

1. (a) Differentiate between **CMOS battery** and a **CMOS chip**. (02Marks)

CMOS Battery: It's a hardware component that powers up CMOS chip to aid storage of configuration information or the BIOS settings.

While

CMOS Chip; is a memory chip normally found on the computer motherboard that store configuration information about a computer. Such as current date & time or BIOS settings.

- (b) Identify three teaching aids commonly used in computer laboratories today to aid learning. (03 marks)

- Data projector
- Smart boards
- White boards
- White board markers
- Speakers.

2. (i) Differentiate between software update and software upgrade. (02 Marks)

Software update is a free download for an application that provides fixes for the features that are not working as intended or the **modification** of software product already in use in order to enhance its capabilities.

While

Software upgrade is the **replacement** of a software product already in use with a new version in order to bring the system up to date and improve its characteristics.

- (ii) List down any three examples of web authoring software. (03 Marks)

Micro soft front page
Ms Publisher
Edit plus
Adobe Dreamweaver
Microsoft expression editor

3. Write the following in full acronyms as used in Information and Communication technology. (5 Marks)

(i)UTP

Unshielded Twisted pair cables

(ii)WIFI

Wireless Fidelity

(iii)SQL

Structured Query Language

(IV) DTP

Desktop publishing

(V)PPM

Page per Minute

4. (a) State the role of the following special memories in the operations of a computer. (03 Marks)

(i) **Buffer**

Is a computer memory that holds data being received or sent to and from an external storage device.

(ii) **Cache memory**

It is high speed static RAM that a micro processor can access more quickly than it can access regular RAM. It provides faster data access to a micro processor and stores frequently used computer programs.

(iii) **Registers**

Is part of a micro processor that holds data and instructions being executed or processed.

- (b) Identify two examples of fixed storage devices within the system unit (2Marks)

- Hard disk drive
- RAM chip
- ROMBIOS

5. (a) Mention the two major types of display devices. (2 Marks)

- Flat panel Display
- Cathode Ray Tube Display

- (b) Explain the following terms related to display devices. (03 marks)

i. **Refresh rate**

Is the speed that a monitor redraws images on the screen.

ii. Pixels

These are tiny dots of phosphor material that glow when electrically charged to produce an image.

iii. Resolution

Its describes the sharpness and clearness of image created on the screen determined by the number of pixels a monitor can display.

6. (a) Differentiate between **system software** and **application software**

(02 marks)

System software is a collection of all those programs that manage the operation of the computer system and avail computer resources to the user.

While

Application software are computer programs designed to solve user oriented problems.

Identify the programs used in the performing of the following tasks.

(03 marks)

- (i) Designing of publications like flyers
Desktop publishing software
- (ii) Preparing of staff payroll
Spread sheet
- (iii) Making of a weekly report to your immediate supervisor.
Word processors

7. Indicate true or false against each of the statement below in a table.(5 marks)

Statement	True/False
A text in a worksheet is right aligned	False
Syntax are the grammatical rules for writing of a program	True
A bug is an error in a computer program	True
A virus is a malware	True
A screen saver is an application software	False

8. (a) i). Define an extranet form of network.

(1Mark)

Is a computer network that allows controlled access from outside the organization for specific purposes like Distance learning

ii). Mention **four** advantages of an intranet form of network.

(4Marks)

- Workforce productivity
- Communication
- Web publishing
- Cost-effective
- Enhance collaboration
- Immediate updates

9. (a) Differentiate between guided and un guided transmission media. **(02 mks)**

Guided media: These involve the use of physical materials such as cables to send data signals from one device to another.

While

Un guided media: This involves transmission of data signals without a physical connection between the two communicating devices

(b).Mention three factors that affect the performance of the data transmission media. **(03 marks)**

Transmission mode

Line configuration (point to point/multi point)

Serial/parallel

Band width

Server specification

Topology

10. (a) Differentiate between Unicast and Multicast in relation to wireless transmission media. **(02 marks)**

Unicast communication is the exchange of data signal between a single sender and a single receiver over a network.

While

Multicast communication is the exchange of data signal between a single sender and multiple receivers.

(b). State two examples wireless transmission media **(02 marks)**

- Infra red
- Bluetooth
- Micro wave
- Radio wave
- Satellite

(c) Mention the commonly used connector for the category 6 cables in networking. **(01 mark)**

- RJ-45 connector

11. (a). Differentiate between Database and a Data Base Management System. (DBMS) (02 marks)

Database is a collection of related data organized in a way that allows easy access, update, retrieval and use.

While

DBMS is a collection of computer programs designed to manage a collection of related information that can easily be updated, retrieved and used.

