

DRAFT MARKING GUIDE

Candidate's name.....

Signature

Personal Number

S850/1
Subsidiary Information
and Communication
Technology
Paper 1
2¹/₂ hours

DRAFT MARKING GUIDE

Uganda Advanced Certificate of Education

SUBSIDIARY ICT

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

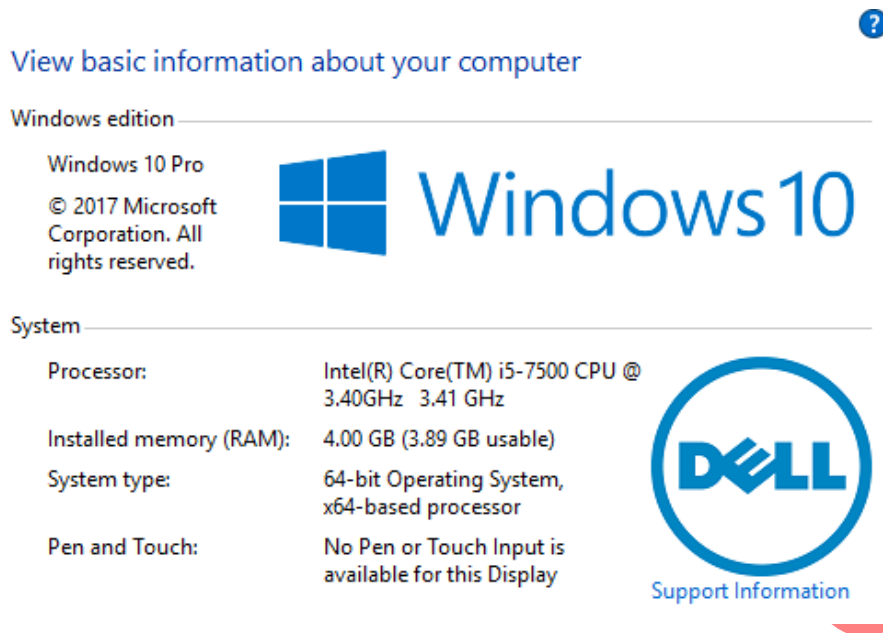
*This paper is made up of **twenty** equally weighted questions*

*Answer **all** questions in this paper*

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

| Questions | For Examiners's Use Only | |
|--------------|--------------------------|----------|
| | Marks | Initials |
| 1-2 | | |
| 3-4 | | |
| 5-6 | | |
| 7-8 | | |
| 9-10 | | |
| 11-12 | | |
| 13-14 | | |
| 15-16 | | |
| 17-18 | | |
| 19-20 | | |
| Total | | |

1. Read the following information below and answer the questions that follow.



- (a) **Name two computer specifications one may consider when buying a new computer listed above?** (02 marks)

- (i) *Processor speed*
- (ii) *Processor type/brand*
- (iii) *Processor generation*
- (iv) *Computer manufacturer/brand*
- (v) *Memory available/RAM*
- (vi) *Type operating system*

Any two correct 2x1=(02 marks)

- (b) **Write down the procedures you would follow to display the above information on your computer.** (03 marks)

- *Right Click on This PC/ My Computer*
- *Select Properties*
- *Left click to confirm*

2. (a) Give any two ways to protect a computer from electrical damage.

(02 marks)

- *Use of Uninterruptible Power Supply to minimize sudden blackouts*
- *Use of surge protectors to protect equipment against power surges*
- *Proper insulation of cables*
- *Laying cables in cable trunks*
- *Use of power stabilizers to ensure stable supply of electricity.*
- *Proper grounding of electrical wiring and cables.*

(b) Suggest any two measures you would take to prevent loss and/or damage of data in computers.

(02 marks)

- *Applying strong passwords in the computer.*
- *Activating firewalls to protect against unauthorized access*
- *Installing updated anti-virus software*
- *Backing up data regularly.*
- *Use of cloud storage instead of hard disks*
- *Applying folder locks and limiting data access*

(c) Give one reason why computers should be serviced.

(01 mark)

- *To update all outdated software.*
- *To replace damaged hardware parts.*
- *To ensure proper functioning and reliability of a computer.*
- *To remove dust from the computer.*
- *To ensure that the computer works continuously*
- *To ensure performance and efficiency of a computer.*
- *To reduce the costs of long run replacement and repairs.*
- *To prevent the computer from viruses and malware.*

3. (a) Explain the term Icon as used in computers.

(02 marks)

An icon is a graphical representation or pictogram that represents a program, file or folder in order to help the user navigate the computer screen.

