hyperlink

- ***A hyperlink is a text or an icon that you can click on to get to another website***

Award 2 marks each max 4

(b) Use an example to describe the main parts of the URL (4marks)

<https://www.yahoo.com>

- ***http is the protocol part which is responsible for transferring hypertext***
- ***www.yahoo is the name of the internet server where the website resides***
- ***.com is the domain which is a unique identifier of a particular local Area Network***

Award 1 mark for the correct URL

Award 1 mark each for the correct parts max 3

(c) Describe four internet services that support communication

- ***Email-messages distributed by electronic means from one computer user to one or more recipients via internet***
- ***Website-A vast virtual storage on the internet where information is made available for access***
- ***Instant messaging-an electronic message sent in real time via the internet and therefore immediately available for display on the recipient's screen***
- ***Social media network-a network of social interactions and personal relationships***

Award 1 mark each max 4

(d) Give three benefits of cloud computing

- ***Vast virtual storage available***
- ***Flexible since it can be accessed from any point provided there is internet connectivity***
- ***Cost effective***
- ***Improved data security***
- ***High availability, even in the event of a natural disaster.***

Award 1 mark each max 3

20.

(i) Describe how business enterprises in modern society use computers or ICT

- ***Business enterprises use CCTV camera for security and monitoring employees and clients***
- ***Electronic payment platforms are extensively used to settle bills***
- ***E-commerce technology is widely used in selling goods and services***
- ***Communication is made possible through email, sms, video calls etc.***
- ***Books of accounts are maintained using accounting applications***
- ***Business enterprises can advertise their products on the websites or smartboards***

Award 1 mark each max 4

(ii) State four safety precaution that a computer user must observe in the computer laboratory to protect him or her from eye strain

- ***Take regular breaks***
- ***Avoid using flickering monitors***
- ***Adjust the screen brightness according***
- ***Ensure that the inner wall of the computer laboratory is painted with dull colors***

Award 1 mark each max 4

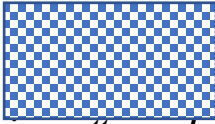
(iii) Describe the following features with regards to Desktop publishing

(a) Stroke



- ***It applying a line style on an image***

(b) Fill



- ***Applying patter such as shading***

(c) Text Wrap



- ***It is a feature places texts around the image so that the image does not interfere with line spacing.***

Award 1 mark each max 3

(iv) Explain how layering is used in Desktop publishing software (2marks)

- ***Layering is the arrangement of objects on top of each other with the one on top being on the first layer.***

Award 2 marks max 2

(v) Describe any two check spelling options supported in DTP software like Ms-publisher (2marks)

- ***Change to correct only the highlighted incorrect word***
- ***Change all to correct all the occurrences of the misspelled word***
- ***Ignore to retain the highlighted word***
- ***Ignore all to retain all the occurrence of the same word***
- ***Add to add the word to the custom dictionary***

Award 1 mark each max 2