

Candidate's Name.....

Signature.....

Personal Number

S850/1
Subsidiary Information
and Communication
Technology
Paper
2½ hours

INTERNAL MOCK EXAMINATIONS 2020

Uganda Advanced Certificate of Education

SUBSIDIARY ICT

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

Answer **all** questions in this paper

This paper is made up of **twenty** equally weighted questions

All answers should be written in blue or black ink in the spaces provided in the question paper

For Examiners ' Use Only																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Answer **all** questions in this paper.

1. (a) **Describe the term a computer system.** (01 mark)

A computer system is a collection of entities that collectively work together to process data into information. A computer system is more than a box with components; it comprises the elements or components that make the machine fully useful.

- (b) **Name any four components of a computer system.** (04 marks)

- (i) *Hardware*
- (ii) *Software*
- (iii) *Data & Information*
- (iv) *Users*
- (v) *Communication*

2. (a) **What is meant by the term Green Computing?** (02 marks)

***Green computing, green IT or ICT Sustainability,** refers to environmentally sustainable computing or IT. Green computing is environmentally responsible use of computers and related resources.*

- (b) **Outline three measures being applied at your school to promote green computing.** (03 marks)

- *Use of LCD Monitors instead of CRT monitors that consume electricity and emit electro-magnetic rays.*
- *Minimizing the use of papers and ensuring proper recycling.*
- *Repairing computer hardware devices instead of buying new ones*
- *Use of chrome book, laptop and notebook computers instead of desktop computers to save energy.*
- *Use of power management features on the computer like sleep mode to save energy.*
- *Power off energy wasting devices when not in use like printers, scanners*
- *Use of cloud computing to store students' records and databases. e.g Google Drive, icloud, One Drive*

3. (a) **Distinguish between a file and a folder.** (02 marks)

*A **Folder** is a virtual container for storing files and subfolders in the computer. A folder is a named storage location where related files can be stored. In contrast, a **file** is a collection of related data saved with a given name on a storage medium.*

(b) Write the file extension of the following files. (03 marks)

- (i) Word document. *Doc, docx*
- (ii) Executable file. *exe*
- (iii) Android applications. *apk*

4. (a) Explain the function of each of the following in the computer laboratory.

(i) **Anti-glare filter screens.** (01 mark)

- *This is used to avoid eye strain and fatigue caused by over bright CRT monitor.*
- *Reduces electromagnetic rays from the CRT monitor.*
- *Radiation filter screens should be fitted to reduce the light that reaches the eye*
- *They reduce the effect of light rays emitted from monitors.*

(ii) **Uninterruptible Power Supply.** (01 mark)

- *Computers need the time to shut down properly. Damage to devices and data can occur when there is sudden power loss or fluctuation.*
- *UPS, or Uninterruptible Power Supply units, keep backup power for devices in the event of a failure or other electrical problems.*
- *A UPS is essentially a small battery that keeps the power supply on for long enough for you to switch off the computer safely when there is a sudden blackout*

(iii) **Fire Extinguisher.** (01 mark)

- *Fire extinguishers are a critical component of saving property and lives in the case of a fire emergency.*
- *Owning a fire extinguisher is a form of ensuring safety.*
- *All computer rooms need it just in case a fire starts.*
- *It can save our property from burning because the use of the device will help prevent it from spreading and can even stop the flame in no time*

(b) State any two measures intended to protect the computer laboratory against hardware theft. (02 marks)

- Employing security guards to watch over the lab
- Use of CCTV Cameras to record all movements taking place in the laboratory.
- Using as strong padlocks on doors
- Burglar proofing the room to prevent forceful entry into the room.
- Checking users during exit from the computer laboratory
- Putting up strict measures against smuggling of computer hardware
- Students should enter the laboratory with a teacher
- Employing laboratory attendants to monitor students during practical lessons
- Banning entrance with bags inside the computer laboratory.

5. (a) Write DBMS in full. (01 mark)

Database Management Systems

(b) Identify the most appropriate data type. (04 marks)

Field Name	Data type
SCHOOL FEES	Currency
SURNAME	Text
DATE OF BIRTH	Date/Time
COMMENTS	Memo

6. (a) Describe the procedures one would follow to zip a folder on a windows desktop. (03 marks)

- Select the folder you want to zip
- Right click on the folder
- Choose Send to
- Select compressed/zipped
- Left click to confirm

(b) State two advantages of zipping files and folders. (02 marks)

- Reduces on the size on the disk space.
- Zipped files cannot be easily infected by virus
- They can easily be via email.
- Easier to apply file and folder locks on zipped files

7. (a) **What is meant by the term Peripheral device?** (01 mark)