- (b). State one examples of a **database** and two examples of a **DBMS**. (03 marks)

Data base

- Phone address book
- Voters database
- Patients database
- Civil servant database
- Students database
- Customers database
- Television guides

Data Base Management System

- Lotus approach
- My SQL (Structured Query language)
- MS Access
- Corel paradox
- Ms Visual Fox pro
- DbaseIV
- Oracle
- Visual Basic

12. (a). Distinguish between Data integrity and data redundancy. (2 marks)

Data integrity is the maintenance of accuracy and consistence of data stored in a database.

While

Data redundancy: Is the entering of data more than once which renders the second copy of the same data to be of no relevance.

- (b). Identify 3 advantages of managing databases in an organization.

(03 marks)

- Reduction of data redundancy
- Enhancement of data integrity..
- Ensured data independence
- Improvement of access to data..
- Facilities of data sharing and integration.
- Centralization of security.
- Reduction of costs

13. Sserubamba wants to start up his computer from the wall socket. State the step-by-step process his computer will take in order to show up the desktop.

(5 marks)

The power supply is supplied to all processing devices in the system unit.

The CPU resets it's self and looks for the BIOS where the firm ware that directs the booting process are installed by the manufacturer.

The BIOS executes the power on self test (POST) to ensure that the basic computer hardware components required for the computer to operate are well connected and properly functioning.

The results of the POST are compared with data on the CMOS chip found on the motherboard.

BIOS locate the boot strap program to load an operating system into memory. (RAM)

The operating system loads system configuration information, and the remainder of the operating system is loaded into RAM.

The desktop icons displayed on the screen to enable the user access to the application programs to perform specific tasks.

14. (a) State any **three** self employment opportunities related to ICT where you can be engaged during vacation.

(03 marks)

- Secretarial services
- Selling of ICT gadgets
- Copy typing
- Computer training centre
- Setting up an internet café
- Offering computer user support
- Computer gaming point for kids

- (b) Mention any **two** roles of a webmaster.

(02 marks)

- Responds to users comments
- Examines data traffic on the site.
- Update the content of the website.

15. (a) Briefly explain the concept of **virtual reality**.

(01 mark)

It is an interactive computer generated experience taking place within simulated environment that incorporates visual and audio feedback.

- (b). Identify at least one innovation in each of the following areas. **(04 marks)**

(i) Hardware

- Power banks
- Audio enabled keyboards
- Cordless mice

(ii) Software

- Voice recognition software

(iii) Communication

- Voice recognition systems

(iv) Security

- Biometric scanners detecting of dangerous weapons
- CCTV camera.
- Drones used for surveillance

16. (a) Differentiate between **relative** referencing and **absolute** referencing.

(02 marks)

Relative referencing: is where a copied formula changes accordingly when pasted to another cell.

While

Absolute referencing: is where a copied formula doesn't change when pasted to another cell.

(b) Illustrate using cell range: **A1:B10** how the following cell referencing can be done during data manipulation using Spread sheet.

(03 marks)

(i) **Absolute referencing:** **\$A\$1:\$B\$10**

(ii) **Relative referencing:** **A1:B10**

(iii) **Mixed referencing:** **\$A1:\$B10**

17. Identify five activities involved in the servicing of computers.

(05 marks)

- Removing dust from the computer
- Replacing damaged components
- Updating of antivirus
- Replace corrupted programs
- Defragmenting of the disk

18. (a) Define the following terms related computer crimes.

(03 marks)

i. **spoofing**

Is a computer crime where an intruder attempts to gain unauthorized access to the information system pretending to be the user.

ii. **Cracking:** Is a computer crime that involves modification of software codes in order to use it without permission or the license.

iii. **Software Piracy:**

Illegal duplication of software.

(b). Differentiate between **cyber crime** and a **computer crime** in relation to system security. **(02 marks)**

Cyber crime is an illegal activity that involves the use of a computer network.

While

Computer crime is an illegal activity that involves the use of a computer.

19. (a). Differentiate between **green computing** and **cloud computing**. **(2 marks)**

Green computing: Is the use computers in a way that is friendly to the environment.

While

Cloud computing: Is a practice of using a network of remote servers hosted on the internet to store, manage and process data rather than a local server.

(b). State any **three** advantages of cloud computing practices. **(3 marks)**

Unlimited Storage Capacity

- **Backup and Recovery**
- **Automatic Software Integration**
- **Easy Access to Information**
- **Cost Efficient**
- **Energy saving**

20. Briefly explain the following terms in relation to computer management.

(5 marks)

(a) Boot drive

A hardware component that can read or contains the files required for the computer to start.

(b) Boot sequence

The order in which a computer searches for non volatile data storage devices containing programs to load an operating system.

(c) Boot loader

A program that loads an operating system when turned on.

(d) BIOS

A program that initiates the booting process.

(e) ROMBIOS

Is the data holding place for the firm ware that initiates the booting process.

END