**JOINT MOCK EXAMINATIONS**

**MARKING GUIDE**

**Uganda Advanced Certificate of Education**

**UACE August 2016**

**ICT S850/1**

1 (a) **Distinguish computer primary storage from secondary storage.**

* Primary storage is temporary and usually internal, while secondary storage is permanent. (1mk)

(b) **State any two advantages of using compact disks for data storage.**

* Lower cost of purchase
* Non volatile
* Portable or facilitate data transfer
* Has high data stability
* Not easily attacked by viruses
* Have a bigger capacity than floppy diskettes

(Any 2 x 1= 2 marks)

(c) **State the meaning of the following data storage concepts**  (2mks)

**Storage media:**

* The device that stores the data
* The device or component that holds / stores application and user information e.g. CD, HDD,Flash , etc

**Storage drive:**

* The device that retrieves or writes data onto the storage media.

2. (a) **Briefly describe the concept of computer ethics**

* Moral guidelines of computer users while buying, utilizing and disposing off computers or their parts. (2 marks)

(b) **State three unethical practices usually engaged in by ICT users.**

* Phishing
* Not alerting colleagues in cases of virus attacks
* Sending un solicited mails/ messages
* Using other people’s ICT resources without their permission / knowledge.
* Sending nude pictures o controversial content to others. erodes human dignity
* Copying and using proprietary software without pay / prior permission of the manufacture or authorized vendor.
* Plagiarism
* Snooping / interfering into other people’s files or mail boxes, and ICT works or resources.
* Using ICTs to bear false witness.
* Using ICTs to invade other people’s privacy- hacking, phishing and pharming.
* Using ICTs forge, steal and cone some innocent others.
* Cracking
* Hardware theft
* Hacking
* Spoofing
* Denial of service attack
* Spamming
* Cyber bullying

(Any 3 x 1 =3 marks)

3 (a) **Distinguish between mail merge and word wrap word processing concepts.**

* Mail marge is a word processing feature that allows one to create multiple letters from one main letter addressed to different people. While word wrap is a feature used to refer to automatic movement of the cursor to the next line. (2 marks)

(b) **State any three advantages of using electronic word processors.**

* Have easy to use edit and formatting feature
* Outputs/ work can be sent and receive electronically
* Easy to use text search tools and wild cards
* Ease of duplication / sending to many recipients
* Works look more business-like
* Ease of file storage and retrieval

(any 3 x 1 = 3 marks)

4. **Natural disasters can cause loss of data and important programs. As an ICT literate person;**

**(a) State three measures that can be taken to ensure that data and programs are not completely lost in cases of disaster.**

* Backup in isolated places like on- line storage.
* Data recovery software.
* Utilities like Anti-virus and encryption utilities
* Use of very strong firewall
* Password
* Setup working rules and regulations. Like a school ICT use policy
* Educate about sensitivity of data at hand
* Works be done by professionals
* Fire extinguishers
* Alarm systems to warn on impending danger
* Use of water proof safes.
* Use of online storage
* Use of water and fire proofs
* Installation of conductors
* Use of fire extinguishers

(b) **State two forms of disasters that can befall computer systems and installations.**

* Terror attacks
* Virus attacks / logic bomb
* Destructive earthquakes
* Floods
* Lightning strikes
* Acts of vandalism and burglars
* Land slides

(Any 2 x 1 =2 marks)

5. **A problem with some computers in the computer lab was reported to a lab technician. Two of the technician’s recommendations were for the school to install gadgets to regulate temperatures, and also buying a woolen carpet for the computer laboratory.**

a. Air-conditioner (1 mark)

b. **Give two reasons to explain why the gadget suggested in 5(a) above is required in a**

**computer room**

* Keep the computer lab cool all the time
* Allow free and easy air circulation
* Reduce the effects of excessive temperature variations on data busses and electric circuits.

(Any 2 x 2 =2 marks)

c. **State two benefits of a woolen carpet in a computer lab**

* Maintains room temperature
* Absorb dust
* Reduce on the effects of damage when small objects fall
* Reduce on the effects of electric shocks just in case of leaking electricity
* Absorbs moisture and keeps the lab warm all the time
* Reduces accidents like falling
* They are frame resistors

(Any 2 x 1 =2 marks)

6 a) **State the following ICT networking terms**

1. Band width

* Rate at which data signals travel through a communication media at a time
* Transmission capacity of a communication channel (1 mark)
* OR the difference between the highest and lowest frequencies that can be transmitted by a communication channel or media. (1 mark)

1. Web server

* Software that manages user for requests for web pages and other hyper media documents or data (1 mark)

1. Client computer

* A work station portable or desktop computer as the user’spoint of entry for accessing client-server computing. (1 mark)

(b)  **State two factors one should consider when selecting a network model.**(2 marks)

* Cost / networking budget
* Size of the organization
* Security levels needed
* Nature of the organization or business
* Administrative support
* Number of computers
* Purpose of the network
* Type of topology

7. a) **Distinguish between synchronous data communication modes**  (1 mark)

**A synchronous** technology that parcels data into uniform simple and small cells (8-bytes cells) for high capacity transmission more especially for voice and video signals. Whereas,

**Synchronous** is the term used for technologies where users must be online at the same time in order to interact. This may include real-time chat, live conferencing or a scheduled online discussion.

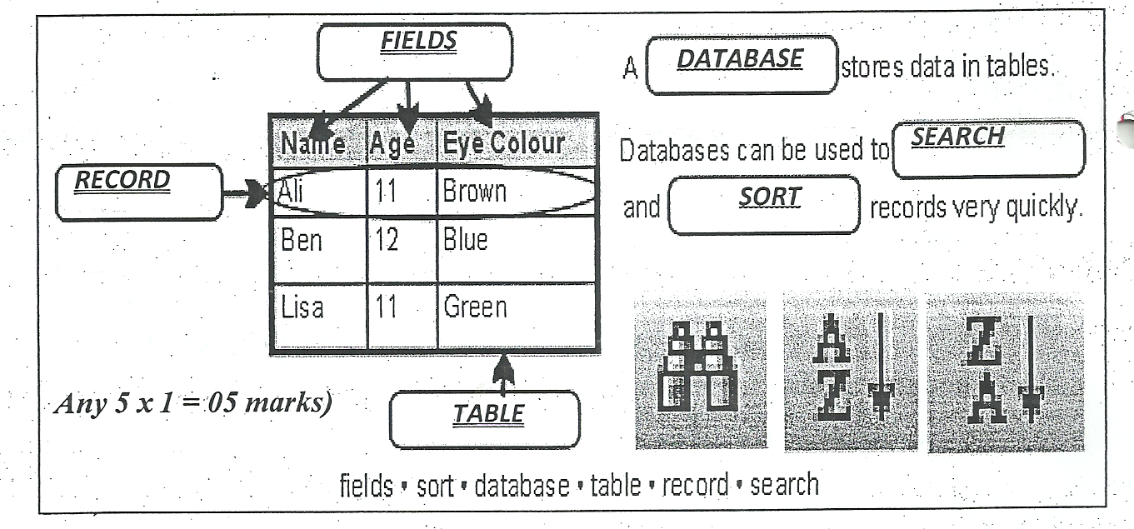
b) **Give two examples of data transmission media** (Any 2 x 1 =2 marks)

* Radio waves
* Micro wave
* Fiber optic cables
* Coaxial cables
* WIFI
* Twisted pair cables
* Infrared
* Bluetooth

c) **State two factors you would consider when choosing a data transmission media**

* Security levels
* Cost / budget
* Distance
* Geographical / physical setup
* Band width
* Attenuation rate (Any 2 x 1 = 2 marks)

8. **Use the words at the BOTTOM to fill in the blanks and complete the gaps!**



9. a) **State one situation where you can use a softcopy**

* Electronic presentations
* Electronic data transfer
* Electronic data storage
* E – learning
* E-entertainment
* Data sharing
* Applying for a job online

(Any 1 x 1 = 1 marks)

b) **Give two advantages of using softcopies over hardcopies**

* Ease of access
* Easy to edit and format
* Easily to distribute electronically
* Reduce storage space considerably
* Ability for online storage

(Any 2 x 1 = 2 marks)

c) **List down two examples of impact printers.**(Any 2 x 1 =2marks)

* Dot matrix
* Daisy wheel
* Drum printers
* Line printer band printers
* Braille printers
* Band printers

10. a) **Briefly define the following terms as used in networks and internet based**

**communications**

(i) **Internet**

* Is a global or an international interconnection of computers and LAN. (1mark)
* Is the largest Network of Networks.

