

1. a) Briefly explain the term Information Technology (01 mark)

***Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data***

- b) State three instance/areas in which information technology has rendered people jobless in today's society. (03 marks)

***i. Education through online lessons and computer based training***

***ii. In Banks through ATM's***

***iii. In marketing through online adverts and social media***

***And any other e.g.***

***In industries through Robotic technology***

***Computer illiterates being replaced***

- (c) What does the term data processing mean? (01 mark)

***This is a term applied to the CPU operations of extracting information from raw data***

2. (a) What do you understand by the term troubleshooting as applied to Computer maintenance? (01 mark)

***Troubleshooting is the process of diagnosing the source of a problem. It is used to fix problems with hardware, software, and many others.***

- (b) State any one troubleshooting technique you may use in computer management. (01 mark)

***Ctrl + alt +Delete***

***And any other e.g.***

***Rebooting***

***System Restore***

***Cable and signal checks***

**Taking notes about error messages**

**Trial-and-error**

**Safe Mode booting**

(c) John was running three programs concurrently on his desktop computer. Suddenly it hanged (froze).

State the keyboard short cut combination john would strike to end some of the tasks. (01 mark)

***Ctrl + alt +Delete***

(d) Identify two possible causes of System freezing. (02 marks)

***i. Outdated software's***

***ii. Insufficient memory or storage space***

And any other

***Note: computer freezes, could be software related or hardware related***

***Viruses***

***To many peripherals being plugged in***

3. (a) Define the term DBMS. (01 mark)

**DBMS is a software used to create and manage databases or**

**A *database management system (DBMS)* is a collection of programs that enables you to store, modify, and extract information from a database.**

(b) Give two examples of DBMS. (02 marks)

***Any two***

***Microsoft Access, MySQL, Oracle, SQL Server, FileMaker, PostgreSQL,***

(c) State the most appropriate data type for the following fields. (02 marks)

(i) Age... **Number or numeric**

(ii) Salary.....**Currency**

4. Booting is the process of loading operating system from the disk into memory.

(a) Explain how power-on self-Test is executed during booting. (01 mark)

- ***A power-on self-test (POST) is a process performed by firmware or software routines immediately after a computer is powered on. The BIOS begins its POST during which the BIOS checks the basic devices required.***
- ***The POST consists of RAM check, CMOS (BIOS) check, hard-disk controller check, Disc-Driver –controller check and keyboard check.***
- ***The BIOS executes the Power-On Self Test (POST) to make sure that the computer hardware is connected properly and operating correctly.***
- ***The results of the POST are compared with data in a CMOS chip on the motherboard.***

(b) State any three reasons for users to restart a personal computer running Microsoft window operating system. (03 marks)

***(i) To complete the configuration of newly installed software***

***(ii) To get the computer system out of freezing***

***(iii) To to download and install the necessary updates***

(c) When do you need to issue a command hibernate on a laptop running Microsoft window operating systems? (01 mark)

**Hibernation is a power-saving state designed primarily for laptops. While sleep puts your work and settings in memory and draws a small amount of power, hibernation puts your open documents and programs on your hard disk, and then turns off your computer**

5. (a) The airline uses a computer based presentation in all the airports to advertise its in-flight services.

Give one reason why a master slide should be used when creating the presentation. (01 mark)

***A slide master is the top slide in a hierarchy of slides that stores information about the theme and slide layouts of a presentation, including the background, color, fonts, effects, placeholder sizes, and positioning.***

(b) Describe one advantage of using a wizard to create the master slide. (01 mark)

***A wizard guides you through certain steps***

(c) Explain the following presentation features. (03 marks)

(i) Slide show

***Projection of information in a designed in a presentation application on full screen for an audience to view.***

(ii) Slide transition

***Slide transition may refers to the timing of the slides to automatically move from one slide to another.***

***Also Slide transitions are the animation-like effects that occur in Slide Show view when you move from one slide to the next during an on-screen presentation. And these effects are normally applied to all the slides***

(ii) Slide animation

***Slide animations are similar to transitions, but they are applied to individual elements on a single slide—a title, chart, image, or individual bullet.***

6. (a) What is E-mail? (01 mark)

***This is a method of sending and receiving electronic computer messages***

(b) E-mail has several advantages over traditional postal services. Write any two advantages and two disadvantages for using e-mails. (04 marks)

Advantages

Any two

- **It is a very fast means of communication**
- **Enables bulk sending of one message to many recipients**
- **It is cheap**
- **It is widely known and user friendly**

## Disadvantages

Any two

- **Requires skills**
- **It involves payments for both devices and internet which may be costly**

7. (a) State any two solid storage media used in personal computer systems. (02 marks)

ANY TWO

**Hard disk, RAM, DVD's, CD's, Magnetic tapes, USB memory sticks e.t.c**

(b) Consider the phrase: **STORAGE**

(i) How many bytes are in the above phrase? (01 mark)

**7 bytes**

(ii) Find the number of bits in the phrase? (01 mark)

**$7 \times 8 = 56 \text{ bits}$**

(i) How long will it take for the phrase to be downloaded from a website with link of 10 mbps?

