Name: ....personal number:..........................

Signature: ....

PROPOSED MARKING GUIDE

UGANDA TEACHERS' EDUCATION CONSULT (UTEC)

Uganda Advanced Certificate of Education

SUBSIDIARY ICT

Paper 1

2 Hours 30 Minutes

INSTRUCTIONS TO CANDIDATES:

Attempt ALL questions in this paper.

This paper is made up of 20 compulsory and equally weighted questions.

Write all your responses in dark blue or black ink in the spaces provided.

All answers should be written in the spaces provided. No additional material will be provided to the candidate.

Unity work will lead to automatic loss of marks.

FOR OFFICIAL USE ONLY					
1			11		
2			12		
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4			14		
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7			17		
8			18		
9			19		
10			20		
				Total	

1. (a) State *two* differences between Data and Information.
   ✓ **Data** is a collection of raw and unprocessed facts, figures, and symbols.
e.g., Numbers.

While

Information is data that is organized, meaningful, and useful.
e.g., Mathematical formula
                                                              (Any 02 X 1 marks)
   ✓ Decision making is not possible with data
While
Information forms a basis for decision making

(b) Identify *three* examples of data that can be transmitted by a Smart phone.

   ✓ Audio
   ✓ Text
   ✓ Video
   ✓ Graphics
   ✓ Animations   *(Any 3X1=03 marks)*

2. (a) Explain what is meant by term **Ergonomics** as used in ICT.

   ✓ Ergonomics means incorporating comfort, efficiency, and safety into the
      design of items in the workplace.   *(02 marks)*

(b) State *three* ways ergonomics is being provided for or practiced in your school and ICT
   systems.

   ✓ Use of Display devices that have a tilt-and-swivel base with controls to adjust
      the brightness, contrast, positioning, height, and width of images.
   ✓ Provision of enough lighting in the computer laboratory
   ✓ Use of air conditioning equipment
   ✓ Use of Insulated electrical equipment in the computer laboratory.
                                                         (Any 3x1=03 marks)

3. (a) What is meant by *Troubleshooting* as applied in computing"

   ✓ is the process of identifying, planning and resolving a problem, error or fault
      within a software or computer system.   *(02 marks)*

(b) State *three* ways you could fix a keyboard that has been working and suddenly stopped.

  ✓ Perform a restart by pressing the reset button on the Systems unit
  ✓ Unplug and plug the keyboard into another USB ports in case it is a USB mouse
  ✓ Remove and dust blow the Keyboard ports in case the failure is a result of dry out
  ✓ Check with the mouse the hardware properties to see if the hardware is not disabled accidently and enable it.

(Any 3X1=03 marks)

4. (a) Identify the application software associated with the following file extensions.

File extension**Application Software**

  ✓ .ppt   Microsoft Power point   *(01 Mark)*
  ✓ .jpeg   Paint, Adobe InDesign, Illustrator etc. *(01 Mark)*
  ✓ .xls   Microsoft Excel   *(01 Mark)*

b) Give *two* characteristics of computer files.

  ✓ They can be deleted

  ✓ They can renamed

  ✓ They can be copied /moved

  ✓ They can be imported, exported e.t.c

(Any 2X1=02 marks)
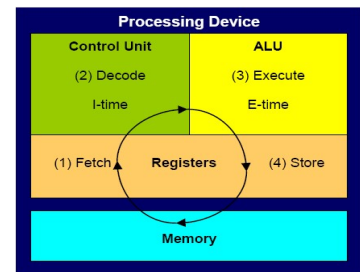
5. (a) One of the Major components of any computer system is its Central Processing Unit (CPU). state *two* components that make up the CPU

  ✓ Control unit

  ✓ Arithmetic and Logic Unit (ALU)

  ✓ Registers (Memory)

(Any 2X1=02 marks)

(b) With use of a diagram, explain the machine cycle process in the CPU

✓ A machine cycle is a series of operations performed to execute a single program instruction. For every instruction, the control unit repeats a set of four basic steps that is.

✓ Fetching

✓ Decoding

✓ Executing

✓ Storage

(Description 01 mark, diagram with complete steps 2 marks)
Only diagram, correct steps 2 marks, only description no diagram 01 mark)

6. a) State *three* roles played by each of the following ICT professionals.

i) I.T Technician: *(Any 01 mark)*

✓ Checks for hardware faults and repairs computers

✓ Performs software updates by doing it manually or automatically sets updates

ii) Software engineer   *(Any 01 marks)*

✓ Developing system and application software

✓ Developing user and technical documentations for the new software.

✓ Maintaining and updating the software to meet day to day requirements while overcoming challenges.

iii) System Analyst   *(Any   01   mark)*

✓ Reviewing the current manual or redundant information system and making recommendations on how to replace it with a more efficient one.