(ii) **Intranet**

* Is a LAN that uses WWW or internet standards/ protocols to relay data and information within an organization. (1 mark)

1. **Extranet**

* Is an extended intranet of an organization to its customers and suppliers (1mark)

b) **State two examples of web browsers**

* Opera
* Ms internet explorer
* Mozilla Firefox
* Emissary
* Web surfer
* Netscape navigator
* Google chrome
* Mosaic
* Safari
* Comodo ice dragon
* Water swift fox
* Swift weasel and ice weasel
* Minimo
* Sky fire
* Conqueror
* Lunar scape
* Arora
* IBM Web explorer
* Lynx, etc
* (Any 2 x 1 = 2 marks)

11 a) **Define the concept of computer system security**

Measures / steps taken to protect computer systems to ensure that they are accurate and reliable. Also focuses on system quality assurance, vulnerability and abuse.

(1 mark)

b) **Define the concept of firewalls in ICT systems?**

A combination of hardware and software placed that stands between an organizations internal network and an external network to prevent outsiders from invading their private network.

c) **State three threats faced by organizations as a result of computer networking**

* Networking maintenance costs ( for initial capital outlay , servicing and network repairs)
* Effects of virus attacks
* Network related crimes and abuse like hacking, cyber bullying and unsolicited messages.
* Effects of network changes and failures – work can be adversely affected

(Any 3 x 1 = 2 marks)

12. **Give one characteristics of the following spreadsheets cell data type;**

**Labels:**

* Not subjected to arithmetic operations
* Left aligned in the cell by default
* Put in quote when they appear in logical functions (Any 1 x 1 =1 mark)

**Values:**

* They are right aligned in the cell by default
* Purely generated from counting numbers
* They are subjected to arithmetic operations (Any 1 x 1 = 1 mark)

b) **Study the logical function below to answer its related questions:**

**=RANK (B2,$B$2:$B10,0)**

1. State the output of the above function

* The function will rank or position all the cell range B2 to B10 in descending order(1 mark)

(ii) **State one reason as to why the dollar sign is used on cell B10**

* To make its address absolute OR,
* To ensure that the cell range does not change as the formula gets pasted to other cells.

(Any 1 x 1 = 1 mark)

(iii) State the implication of having a zero at the end of the function

* To define the order of ranking as descending order i.e., the highest score takes the first position.

13. **“ICTs have been grossly abused.” This was a lamentation by one of the parents who attended the S.6 class day of The Girls School.**

a. **State one category of ICT abusers:**

* Individuals
* Institutions / organizations
* Hackers
* Crackers

b. **Give two ways in which ICTs are being abused**

* Forging documents
* Abuse and insult others
* Platforms for communicating , watching and storage of pornographic materials plus other controversial content
* Vandalism
* Replacing people
* Baring of false witness
* Used to cheat and waste time (Any 2 x 1 = 2 marks)

c. **Suggest some two etiquette guidelines to facilitate appropriate ICT usage**

* Sending warnings to colleagues in cases of virus attacks
* Asking permission from people before sending them messages
* Using authorized software
* Proper identification whenever using networks including social networks
* Respect of proper rights and ownership
* Respect of humanity and dignity
* Espec for the environment with god disposal policies
* Respect for privacy
* Use of descent ICT games
* Avoiding sharing of passwords
* Avoid spamming
* ICT equipment should be switched off when not in use
* Avoiding snooping into others files and folders
* Password it
* Encrypt
* Lock and key
* Biometric devices
* Secures the network –fire walls , server base model
* Software audits
* Customize the software backup policy
* Educate
* Working rules and regulations
* Anti-virus utilities
* Avoid unnecessary sharing
* Data destruction and recovery policy and plan (Any 2 x 1 = 2 marks)

(b) **State one area in each case, where the following data transmission modes can be used.**

(03 marks)

|  |  |
| --- | --- |
| **Mode of transmission** | **Area of application** |
| Full duplex | Mobile telephone operations |
| Half duplex | Fax machines, credit cards, verification systems, radio calls transmission for security |
| Simplex | * General radio waves transmission * Television transmission * Keyboard operations (1 mark) |

15. **Define the concept of wildcards as used in Data Base Management (DBMS)?**

* A wildcard is a special character that can stand for either a single character or a string of text.

(1 mark)

b) **State two importance of wildcards in query criterion?**

* Used to search for data within the table
* Wildcards are useful when you want to query to look for a range of different possible values, and also
* Also useful when you are not certain exactly what you are looking for but can give the query some clues to work with. (Any 1 x 2 = 2 marks)

c) **State two frequently used wildcards used in DBMS**

* Asterisk (\*) represents any string of text from nothing up to an entire paragraph or more.
* Question mark (\*) represents a single character only. (although you could use , for example,two question marks to represent two unknown characters.