(01 mark)

- **56bits = 7 bytes,**
- **7bytes =  $7/1000/1000 \text{ mb's} = 0.000007 \text{ mb's}$**
- **If 10mb's = 1 sec**
- **Then  $0.000007 \text{ mb's} = 0.000007/10$**
- **= 0.0000007 seconds**

8. (a) Explain the following terms. (02 mark)

(i) Hacking... ***use a computer to gain unauthorized access to data in a system***

(ii) Computer Virus... ***a computer program designed with malicious intension. Or a program designed to affect the normal functioning of a computer.***

(b) Give two ways how viruses are spread from one computer to another (03 mark)

Any three

**Viruses** can be **transmitted** by

- Emails from untrusted sources
- In downloads from the internet especially pornographic and multimedia sites.
- Through shared files on local network connections
- Through removable storage devices like floppy disks or by CDs, particular those that have been burnt on a computer infected by viruses.

9. (a) Define a word processor. (01 mark)

*This is a program used to create, edit, save, format and print documents*

(b) Explain the results of the following commands when applied to text in a word processor.

(i) Cut and paste (01 mark)

*Completely removes work from the original location to the clipboard and pasting removes work from the clipboard and places it to the desired location.*

(ii) Copy and paste (01 mark)

*Gets a duplicate copy of original work from one destination to another while leaving the original copy in the source location.*

(c) What is meant by **word-wrap** as it is applied in word processing. (02 marks)

*This means the automatic break down of words or text to the next line when the last end of the line is reached.*

10. Describe two health issues caused by prolonged use of computers. (02 marks)

Any two

- **Repetitive strain injuries**
- **Back aches**
- **Optical problems**

(b) For every issue named above, give the method that can be used to prevent it. (02 marks)

Any two.

- ***Taking frequent breaks in order to avoid Repetitive strain injuries***
- ***Using a recommended chair to avoid Back aches***
- ***Using anti glare screens or setting proper resolutions in order to avoid optical problems***

c) What is a UPS?

(01 mark)

***An uninterruptible power supply is an electrical apparatus that provides emergency power to a load when the input power source, typically the main power, fails.***

11. (a) What is a software copyright?

(02 marks)

***Software copyright is a set of prescribed rules used by proprietary software companies to prevent the unauthorized copying of their software***

(b) Explain any three ways software can be protected against piracy.

(03 marks)

Any three

- ***Through application copyright and intellectual property laws***
- ***Through user agreement signing***
- ***Through education and training***
- ***consumer alert warning***
- ***Application of programming codes protecting an authorized usage.***
- ***you can also email, call, or report a suspected violation online***

12. Although the internet has many users, there are some issues that can cause us problems if we are not careful. Some of these issues include: unreliable information and undesirable information.

(a) Outline any three ways to check that online information is correct.

(03 marks)

ANY THREE

- ***Get information from many sources and compare***
- ***Reading more about the authors of the information***
- ***Checking for only legally published information***
- ***Getting information from secured sites (i.e. https sites)***

(b) Explain any two undesirable information contents on the internet. (02 marks)

**Any two**

- **Un solicited for emails (Spam emails)**
- **Un wanted software online updates**

13. (a) Outline any three reasons for running Operating systems on any user's personal computer system.

(03 marks)

Any three

***An operating system software performs the following***

- ***Memory Management***
- ***Spooling Print Job***
- ***Configuring Devices***
- ***Monitoring System Performance***
- ***Administering Security***
- ***Managing Storage Media and Files***

(b) Give any two examples of Widows Operating Systems (02 marks)

Any two

***Windows 95, Windows 98, Windows 2000, Windows CE, Windows NT, Windows XP, windows 7, 8, 10***

***e.t.c***

14. (a) State the difference between Systems and Application software? (02 marks)

***Systems software is the type software that controls the computer and enables it run applications software while Application software is software that has been developed to solve a particular problem or to perform specific tasks for the user***

(b) Give any one example of

i) A customized application program. (01 mark)

**Most bank applications, most auditing applications, school applications e.t.c**

ii) Office application Program. (01 mark)



Any one from

*Microsoft word, Microsoft Excel, Microsoft PowerPoint, Microsoft Access, Microsoft word, Microsoft Publisher, e.t.c*

iii) Shareware software.

