

SECTION A

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

SECTION B

21. (a) Explain the term spreadsheets as used in computer studies. (02 marks)

- A program that displays work in form of tables where calculations can be done.
or

Grid of rows and columns which intersect to form cells where calculations can be done OR
program used to perform calculations on data using formulas/functions.

Any 01 pt X 2 = 02 marks

(b) Name three types of data that can be placed in a spreadsheet cell

- Label/text
- Number/Value
- Formular/functions
- currency
- Date/Time
- Percentages

Any 03 pts X 1 = 03 marks

(c) What is the use of a formula in a spreadsheet

- Arithmetic manipulation of data OR
- For calculations
- For logical manipulation of data
- Analysis of data.

Any 01 pt X 1 = 01 mark

(d) Describe with illustrations, how a shopkeeper can use a spreadsheet to keep records of his/her business.

explanation with a table. e.g.

ITEM	QTY	COST PRICE	SELLING PRICE	PROFIT
Sugar	10 kgs	10000	15000	5000
Soap	10 boxes	30000	32000	2000

A table with imaginary figures **04 marks**

A table without figures **02 marks**

Only explanation **02 marks**

Table with items minus figures **02 marks**

1. comp window? name file size
 = unknown

Table without figures but has explanations **04 marks**

Blank table **No marks**

Nb. The table must show descriptive rows /columns and figures

22 (a) List four advantages of a hard disk over a compact disk (CD)

- HDD has more storage capacity
- Faster access time for HDD
- HDD provides more security to data than a CD
- HDD supplements RAM by providing virtual memory
- HDD is more durable than the CD
- More convenient for installation of operating system
- HDD allows data to be read and written at the same time unlike a CD
- Cheap in terms of per unit storage.

Any 04 pts X 1= 04 marks

(B) Describe the following

(i) Flash memory

Is an electronic non-volatile computer storage medium that offers fast read and write access time as fast as dynamic RAM and can be electrically erased and reprogrammed. It is connected to the computer through a USB port.

(02 marks)

(ii) Optical Character Recognition.

An input device/mechanism which allows pre printed text in hard copy form to be converted to editable digital text.

marks)

(02

(iii) Laser jet printer

This is a non impact printer, which uses light/laser mechanism to print with high speed and high quality output.

(02 marks)

23 (a) (i) What is computer communication

Computer communication is the transmission of signals or data from one computer/device to another.

(02 marks)

(ii) State any two advantages of using e-mails.

- Faster means of communication
- It is cheaper
- Convenient to send to many people
- Provision of vacation responders

- Secure since passwords are used
- Enables attachments
- Keeps a log/record of sent, received, deleted messages.
- Keeps a record of addresses.
- It allows a message to be forwarded
- It contains hyperlinks which connect a person to other sites.
- Unlimited message length.

Any 02 pts X 1= 02 marks

(b) Explain the functions of the following

(i) Web Server. This is a dedicated computer which accepts uploads, downloading and distribution and storage of web files over the internet upon the user's request.

(02 marks)

(ii) FTP

This is a protocol for uploading and downloading files from the network Or a protocol for transferring files over the internet.

(02 marks)

(iii) HTTP

This is a protocol used to transport or share hypertext documents or html files over the internet.

(02

marks)

24. A senior four class in Naluwelere S.S has formed a club. A file named CLUB MATES is to be kept by the secretary of the club. The design of CLUB MATES has the following fields. NAME, MEMBERSHIP-NUMBER, SEX, AGE and TELEPHONE.

(a) Suggest a primary key for CLUB MATES. Explain why it is chosen as the primary key.

- Membership-number

(02 marks)

Because this number is unique for each record

(01

mark)
(b) If the longest name in a class is Sangalyambogo, suggest the minimum field length.

13

(c) Why is it not a good idea to use the field AGE? Suggest an appropriate field name and type.

Reason: Age changes as time goes on so it would make the database lose integrity as time goes on.

(01 mark)

Field name and type:

Date of Birth

mark)

date/Time

(01

(01 mark)

Mulane
Emphasize understanding of protocols;

(d) Suggest appropriate data types for the following fields.

- (i) Membership - Number
 Text
 Auto number

(Any 1pt X 1 = 01 mark)

- (ii) SEX
Text

(01 mark)

- (iii) Telephone. Text
mark)

(01

25. Give any two ways of classifying computers.

- By size
- By Technological/logical processing
- By use /purpose/functioning/operation
- By processor power
- By generation

(Any 2pts X 1 = 02 marks)

(b) Differentiate between the following terms.

(i) Analog and digital computers.

Analog computer process data that is in a continuous form or measurable quantities or changing phenomena or use moving gears while digital computers process data in form of digital or binary or discrete values.

