SENIOR SIX BEGINNING OF TERM II 2014 EXAMINATIONS MARKING GUIDE

The following are the possible answers for the ICT UNEB sample question Paper S850/1 of 2013:

ANSWER TO QUESTION 1:

Answer:

a). Modern computers transform data into information. The stages are:
1. Data collection- input stage;
2. Processing stage[manipulation through calculation etc];
3. Memory and or storage;
4. Output or result display

Explanation Notes:
- Input signals are sent to the CPU

- Signals are sent to memory (RAM) and held there as processing begins or takes place in CPU.

- Processing work or results are stored on RAM again

- Results are output thr visual display units such as printer, monitor, audio speakers.

- Processed data [Information] is stored in storage media for future use.

b). The devices that facilitate the four stages are as follows:

STAGE	DEVICES USED
Input stage [Data collection]	Keyboard, Mouse, touchscreen, Touch pad, Voice sensors,
Processing stage	CPU- ALU-[An Arithmetic Logic Unit], Control Unit

	and Registers
Memory	Primary [RAM] Secondary[ROM]
Storage devices [Drive],	Storage devices and drives such as Hard Disk [Drive],Flash disk [Drive], Memory card [Drive], CD-ROM[Drive], DVD-ROM[Drive],Blue Ray [Drive], HDD-DVD [Drive], Magnetic tape [Drive], Zip [Drive],Floppy diskette [Drive] etc.
Output through Visual Display Units	Printer, monitor, audio speakers

ANSWER TO QUESTION 2:
State any five characteristics of modern computers.
Answer:
- **High Speed**: computer can perform millions (1,000,000) of instructions and even more per second.
- **High level of Accuracy**: The degree of accuracy of computer is very high and every calculation is performed with the same accuracy.
- **Diligence**: A computer is free from tiredness, lack of concentration, fatigue, etc. They are very meticulous and are capable of doing and repeating similar task without tiring or getting bored.
- **Versatility**: It has capability to perform completely different type of work at the same time- multitasking, multi-programmable etc.
- **Memory**: The Computer has an in-built memory and we can store a large amount of data during processing.
- **Large storage Capacity**: Unlike other data processors, computers are capable holding large amounts of data for long time without losing it through their storage media like; HDD, CDs, flash disks, DVDs, etc.
- **Artificial intelligence (AI)**: AI = Ability of computer to mimic human thought. computers are very intelligent devices and can receive and respond to requests, and give the appropriate response.
- **Automation and programmability**: Computers receive and work on instruction on their own. They work on minimal human intervention.
- **Others include:**
  - Portability,
  - Lack of IQ,
  - They are dumb
  - They are small in size

- Networking – computers can talk to one another over networks- internet.
- High level of reliability due to improved productivity [efficiency]
- Common data types used
- Consume less power [some save and operate won battery power ETC.

ANSWER TO QUESTION 3:

a) The ability to use and apply computer skills so as to solve day to day problems.

b) Servicing is done in order to:

  a. Improve efficiency of the computer and its peripheral devices,
  b. To prevent and or remove spyware and virus,
  c. To enable system upgrading to better versions,
  d. Allow system hardware and software installations
  e. Carry out hardware and software troubleshooting
  f. Replace tear and wear: both hardware [e.g hardware crash] and software configurations.
  g. Carry out diagnostics on computer operations
  h. Enable data recovery

ANSWER TO QUESTION 4:

a. A file folder is an object [a collection of] multiple documents, files and other folders.
   Refer to files of the same directory: a file is used interchangeably with directory.

b. File extensions for files named are:
   - A word processor document e.g Ms word File extensions is .doc.
   - A spreadsheet file e.g Ms Excel is . xls
   - A presentation file e.g powerpoint is .ppt

Notes:
A **filename extension** is a suffix (separated from the base filename by a dot or space) to the name of a computer file applied to indicate the encoding (file format) of its contents or usage.
Other file extensions include:
   - Batch file is .bat

- <u>Executable file .exe</u>
- <u>Text file – .txt.</u>
- <u>Database files are .acc db [2007], .mdb [2003].</u>
- <u>Portable document file (PDF) is .pdf</u>

ANSWER TO QUESTION 5:

Item	Function of operating systems	True or false
a)	To process a word document	False
b)	To manage storage of documents	False
c)	To monitor system performance	True
d)	To administer security	True
e)	To enter data	False

Notes on functions of operating systems:
Master control grogram performing the following traditional functions;
- ☐ Booting [Controlling the loading and running programs].
- ☐ Platform for application software [Provides basic working environment/interface]. Provides the interface i.e. command line, menu driven, voice recognition & graphical user-interface.
- ☐ Mgt of system components
- ☐ Operating systems contribute to the control and management of the computer system.
- ☐ Controlling the use of peripherals and Mgt of system activities and processes like printing, etc.
- ☐ Organizing the use of memory/Memory management
- ☐ Booting
- ☐ File management
- ☐ Protecting hardware and software
- ