Name: …………………………………………………. Personal Number……………….

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S850/1

SUBSIDIARY ICT

PAPER 1

2½ hours

MASAKA DIOCESE EXAMINATIONS BOARD

Uganda Advanced Certificate of Education

SUBSIDIARY ICT

Paper 1

2hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- *The paper is made up of 20 equally weighted questions.*

- *Answer all questions in this paper.*

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

- *No additional answer sheets should be inserted.*

For examiner's use only																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	**Total**

1 a) Define the following terms

i) Computer literacy **(01mk)**

Computer literacy refers to having the knowledge and understanding of computers and their uses.

ii) Digital divide. **(01mk)**

Digital divide refers to the gap between those who have ready access to computers and the Internet, and those who do not.

b) Mention the importance of the following computing components.

i) System clock- **(01mk)**

The System clock controls the speed of operations within the computer

ii) Expansion slots **(01mk)**

Expansion slots are used to add more devices to the computer

iii) Ports **(01mk)**

Ports provide interfaces or points of attachment for devices to the system unit.

2 a) How can the following be achieved under secure computer laboratory environment

i) Protection against fire **(01mk)**
Have gaseous fire extinguishers
Avoid over loading power sockets or units

ii) Stable power supply **(01mk)**
Protect computers from being damaged and to prevent data loss due to power problems by having:

Uninterruptible power supply (UPS)
Enables users to save work when the main power source is off, insufficient or unstable
Enables users to complete work at hand
Enable users to turn off the computer correctly

***Power stabilizers** maintain power at required voltages*

*A **surge protector** is used to protect computer equipment against under voltage and over voltage*

iii) Good lighting **(01mk)**
A computer laboratory must be well lit with appropriate wall paints
Fit radiation filter screens to reduce light that reaches the eyes

b) Suggest two measures that can be undertaken to protect users from injury in the computer laboratory (02mks)

Avoid illegal connections and disconnectionsto limit electrocution
Avoid exposing computers to heat/direct sunlightthat may lead to component explosion
Foods and drinks should not be allowed in the computer laboratory may pour into electrical connections leading to electrocution
The repairs should be done by technical personsto limit dangers relating to electrocution
Keep fire extinguishers to guard against fires
Setup lightening arrestors to guard against thunder
Use firm tables to hold the weight of hardwaresothat devices donot fall onto users
Education/sensitizing users about basic hardware care/practices
Engage alarms systems e.g. smoke, fire detectorsto alert users about dangers
Insulate all wires to limit electrocution
Lay cables in trunks and away from pathways so that users do not trip over and fall

3 a) Write down two factors to consider when undertaking computer maintenance/servicing.(02mks)

Type of computer, manufacturer- IBM compatible, Macintosh, Toshiba and its processor speed-Pentium I,II,III IV
Tools to apply- blower, liquids, brushes, pliers etc.
Type of problem: is it hardware or software problem
Environment of the computer; office, school lab., public place etc
Operator/ user: is it personal or shared computer.
Whether the system is networked or not
Type of software: operating system, type package it has.
Type of room where the computer is kept. Is it air conditioned, ventilated or not.

b) State the benefit of the following computer servicing activities.

i) Emptying the recycle bin (01mk)

Free up disk space
Removes unwanted files

ii) Upgrading software (01mk)

Introduce improvements and new features to increase efficiency
Correct bugs (errors) encountered in previous versions of software.

iii) Activating firewall (01mk)

Protect your computer from unauthorised remote access
Block messages linking to unwanted content
Block unsuitable or immoral content

4 a) Define the term information technology (01mk)

Information technology relates to all means which facilitate information or data capture, processing, storage and communication or output.

b) Write down two **advantages** and two **disadvantages** of using information technology in education.

Advantages   *(02mks)*
Teachers can show experiments that are difficult or dangerous in nature
Students can learn by themselves when the teacher is not available.
Students can learn and proceed at their own pace.
Teachers can present subject matter more clearly with multimedia.
Students can usually get their results immediately after they have answered the question
There are rich educational resources on disks and the Internet.