A peripheral device is hardware device connected/attached to the computer externally. A peripheral device, such as a keyboard, monitor, printer, mouse, digital camera, and microphone, often attaches by a cable to a port on the system unit

- (b) **Identify the most appropriate input device for capturing and entering the following data into the computer.** (04 marks)

- (i) **Text.** Keyboard, Optical Character Recognition Reader
- (ii) **Videos.** Digital Video Camera, Web camera, Camcorder
- (iii) **Audio.** Microphone, sound recorder
- (iv) **Images.** Digital Camera, Image Scanner, handheld scanner

8. (a) **Outline any three netiquette guidelines that must be observed while online.** (03 marks)

- *Don't send spam messages to other people online*
- *Be very brief and clear*
- *Use appropriate language when communicating*
- *Avoid writing wrong spellings and grammar*
- *Don't use abusive language.*
- *Don't respond to personal attacks*
- *Never forward received messages before verifying the authenticity of the message*
- *Obey copyright laws*
- *Avoid impersonation*
- *Never read some one's email*
- *Avoid plagiarism*

- (b) **State two examples of search engines that you know.** (02 marks)

- *Google search*
- *Yahoo search*
- *Bing search*
- *Baidu search*
- *Wikipedia search*

9. (a) **Define the term Motherboard.** (01 mark)

The motherboard is a single circuit board that provides the path through which the processor communicates with internal and peripheral devices. The motherboard is also called the system board.

- (b) **Name any four hardware components connected to the motherboard.** (04 marks)

- Power Supply Unit
- Internal Hard disk drive
- Floppy disk drive
- Central Processing Unit
- Cooling fans
- Read Only Memory chips
- CMOS Battery
- Random Access memory
- Expansion Cards
- USB Ports
- Sound card

10. **Explain the meaning of the following terms.** (05 marks)

- (a) **Freeware.**

Freeware is copyrighted software provided at no cost by an individual or a company that retains all rights to the software.

- (b) **Shareware**

Shareware is copyrighted software that is distributed at no cost for a trial period. To use a shareware program beyond that period, you send payment to the program developer.

- (c) **Software suite**

A software suite is a collection of several applications that are bundled together and sold or distributed as a single package. The software programs may have correlative features and functionality or they may be completely different from one another but share a similar theme.

(d) **Software bug**

Software bug refers to an error in the program source code that does not permit it to function well.

(e) **Software piracy**

Software piracy is the illegal duplication and distribution of copyrighted software.

11. **Given the following examples of storage media.**

Compact disc	Digital Versatile disc
Blu-ray disc	USB Flash disk
Memory card	External hard disk drive

(a) **Identify any three storage media which are more resistant to virus attacks** (03 marks)

- (i) Compact disc (CD)
- (ii) Digital Versatile disc (DVD)
- (iii) Blu-ray disc

(b) **Name any two examples of solid-state storage media?** (02 marks)

- Memory Card
- USB Flash disk

12. (a) **Distinguish between Carbon Copy (CC) and Blind Carbon Copy (BCC) as used in electronic mail.** (02 marks)

Carbon copy this features enables copies of the email message to be sent to third party while acknowledging other recipients While

Blind Carbon Copy: Enables copies of the mail message to be sent to the third party without acknowledging any other recipients.

(b) **State any three advantages of using email over ordinary post.** (03 marks)

- Very reliable and can be accessed at anytime
- Allows attachment of files
- One copy can be sent many recipients at the same time.
- Environmentally friendly because does not involve use papers
- Has a high degree of security with the use of the password and username

- Contains inbuilt dictionary for correcting wrong spellings
- Messages remain permanent for future reference.
- Relatively cheap to use
- Mail can carry hyperlinks to other websites and web pages

13. (a) **What is meant by Operating system software?** (01 mark)

Operating system is a type of system software that performs daily activities of a computer. These are programs that manage the computer resources.

(b) **State any four functions of operating system software to the computer.** (04 marks)

- It helps in processor management e.g. multitasking and time sharing.
- Control the use of peripheral devices.
- It provides an environment that enables installation of application software
- Controls the booting process of a computer
- Monitors system performance.
- Helps in administering security
- It helps in file management.
- It helps in connecting devices to work with computer
- Responsible for scheduling computer tasks/jobs
- Helps to establish network connections.