(b) **Identify two limitations of using the desktop as a sole file storage location/directory.** (02 marks)

- *In case of new fresh operating system installation, files can be lost*
- *System failure/boot failure can lead to loss of files*
- *Creates a disorganized desktop*
- *Files can easily be attacked by system viruses*
- *Causes a low disk space error messages*
- *Unauthorized access to desktop files*

(c) **Suggest one reason for compressing folders in the computer.** (01 mark)

- *Compressed files can easily be sent via email*
- *Compressed folders can easily be shared on social media*
- *Reduced disk space/file size*
- *Cannot easily be attacked by viruses*
- *Zipped folders allows you to apply passwords and folder locks*

4. (a) **A stationary pointing device with a ball mechanism on its top that the user rolls to direct and control the movement of the pointer screen is called** (01 mark)

- *Trackball*

(b) **Name two devices that serve as both input and output devices.** (02 marks)

- *Screen touch*
- *Sound cards*
- *Modems*
- *Facsimile machine*
- *Headsets*
- *Network cards*
- *Digital cameras*

(c) **What device can be used to capture information shown in the picture below?**



- *Barcode reader/scanner*

5. Give examples of software under the following categories:

(a) System utility.

(02 marks)

- *File compressors*
- *Disk scanners*
- *Disk defragmenters*
- *File archives*
- *Anti-virus*
- *Diagnostic utilities*
- *Cryptographic utilities*
- *Screen savers*
- *System profilers*

(b) **Operating Systems;**

(02 marks)

- *Microsoft Windows*
- *Google's android*
- *Apple iOS*
- *Apple MacOS*
- *Chrome OS*
- *Linux*
- *Harmony os*
- *Wave os*
- *Unix*
- *Fedora*
- *Solaris*

(c) **Programing Languages.**

(01 mark)

- *Machine code*
- *C*
- *C++*
- *Python*
- *Javascript*
- *Java*
- *Perl*
- *PHP*
- *C-# sharp*
- *Visual basic*

6. (a) Define the term Digital Literacy? (02 marks)

Digital literacy means having the skills you need to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices

Digital literacy is defined as an individual's ability to search, find, evaluate, and compose clear information through typing, writing, tapping, and by using other mediums (e.g., multimedia videos, video calling, and messaging) on various digital platforms, which requires a basic level of computer competency

(b) Suggest three ways of improving of digital literacy skills in your community. (03 marks)

- *Attending ICT & Computer related seminars and workshops*
- *Undertaking digital literacy courses*
- *Undertaking free online courses*
- *Improving methods of communicating while online*
- *Teach digital skills to others*
- *Increasing online presence*
- *Integrate ICT in the job*
- *Practice your skills over time*
- *Follow current technology trends*

7. (a) What is meant by the term Netiquette? (02 marks)

Netiquette is a made-up word from the words net and etiquette. Netiquette thus describes the rules of conduct for respectful and appropriate communication on the internet. Netiquette is often referred to as etiquette for the internet. These are not legally binding rules, but recommended rules of etiquette.

(b) State two netiquette rules that must be followed while online. (02 marks)

- *Always be very brief*
- *Do not respond to personal attacks*
- *Do not use capital letters*
- *Use appropriate language*
- *Attempt to find your own answer*
- *Don't violate people's privacy*
- *Don't hide in the computer*
- *Use your own profile picture*
- *Don't think you are anonymous*

(c) **Mention one factor affecting the speed of an internet connection. (01 mark)**

- *Network traffic*
- *Network coverage*
- *Network speed of the internet service provider*
- *Modem speed*
- *Computer memory*
- *bandwidth*

8. (a) **Write WLAN in full. (01 mark)**

- *Wireless Local Area Network*

(b) **Explain the following network models:**

(i) **Client-server. (02 marks)**

Client-server model is a computer network in which many clients (remote processors) request and receive service from a centralized server (host computer). Client computers provide an interface to allow a computer user to request services of the server and to display the results the server returns.

(ii) **Peer-to-Peer. (02 marks)**

In peer-to-peer (P2P) networking, a group of computers are linked together with equal permissions and responsibilities for processing data. Unlike traditional client-server networking, no devices in a P2P network are designated solely to serve or to receive data. Each connected machine has the same rights as its "peers", and can be used for the same purposes.

9. (a) **Distinguish between an interpreter and a compiler?** (02 marks)

Interpreter translates just one statement of the program at a time into machine code

While

Compiler scans the entire program and translates the whole of it into machine code at once.

- (b) **Explain the meaning of the following terms as used in programming.**

(03 marks)

- (i) **Program syntax**

Syntax refers to the rules that define the structure of a language. Syntax in computer programming means the rules that control the structure of the symbols, punctuation, and words of a programming language

- (ii) **Source code**

Source code is generally understood to mean programming statements that are created by a programmer with a text editor or a visual programming tool and then saved in a file.

- (iii) **Debugging**

This is a multistep process that involves identifying a problem, isolating the source of the problem, and then either correcting the problem or determining a way to work around it.