✓ Working with programmers to construct and test the system.

✓ Coordinating training for users on how to use the new system

Turn Over

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b) Give *two* challenges facing ICT professionals in your country. *(Any 2X1=02 marks)*

- ✓ Low remunerations / salaries
- ✓ High competition from skilled IT professionals from foreign countries
- ✓ Uneven developed ICT instrastructure
- ✓ Insufficient Gov't support

7. (a) Identify *three* signs of an operating system infected with computer viruses.
(Any 3X1=03 marks)

- ✓ Less memory available than usual
- ✓ Unfamiliar graphics
- ✓ Programs taking longer than usual to load
- ✓ Disk access seeming excessive for simple tasks
- ✓ Usually error message occurring more frequently

(b) Give any *two* basic Icons for windows operating systems. *(Any 2X1=02 marks)*

- ✓ My Documents
- ✓ Control panel
- ✓ Recycle Bin
- ✓ This PC/ My computer

8. Apart from Bold and Bullets, Identify any other *three* word processing features applied in the following table. *(Any 3X1=03 marks)*

SENIOR ONE			
TIME FRAME	**TOPIC**	**SUB-TOPIC**	**CONTENT**
2 Weeks	introduction to computers		• Definition of terms

Turn Over

					• Reasons for studying computer • Rules and regulations in the computer laboratory • Naming computer parts • Characteristics of modern computers

Table 1 Syllabus for S1

✓ Split table cells /Split cells

✓ Caption

✓ Text Direction

✓ Merge cells

b) Givetwo examples of spreadsheet application software.　　　*(Any　　2X1=02 marks)*

✓ Microsoft excel

✓ Corel Quattro Pro

✓ Lotus1-2-3

✓ Super Calc

✓ VisiCalc

✓ Multiplan

9.　(a) State the *difference* between Primary memory and secondary memory**.**　　*(02 marks)*

✓ Primary memory is the type of memory where the contents or information within the memory are lost when the computer power is turned off.E.g Random Access Memory (RAM).
While

✓ Secondary memory is a type of memory where contents within the memory are not lost when power is put off the computer. E.g. Read Only Memory (ROM).

(b) Outline any *two* factors considered when buying storage media for use at school.

✓ Storage capacity

✓ ICT user policy in place e.g. Does the school accept use of external storage

✓ Robustness

✓ Storage device available for example, CD/DVD drives available e.t.c

(c) Give *one* disadvantage of flash disks used for data storage.   *(01 mark)*

    ✓ Easily transfer computer viruses from PC to another

    ✓ Facilitates theft of data

    ✓ Data recovery may be difficult on a corrupted flash disk

(Any 2X1=02 marks)

10. Explains the concept of Netiquette.   *(02 marks)*

    ✓ A set of rules for acceptable online behaviour

    or

    ✓ The set of professional and social behaviour practiced and advocated in electronic communication over any computer network

(b) Explain the following terms used by e-mail account users.   *(1 mark @= 3 marks)*

    i)   Sign in Act of typing user name and password to gain access to email account

    ii)   Compose, Act is writing an email readyfor sending or saving It as draft

    iii)   Inbox; A folder where received email messages from external senders is placed

11. a) Show *one way* of ensuring each one of the following during database design.

    i)   Data integrity   *(01 mark)*
        ✓ Use of data validation text techniques
        ✓ Use of data validation rule techniques

    ii)   Avoidance of data redundancy   *(01 mark)*
        ✓ Use of primary keys
        ✓ Set indexed key properties in tables

b) Identify the total number of fields, records and data types used in the following database Table

Date of delivery	Parents name	District Name	Child name
04/April/2016	Namulondo Jane	Iganga District	Kasumba Ali
08/April/2016	Magufuli Ali	Kamuli District	Ahmedi Mubarak
10/April/2016	Mugabe Sharif	Mbarara District	Namugga Joweria
12/April/2016	Besigye Hassan	Kamuli District	Atuhaire Fatuma
01/April/2016	Akello Grace	Gulu DIstrict	Akello Christine

    i) Fields   **4**   *(01 mark)*

ii) Records   **5**   *(01 mark)*

iii) Data types   **2 data types, Date/Time and text**   *(01 mark)*

12. a) Your school is contemplating between settings up either a wireless or wired local areanetworkfor their information operations. As a student of ICT, state three any reasons toyour headteacher to justify the need of wireless technology over wired technology. *(02marks)*

    ✓ Connection establishment is very quick because users only need to pair two devices.
    ✓ It can pass through walls unlike wired
    ✓ They receive and broadcast data/signals over larger geographical regions e.g. satellite
    ✓ They sent a lot of data/ signals simultaneously e.g. satellite

(b) State *two* examples of Network models.   *(02 marks)*

    ✓ Peer to peer

    ✓ Client to Server

(c) Identify the role played by a Router in computer Networking.   *(01 mark)*

    ✓ Sends communications traffic to the appropriate network using the fastest available path.