14. **Identify the most appropriate example of software application suitable for performing the following tasks.** (05 marks)

(a) **Organizing data in form of rows and columns and perform calculations.**

Spread sheet software like Microsoft Excel, Google sheets

(b) **Exploring the internet and viewing web pages on the World Wide Web.**

Web browsers like Google Chrome, Mozilla Firefox

(c) **Typing a letter of apology to be sent to the disciplinary committee.**

Word processor software like Microsoft word, Google docs, WPS Word

(d) **Presenting information to a group of audience during a lesson.**

Presentation software like Microsoft PowerPoint

(e) **Designing a certificate of appreciation to the outgoing prefects**

Desktop publication software like Microsoft Publisher, Adobe Illustrator

15. (a) Define the term internet. (01 mark)

The Internet is a worldwide collection of networks linked together.

(b) Explain any four negative implications of using internet at school.

(04 marks)

- Computer viruses can be spread over the internet.
- Internet provides access to unsuitable material such as Pornography, the biggest threat to healthy mental life.
- Theft of Personal information: If you use the Internet, you may be facing grave danger as your personal information such as name, address, credit card number etc. can be accessed by hackers or thieves.
- Spamming: Spamming refers to sending unwanted e-mails in bulk, which provide no purpose and needlessly obstruct the entire system.
- Some people get addicted to the internet, causing problems with their social interactions of friends and loved ones.
- The initial cost of connecting to the internet is high. e.g. buying computers.
- Many people are computer illiterate and so cannot use internet, hence miss.
- There is a lot of wrong information on the internet. Anyone can post anything, and much of it is garbage/ inaccurate.

16. (a) Explain the meaning of the following terms as used in data communication.

(03 marks)

(i) Modem

*A **modem** is a device which Modulates a digital signal from computers into an analog one to send data out over the phone line. Then for an incoming signal it Demodulates, the analog signal into a digital one*

(ii) Network Interface Card

- A Network Interface Card (NIC) is a computer hardware component that allows a computer to connect to a network. NICs may be used for both wired and wireless connections.
- A NIC is also known as a network interface controller (NIC), network interface controller card, expansion card, computer circuit board, network card, LAN card, network adapter or network adapter card (NAC)

(iii) Protocol

Protocol: This is a set of rules that allow devices to exchange information. A protocol defines the format for communication between systems. For example the Hyper Text Transfer Protocol (HTTP) defines the format for communication between Web browsers and Web servers on the internet.

(b) State two types of networks that you know. (02 marks)

- Local Area Network (LAN)
- Personal Area Network (PAN)
- Wide Area Network (WAN)
- Metropolitan Area Network (MAN)

17. (a) Distinguish between physical and non-physical transmission media. (02 marks)

Physical transmission media involves the use of wires, cables, and other physical materials to send communications signals. Physical media transmits data signals from the source to the destination through a restricted pathway such as a cable. While

Non-physical transmission media is where data signals flow through the **air** or the waves from one device to another without any physical material. In this case transmitting antenna and receivers aerial facilitates the transmission

(b) State three examples of physical transmission media. (03 marks)

- Twisted Pair Cables
- USB Cables
- Coaxial Cables
- Fibre Optic Cables

18. (a) What is a computer crime? (02 marks)

This is a criminal offence or unauthorized use of computer technology to manipulate critical user data.

(b) Suggest three measures that can be applied to minimize computer crimes in an organization. (03 marks)

- *Installing of firewalls to computer networks*
- *Arresting computer users that commit computer crimes*
- *Use of strong passwords to protect computers against unauthorised use*
- *Encrypting data to be sent from place to another*
- *Ensuring frequent backing up of data*
- *Enacting strict laws against computer crimes.*
- *Use of biometric verification devices to access data and computer systems*
- *Restrict data access rights*

19. Outline five ICT professional careers that you know. (05 marks)

- *Computer Programmer*
- *Computer Lab Technician*
- *Database administrators*
- *Web Designers*
- *Web master*
- *Network administrator*
- *Computer engineers*
- *ICT Teachers*
- *Software Engineers*
- *Graphic designers*
- *System administrators*
- *Computer trainers*

20. (a) Explain the meaning of the following terms as used in presentation. (03 marks)

(i) Slide master

The **Slide Master** is the top slide that controls all information about the theme, layout, background, color, fonts, and positioning of all slides. Using the Slide Master is an easy way to adjust the look of an existing theme or make changes to all slides in your presentation.

(ii) Slide Sorter

Slide Sorter view gives you a view of your slides in thumbnail form. This view makes it easy for you to sort and organize the sequence of your slides as you prepare to print your slides

(iii) Slide transition

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.

- (b) Give two limitations of presentation software. (02 marks)

- They cannot be used to perform calculations.
- Requires technical knowledge and basic equipment to use presentation.
- Over simplification of the subject
- Difficult to take notes while presenting
- Presenters just read from the audience which is boring.
- Too easy to make a bad presentation with too many animation effects

END