Disadvantages   *(02mks)*
Students can only follow what the CAL packages are predefined to offer.
Face-to-face interaction between students and teachers may be reduced.
Increased costs of education and learning
Wastage of study time doing or engaging in unproductive work
Exposure to illicit material as students adopt negative behaviours

5 a) Suggest two rules to be followed when naming files.   (02mks)

No file can have the file specification under the same directory
A file specification has two parts; file name and file extension
A file name can have any number of characters between 1 and 8 characters inclusive
The file extension may have up to three characters
In a file specification a file name may be separated from the file extension by a (.) or full stop
Some characters like +, =, " ", comma, [,],/,<,>,-,?And may not be accepted in a file extension*

b) Write down the procedure you would follow to compress a file.   (03mks)

Right click the file
Point to send to
Click compressed zipped folder

6) Write the following abbreviations in full   (01mk @)

i) **EULA**   *end user licence agreement*

ii) **NIC**   *network interface card*

iii) **GUI**   *graphical user interface*

iv) **ALU**   *arithmetic logic unit*

v) **EFT**   *electronic funds transfer*

7 a) Define the term hardware   (01mk)

Hardware refers to any physical/tangible part of the computer that you can touch, feel, see and pickup.

b) Complete the table below basing on computer hardware categories and their functions. (01mk @)

Hardware Category	Function
Processing hardware	*Manipulate data into information*
Output hardware	*Present/bring out/remove data and information from a computer*
Communication hardware	*Communication devices enable two or more computers to exchange data, instructions and information with each other.*
Storage hardware	*Keep /hold/retain data and information*

8 a) Use the terms given below to complete the gaps from a – e

Disk cleaner   **Disk defragmenter**   **Bug**

File compressor   **Device driver**   **Syntax**

Debugger

i) A **Bug** is an error in a program that causes it not to run.

ii) A **Device driver** provides an interface between a peripheral and a computer

iii) A **File compressor** reduces the size of files to free up storage space

iv) A **Disk defragmenter** enables faster access to data and programs

v) **Disk cleaner** removes temporary files from the computer

9 a) State three application areas of multimedia

Video games   *Simulations*
Electronic newspapers   *Virtual reality*
Electronic books   *Computer based training*

b) Outline two measures that can be undertaken to protect software on computers.   (02mks)

Make backup copies regularly
Minimize visitors to the computer laboratory
Install update antivirus definitions
Scan external storage devices
Activate firewalls
Hide folders
User level authentication for sensitive data
Online storage
Sensitize users about data security
Data masking

10 a) Explain the following elements of data communication

i) Protocol (01mk)

The protocol is a set of rules that governs how devices/computers communicate to one another.

ii) Transmission medium (01mk)

Transmission medium is the path through which the message travels from the sending device to the receiving device.

iii) Message (01mk)

The message is the information sent out through the system.

b) Outline two wireless platforms that rely on wireless transmission media. (02mks)

Bluetooth
WIFI
Communication satellite

11 a) For each of the following items, TICK to indicate whether it is a search engine or a web browser (01 mk)

Element	Search engine	Web browser
Opera		✓
Excite	✓	
Mosaic		✓
Yahoo	✓	
Dog pile	✓	

12 a) What does the term website mean? **(01mk)**

*A **website** is a collection of related web pages maintained by an organization or an individual.*

b) Differentiate between a WIKI and a social network website giving an example for each. (04mks)

Difference **(02mks)**

A wiki is a website whose users can add, modify, or delete its content via a web browser using a simplified mark-up language or a rich-text editor while a social network website is a site that allows user to connect with other users who are friends /relatives, or who share similar interests.