13. a) Briefly show how you would use the following tools to secure computer installations.
i) Dust Blower: *(01 mark)*

    ✓ Open system case and blow off dust

    ✓ Dust blow keyboard

ii) A surge arrester   *(01 mark)*

    ✓ Connect it to power supply source or units to protect components against power surge

b) Give *three* computer laboratory rules and regulations that may help protect computer hardware.
✓ Do not open inside part of computer when cleaning, this should be done by a trained personnel.

✓ All CDS used for installation of programs and backups should be kept safely in Disk banks and away from sun shine and magnetic media.

✓ In areas where power fluctuates it is important to use a stabilizer or UPS to ensure steady input power to the computer system.

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- ✓ Peripheral devices like printers should be serviced regularly.
- ✓ All foreign storage devices like floppy disks, flash disks, and external hard disks should be scanned from computer viruses.
- ✓ Always lock up all the premises where computers are kept to prevent theft and intruders.
- ✓ Never leave computers on after use and you should follow the systematic way of shutting down.

(Any 3X1=03 marks)

14. State True/False in the following scenarios.   *(05 marks)*

No.	Statement	True/False
i	OCR is a device that scans written or typed text and transforms it into computer readable form.	True
ii	Access to data stored on magnetic tape is random.	False
iii	Computer software is normally classified as system software and application software	True
iv	Computer software is normally classified as system software and application software	True
v	The group of 8 bits is used to represent a byte.	True

15. Explain the following as ICT related concepts: *(05 marks)*
   i)   A **blog**

   Is a website where users post entries that are displayed in reverse chronological order, with the most recent posting at the top of the page. Blogs can take the form of online diaries, news columns and reports from special events.

   ii)   ***Cloud computing:***

   is a technological advancement where software applications, processing power, data and artificial intelligence are accessed over the internet.

   iii)   ***World Wide Web***

isan information space where all the Web pages, pictures, videos and other online content can be accessed via a Web browser. Web resources are identified by Uniform Resource Locators (URLs)

iv) **_Computer Crimes_**

are criminal activities which involve the use of information technology to gain an illegal or unauthorized access to a computer system with the intent of damaging, deleting, or altering computer data.

v) **_Digital signature_**

……

……

16. (a) Write the following acronyms in full
(i) **TCP** *(01 mark)*
Transmission control protocol

(ii) **IRC** *(01 mark)*
Internet relay chat

(b) State **_three_**factors affecting computer communication speed over the Internet. *(03 marks)*

- ✓ Bandwidth
- ✓ Network traffic
- ✓ Processor speed

17. (a) Differentiate between guided and unguided transmission media. *(02 marks)*

Guided media
- ✓ This is a kind of media which uses wires, cables to send communications signals. These include twisted pair cables, coaxial, and optical fiber cables.

While

Unguided

- ✓ This media that sends communications signals through the space using radio wave, microwave and infrared signals. Wireless telecommunications technologies transport digital communications without wires between communications devices.

(b) State any **three main** guided transmission media used in data communications.*(03 marks)*

- ✓ Twisted pair cable
- ✓ Unshielded twisted pair cable (UTP)

✓ Coaxial cable

18. (a) Outline any *three* good reasons for practising ethics and law in computing. *(03 marks)*

   ✓ Reduces computer cyber crimes

   ✓ Protects computer inventors against their copy rights and inventions

   ✓ Protects computer hardware and software

   ✓ Prevents data misuse

(b) Suggest any *two* examples of unethical computer code of conducts. *(02 marks)*

   ✓ Spamming

   ✓ Use of abusive content

   ✓ Forwarding messages without consent of sender

19. (a) Identify the steps involved in
(i) Creating a folder on the desktop? *(02 marks)*

Right click empty space> select New> select folder> type folder name > press enter key.

(ii) Retrieving a file accidently deleted from the recycle Bin? *(02 marks)*

Open recycle bin, Select file to restore> right click on the file> choose restore

(b) Identify any one file management utility software. *(01 mark)*

File managers: A file manager or file browser is a computer utility program that provides a user interface to work with file systems. The most common file management operations used include create, open, edit, view, print, play, rename, move, copy, delete, attributes, properties, search/find, and permissions.

20. Tick *five* features of a database management software similar to a spreadsheet? *05 marks)*

FEATURE	TICK

Spelling	✓
Format Painter	
Action button	
Word wrap	
Inbuilt functions	✓
Tables	✓
Data Validation	
Macros	✓
Mail merge	
Sort and filter	✓

END