(2 x 2 = 4marks)

16. **(a) Briefly explain how each of the following devices contributes to the general operations of a computer system**

1. **Hard disk**

* Holds /keeps the operating system plus important utilities
* Keeps update for reference
* Supplements RAM

(ii) **Power Supply unit**

* Distributes electric power in the system unit
* Regulates electric power
* Converts from AC to DC

(iii) **RAM chips**

* Holds data being displayed on the computer screen
* Contributes to the procession speed

b) **State two methods you can use to enhance the speed of a computer**

* Increase RAM capacity where applicable
* Virus cleaning and protection
* Remove unnecessary files and programs
* Re-install the O.S (Any 2 x 1 =01 marks)

17. (i) **Define the concept of “crop marks” used in desktop publishing .**  (2 marks)

Crop marks are marks which facilitate trimming o business cards.

(ii) **State three features of Desktop Publishing Software.**

* Similar features as a word processor but rich / enhanced like text boxes ,text formatting features , drawing and graphics tools
* Most DTP packages provide a large, readymade range of professional looking templates to enable one to quickly and easily create a publication.
* Easy to use wizards which guide you through creating a publication.
* Frames/ place holders that allow text and images to freely move around the page.

(Any 3 x 1 = 2 marks)

18. **Differentiate between the following**

(i) **Cracking from hacking**

**Hacking** involves unauthorized access in to the computer systems. It can be legal or illegal

Whereas **cracking** involves tampering with security codes of the software product or file for personal gains.

(1 mark)

(ii) **Eavesdropping from Denial of service attack**

**Eavesdropping** involves secretly spying onto ones computer activities physically or by use of spy ware. Whereas **Denial of service attack** involves engaging a network user to deny him /her the right of using the network line. (1 mark)

(iii) **Virus from a Worm**

* **Virus** is a potentially damaging computer program malware, while a **worm** is a malware that copies itself repeatedly, using up resources and possibly shutting down computer or network.

(1 mark)

(iv) **Digital forensics from artificial intelligence**

* **Artificial intelligence** is the process of building computer systems that simulate human thought process and actions. Whereas D**igital forensics** is an ICT career involving the recovery and investigation of material found in digital devices, often in relation to computer crime. (1 mark)

(b) **Give one example of biometric devices**

* Mouse finger print scanner
* Door scanner
* Facial scanner
* Computer scanner
* Signature verification scanner
* Iris scanner
* Finger print scanner

19. a) **Briefly explain the following terms as used in internet based technology;**

**Handle**

* Is an online name for an internet user (1 mark)

**Blog**

* Is a personal online journal for personal opinions/ ideas

**Social network**

* Are highly interactive virtual/ computer based platforms through which people create, share, discuss/ exchange, and modify user-generated content. (1 mark)

(b) **Give one example of a web browser**

* Internet explorer
* Mozilla Firefox
* Google chrome
* Opera etc.

c) **Briefly describe one danger of controversial content that circulates through the internet.**

(1 mark)

Dangers of slanderous and pornographic content;

* Can cause/ promote hatred
* Vulgarized sex
* Dangers of rape, defilement and indecent assault out of excitement.
* Loss of dignity
* Sexual addiction
* Insecurity
* Violence and strikes
* Virus infection

20. **Hilda prefers to store her documents online rather than removable devices.**

(a) **What is online storage?** (1 mark)

Refers to the practice of storing electronic data and third party service accessed via the internet.

(b) **State two examples of cyber (online) storage facilities you know.**

* Google drive
* Skydive
* Drop box
* Open drive
* Drive HQ file manager
* One drive
* ICloud
* Box all vie
* Sugar Sync.
* Amazon cloud drive
* Windows live mesh
* Box.net
* Spider Oak

(c) **Give one advantage of using cyber storage over removable devices.**

* Enables free sharing of files and folders with other users.
* Provides large and limitless storage space.
* Can be accessed from anywhere provided the user has internet connection.
* Provides security features to protect the data and third party files.
* It provides quick recovery of your files and folders.
* It provides for automatic and quick data

(d) **How can Hilda ensure security of her data held by online data banks? (1 mark)**

* Pick password.
* Don`t reuse your passwords.
* Don`t share your passwords.
* Back up your data.