(01 mark)

- **Most gaming software, some antivirus software's**
- **Password removing software's**

15. Use the figure below to answer the questions that follow.

	A	B	C	D	E	F
1	HOUSE	ATHLETICS	FOOTBALL	SWIMMING	TOTAL	POSITION
2	TIGGER	12	54	0		
3	LION	21	43	8		
4	SHARK	3	2	300		
5						
6	MAX					

(i) Identify the application program that is appropriate to manipulate this data. (01 mark)

Any spreadsheet application e.g.

- ▶ Ms Excel, Lotus 1-2-3, Corel Quattro Pro, VisiCalc, SuperCalc, open office . calc

(ii) How many columns do you see? (01 mark)

.....**6 columns** ...

(iii) State the formula that can be used to find the Total number of points collected by all Houses.

(01 mark)

...= **Sum (B2:D4)**...

(iv) Which function should be applied to compute the position column? (01 mark)

...*The RANK function*

(v) Which formula would be applied to find the highest points scored in swimming? (01 mark)

.....= **MAX(D2:D4)** .....

16. (a) What is a computer network? (01 mark)

***A computer network is a group of computer systems and other computing hardware devices that are linked together to support digital communication among them.***

(b) Give two advantages and two disadvantages of a computer network. (01 mark)

Advantages ...ANY two

- ***File sharing***
- ***Resource sharing***
- ***Facilitates communication***
- ***Allow tight control over who has access to what data.***

***Dis-Advantages ...ANY two***

- ***Virus spreading***
- ***Setup and maintenance costs (Expensive)***
- ***Special skills are required***
- ***Security issues***

17. (a) Explain the following terms as used in computer networks:

(i) Local Area Network (01 mark)

***A local area network (LAN) is a network that connects computers in a limited geographic area such as a school computer laboratory, an office, or a group of closely positioned buildings.***

(ii) Wide Area Network (01 mark)

***A wide area network (WAN) is a computer network that covers a large geographic area such as a city, country, continents and the whole world.***

(b) Describe any two basic types of network model (02 marks)

Any two

- *A client-server network is where every client is connected to the server and each other.*
- *A peer-to-peer network is where each client shares their resources with other workstations in the network.*

(c) State any one use of HTTP

*... Hypertext Transfer Protocol (HTTP) is an application-level protocol that enables users to access electronic information on the World Wide Web through web browsers.*

18. (a) Explain the roles of the following devices used in data communication and networking: (03 marks)

i) Router .....

*A router is a networking device that is used to route and forward data packets between two networks*

ii) Hub..... *A Hub provides common/ central connection point for devices in a network.*

iii) Bridge ... *A bridge is a device that separates two or more network segments within one logical network.*

(b) Differentiate a print server machine from a File server machine. (02 marks)

*A print server is a dedicated computer that manages and controls printing privileges of all client computers within a network while a File server dedicated computer that manages and controls file access and file modification privileges of all client computers within a network.*

19. (a) Differentiate between a website and a webpage. (02 marks)

*A website is a collection of WebPages while a webpage is a hypertext document suitable for access by web browsers.*

(b) Given the following e-mail address: [info@ntv.co.ug](mailto:info@ntv.co.ug). What is the meaning of the following parts?

(i) info .....*this is the user name* (01 mark)

(iii) ntv.co.ug.... *this is the host name and the top level domain* (01 mark)

(c) Give one example of a web browser that can be used to read mails send to the above address.

(01 mark)

Any one

*Internet explorer, Mosaic, Netscape Navigator, Opera, Mozilla Navigator, Safari, Mozilla Firefox, Google Chrome*

20. (a) Differentiate a hardcopy from a softcopy. (02 marks)

... **HARD COPY...this is the output that is in a tangible format**

**SOFTCOPY...this is the output in an electronic format i.e. either a visible or audio format.**

(b) Give three reasons why one would prefer to have his files kept as hardcopies instead of softcopies?

(03 arks)

Any three

- **Hardcopies are not affected by viruses**
- **A hard copy can also be read by anyone at any time because it doesn't require power for access**
- **Hardcopies are user friendlier than softcopies**

**END**