Example of a wiki **(01mk)**

Wikipedia, WikiHow, and Wikia

Example of social network **(01mk)**

Bebo	*LinkedIn*
Twitter	*MySpace*
whatsapp	*Orkut*
Friendster	
Habbo	

13) Write down five ways of preventing access to information on the internet. **(05mks)**

Keyword blocking
Site blocking
Web rating systems
Pass wording/parent control
Registration and subscription to logins into the site as a member
Financial restrictions to access content
By encryption
Using anti-virus software to block data from certain sites
Putting down the site
Using firewalls to filter information in a private network

14 a) How does data security differ from data corruption? **(02mks)**

Computer security refers to techniques, means, measures setup to safeguard computer systems including the data and information stored on computer while data corruption refers to errors in data that occur during transmission or retrieval, introducing unintended changes to the original data.

b) Suggest any three software based methods that can be undertaken to protect against computer crimes. (02mks)

An audit trail is a record kept by a computer system of who carried out what operation on what files and when they occurred.
Activate firewalls hardware and software used to restrict access to data and information on a computer.
Encrypt data during transmission-process of converting readable data into unreadable characters to prevent unauthorised access. Unencrypted data is called plain text; encrypted data is referred to as cipher text.
User level authentication for sensitive data
Electronic data erasing
Online storage
Data masking
Hide files and folders
Install updated antivirus definitions

15. Clearly state five reasons as to why a computer may slow down.   **(05mks)**
Not enough Ram
Virus attack or malware infection because of connection to the internet
Low disk space due to many programs stored
Some system files being corrupted
When there is any scanning program runs in the background eg anti-virus
When files on the disk are fragmented and access time is reduced
Automatic updates
Wear and tear

16 a) List done three kinds of documents that can be produced using word processor (03mks)

Letters	*Memos*	*Essays*
Newsletters	*Circulars*	*Curriculum vitae*
Reports	*Projects*	
Mailing labels	*Books*	

b) Mention two word processing typing modes.   **(02mks)**

Insert mode: *When text is inserted between words or characters, it pushes the existing text without replacing it.*

Type over mode: *In this case, when text is typed between existing words or characters, the new text automatically replaces the existing text by deleting it.*

17 a) Differentiate between a formula and a function as used in spreadsheets   **(02mks)**
A formula is a user defined entry used to perform calculations on numerical data while a function is a built-in entry that is used to carry out complex calculations.

b) Identify the following spreadsheet elements/features as used below.

i) **$H$2:$H$8**	*absolute referencing*	*(01mk)*
ii) **=MEDIAN(A2:A6)**	*function*	(01mk)
iii) **=B1+B2**	*formula*	01mk)

18) Mention the importance of each of the following electronic presentation elements.

i) Action buttons   **(01mk)**
Action buttons are navigation buttons that can perform specific tasks such as displaying the next slide, providing help and playing sounds.

ii) Handouts   **(01mk)**
Handouts are a printout of slides in your presentation and are used for future references for the audience.

iii) Rehearse timing   **(01mk)**
The rehearse timing feature lets you record the time you need to present each slide and then use the recorded time to advance the slides automatically in a slide show.

iv) Transition loop (01mk)

A Transition loop is a feature that lets you run your presentation continuously up to when you press the escape key.

19 a) What is a data type as used in databases? (01mk)

The data type is the kind of data that a field in a dataset can contain.

b) You are required to provide a data type or an example of a data type to complete the table below as used in databases. (04mks)

Data type	Example
Currency	**Shs. 10,000**
Date/Time	*10:00pm 12.June.2012*
Memo	**Comment/Remarks**
Boolean	*Yes/no true/false*

20 a) What does the abbreviation DTP stand for? (01mk)

Desktop publishing

b) State two DTP applications. (02mks)

Adobe in design
Adobe page maker
Microsoft publisher
Corel Ventura

c) List down two documents produced using DTP applications. (02mks)

Cards   *Certificates*   *Newsletters Book*   *Posters*
Magazines   *Brochures*   *covers*   *Adverts*
WebPages   *Signs*   *Flyers*
Labels   *Menus*   *Calendars*

END