10. **The screen below shows a database object.**

The screenshot shows a web application window titled "Students' Bio Data". Below the title bar, there is a header section with the text "Student's Bio Data". The main content area contains a form with several input fields and labels. The visible fields are:

| | | | |
|----------------|--------------------------------------------|---------------|------------------------------------------|
| Reg-Number | <input type="text" value="RGN020"/> | Date of Birth | <input type="text" value="28-Dec-1990"/> |
| Student's Name | <input type="text" value="Iyadina Uadid"/> | UCE Results | <input type="text" value="12"/> |

- (a) **Name the database object shown.** (01 mark)
- *Database form*
- (b) **Identify the field which would serve as a primary key.** (01 mark)
- *Reg-Number*
- (c) **Assign appropriate data types for the following fields.** (03 marks)
- (i) **UCE Results:** *Number*
 - (ii) **Teacher's Remarks:** *Memo/Long Text*
 - (iii) **Reg-Number:** *Text/AutoNumber*

11. (a) **What is meant by the term secondary storage media?** (02 marks)

A secondary storage device refers to any non-volatile storage device that is internal or external to the computer and hold/keeps user data permanently in the computer. It can be any storage device beyond the primary storage that enables permanent data storage. A secondary storage device is also known as an auxiliary storage device, backup storage device, tier 2 storage, or external storage.

- (b) **Name three examples of solid state storage media.** (03 marks)
- *Memory cards*
 - *USB flash drives*
 - *SSD hard drives*
 - *Smart cards*
 - *SD cards*

Magnetic storage media

- *Magnetic tape*
- *Hard disk drive*
- *Floppy disks*
- *Zip drives*
- *Jazz disk*

Optical storage media

- *Compact discs*
- *Digital versatile discs*
- *Blu-ray discs*

12. Write **TRUE** or **FALSE** against statement from (a) to (e) in the table below.

(05 marks)

| | STATEMENT | TRUE/FALSE |
|-----|--------------------------------------------------------------------------------------|--------------|
| (a) | <i>File compression reduces the size of the file/ folder on the disk</i> | <i>TRUE</i> |
| (b) | <i>Uninstaller removes a word document file from the computer system.</i> | <i>FALSE</i> |
| (c) | <i>Disk partitioners compiles technical information about hardware and software.</i> | <i>FALSE</i> |
| (d) | <i>Disk scanner detects and corrects problems on hard disk.</i> | <i>TRUE</i> |
| (e) | <i>Anti-virus utilities protect the physical access to the computer.</i> | <i>FALSE</i> |

13. (a) **What is meant by a Blind Carbon Copy?**

(02 marks)

A copy of a message (such as an email) that is sent to many recipients without the acknowledging the other recipients. The recipients are unable to know who else has received the same message.

(b) Give two advantages of email over ordinary post **(02 marks)**

- *A message can be sent to many recipients.*
- *Allows attachment of files*
- *Its environmentally friendly because of no papers*
- *Instant feedback from the recipients*
- *Use of the password makes it more secure*
- *The mail is delivered instantly across the world*
- *Can subscribe to news and other online services*
- *Very easier to reference the message in future.*

(c) Name one example of an e-mail service provider. **(01 mark)**

- *Google Mail*
- *Proton Mail*
- *Yahoo Mail*
- *Zoho mail*
- *iCloud*
- *AOL Mail*
- *GMX mail*

14. (a) What is a cybercrime? **(02 marks)**

Cybercrime is any criminal activity that is committed using a computer, networked device or a network

(b) Outline any two examples of cyber-crimes that you know? **(02 marks)**

- *Hacking*
- *Phishing*
- *Pharming*
- *Spoofing*
- *Fraud*
- *Identity theft*
- *Denial of service attacks*
- *Cyber extortion*
- *Ransom ware*

(c) Suggest one measure of protecting against the above mentioned cybercrime in (b) above. (01 mark)

- Activating firewalls to protect against unauthorized access and hackers
- Installing updated software to protect against ransom ware.
- Using strong passwords to protect computers.\
- Control access to the system
- Employ personal accounts
- Ensuring end point protection.
- Use two factor authentication

15. The table below shows results from an ICT class extracted from a spreadsheet application. Use it to answer questions (a) to (c).

| | A | B | C | D | E | F |
|---|-----|-----------|------------|------|-------------|---------|
| 1 | No. | Name | Assignment | Test | Examination | Average |
| 2 | 1 | Peter | 56 | 74 | 89 | |
| 3 | 2 | Lindah | 82 | 45 | 85 | |
| 4 | 3 | Rayyam | 100 | 95 | 90 | |
| 5 | 4 | Josephine | 50 | 90 | 65 | |
| 6 | 5 | Musa | 60 | 57 | 80 | |
| 7 | 6 | Amina | 38 | 77 | 62 | ##### |

(a) Write the function that can be used to determine the average score for Peter. (01 mark)

=AVERAGE(C2:E2)

(b) Give one reasons why cell F7 appears as shown above in the worksheet? (01 mark)

The result cannot fit into the column. The column is too narrow to hold the result.