(ii) Main frame computer and micro computers.

MAINFRAME

MICRO COMPUTERS.

- | | |
|-------------------------------|--|
| - Many people | - Fewer people |
| - Very large in size | - Small in size |
| - High storage capacity | - Low storage capacity |
| - High processing speed | - Lower processing speed |
| - Used in large organizations | - Used by individuals, in homes and sch. |

(c) List any three types of micro-computers.

- Laptops/Notebooks
- Desktops and tower model
- Palm tops
- PDA /Organizers
- Smart Phones
- Tablets
- I pads.

26. State any four functions of operating system.

Processor management

Memory management

File management

Booting of the computer

Spooling of print jobs

Provides user interface for interaction

Managing computer hardware and software security

Loading of programs/platform for application programs.

configuration of devices

Error handling/reporting

Shutting down the computer.

(b) List any two types of operating systems commonly used in computers.

Single user OS (Single user single application or single user multi tasking)

Multi user OS

Embedded OS (Designed to be used in embedded computer systems like PDAs)

Distributed OS (Manages a group of independent computers to make them appear to be a single computer)

Real time OS (Handles real time applications)

OR

GUI

CLI

(c) (i) What is a programming language?

A programming language is a set of instructions used to build/make, design other computer programs/instructions/codes.

(ii) Differentiate between machine language and high level language.

Machine language is constituted of binary codes which are understood by the computer while high-level language is closer to human language/use mathematical notations other than binary and can well be understood by human beings.

Machine code language was used in the first generation whereas HLL were used in 2nd generation and above.

SECTIONS C

27. (a) Describe any four ways in which computer crimes are committed.

Writing malicious codes to infect computers i.e. viruses

Accessing of computer resources illegally (hacking)

Using software without license (piracy)

Physically stealing hardware

Phishing

Spamming (sending unsolicited messages)

Cyber terrorism.

Cyber bullying

internet fraud

Broadcasting immoral material /literature (pornography and slander)

Forgery

Changing the source code

Plagiarism

Cracking

Eavesdropping

Tapping

Vandalism

(b) Explain ways of safeguarding against computer crimes.

Use of passwords

Bugler proofing

Enforcing copy right laws.

Log off or log out from your account after us.

Sensitization of the public about dangers of computer crimes.

Using biometric devices e.g. face, finger prints, Voice, iris devices etc.

Encryption of data

Blocking some websites.

Web rating

Activating firewalls.

Centralized administration.

Key lock system

Prosecuting wrong doers

Using Antivirus

CCTV Cameras.

Security personnel.

28. Describe the nature and features of the four computer generations.

1st Computer Generation

Vacuum tubes.

Based on machine language as a programming language.

Low memory (RAM) as low as 2kb

Use of punched cards for input and output

Magnetic drums memories.

Large and difficult to maintain

Low processing speed

high power intake

Single purpose

Difficult to maintain

Generated a lot of heat

Many moving parts.

2nd Computer Generation

Use of transistors

Magnetic core memories

High level programming language e.g. FORTRAN

Less heat emitted

Increased speed

The first super computer was made

Ram increased to 16kbs.

3rd Computer Generation

Use of integrated circuits.

Magnetic disks for storage

Parallel processing

Simple programming languages e.g. BASIC

higher processing speed than 1st and 2nd Generations

Introduction of operating systems like MULTICS

Introduction of mini computers.

4th Computer Generation

Very large scale Integration

Introduction of Micro processor

Introduction of micro computer

Computer cheap and cheaper

Wide variety of software

Artificial intelligence

5th Computer generation

Wireless connectivity

Artificial intelligence

Robots in working places

Voice Recognition.

Very large scale integration

Very small in size

Cheaper in cost

Faster in speed

29. Some people believe that using computer will cause unemployment whilst others believe that the economic survival of a society depends on making even greater use of the computers.

Describe how computers can;

(a) Cause unemployment (10 marks)

Job replacement

Computers are faster and when employed to do work, some will be laid off.

Underemployment where the presence of a computer will make the worker almost jobless.
Introduction of expert systems make workers jobless.

Specialized applications and hardware at work places make people unemployed.

Computers have made traditional skills irrelevant hence unemployment.

Any point brought in line with characteristics of computers like speed, accuracy, automatic, versatility etc should be considered.

(b) Be the basis of economic survival (10 marks)

Writing CDs

Music mixing

Video editing

Teaching of ICT

Internet Cafe'

Computer Secretarial bureau

Computer dealer or vender

Software developers

computer manufacturing

database administrators

system analysts

Advert designers.

Digital money transfer dealers

Servicing and repairing

Web hosts

ISP

etc