(c) How would you rectify the error in cell F7 as shown above? (01 mark)

- By resizing on the column gap.
- By widening the column gap.

(d) What function would you use to position the students? (01 mark)

=RANK

(e) Name the file extension commonly associated with files created by Microsoft Excel? (01 mark)

.xls.x

16. (a) Define the term software package /suite. (02 marks)

A software suite is a collection of two or more software titles or programs bundled and sold as a single entity or application. The programs may have correlative features and functionality, or they may be completely different, but share a similar theme.

- (b) (i) Give one example of a software package /suite. (01 mark)

- *Microsoft Office Suite*
- *Adobe Master Suite collection*
- *Adobe creative suite*
- *Open office*
- *WPS Office*
- *iWork*
- *Libre Office*
- *WordPerfect*
- *Office Suite*
- *Microsoft 365 Business*

- (ii) List any two components of your example in (b) (i). (02 marks)

Microsoft Office Suite Components

- *Microsoft Excel*
- *Microsoft PowerPoint*
- *Microsoft Access*
- *Microsoft Outlook*
- *Microsoft Visio*
- *Microsoft Publisher*
- *Microsoft InfoPath designer*

Adobe master suite

- *Adobe reader*
- *Adobe photoshop*
- *Adobe InDesignffecr*
- *Adobe illustrator*
- *Adobe audition*
- *Adobe premier*
- *Adobe after effects*
- *Adobe animate*
- *Adobe dreamweaver*
- *Adobe express*

17. (a) **Name any two network communication devices.** (02 marks)

- *Modem*
- *Network Interface Card*
- *Router*
- *Switch*
- *Network bridge*
- *Hub*
- *Repeater*
- *multiplexer*

(b) **Give two advantages of fibre optic cables overs twisted pair cables.** (02 marks)

- *higher bandwidth with faster speed*
- *long transmission distances*
- *greater flexibility*
- *transmits light*
- *resistant to electromagnetic interference*
- *they are not very easier to tap in*
- *resistant to all weather conditions*

(c) **Identify one example of a wireless transmission media.** (01 mark)

- *microwave*
- *radio wave*
- *infrared*

18. (a) **Define the term Cloud storage?** (02 marks)

Cloud storage is a cloud computing model that stores data on the Internet instead of local servers through a cloud computing provider who manages and operates data storage as a service

(b) **Give two advantages of using Cloud storage.** (02 marks)

- *Promotes green computing*
- *Files can be accessed at any place around the world*
- *Files cannot be attacked with viruses*
- *Purchasing physical storage media is very expensive*
- *Acts as the best option for backing up data*
- *Synching and updating of files*
- *Provides security to your data*

(c) **Name one application that provides cloud storage services to the public** (01 mark)

- *Mega drive*
- *One drive*
- *Google drive*
- *Dropbox*
- *iCloud*
- *Samsung cloud*
- *Amazon drive*
- *Tresorit*
- *pCloud*

19. (a) **What is Computer Simulation?** (02 marks)

A computer simulation is the usage of a computer and related software for the imitation of a real-world process or system.

Explain three negative implications of emerging technologies. (03 marks)

- *Loss of jobs/unemployment*
- *Accidents in the society*
- *Increased expenditure on ICT*
- *Decreased communication and intimation*
- *Loss of privacy*
- *Health issues and depression*
- *Electronic fraud*

20. (a) Define the term Cache Memory? (02 marks)

*Cache memory, also called **cache**, supplementary memory system that temporarily stores frequently used instructions and data for quicker processing by the central processing unit(CPU) of a computer.*

(b) State the function of the following parts of the central processing unit. (03 marks)

Control unit

- *The control unit manages what is happening in the CPU.*
- *It directs the order of operations.*
- *The control unit retrieves one instruction at a time from a stored program.*
- *It interprets the instruction and sends signals to the ALU directing it to execute the instruction.*
- *It communicates with the input devices in order to transfer program instructions and data into storage.*
- *The control unit also communicates with the output device to transfer results from storage to the output devices*
- *It also coordinates and provides timing for each operation.*

Arithmetic Logic Unit

Handles arithmetic and logic computations. The arithmetic operations it handles are addition, subtraction, multiplication and division. The logic operations it handles are comparisons such as greater than, less than and equal to, true or false

Registers

This is a small amount of storage available on the CPU whose contents can be accessed more quickly and directly.

END

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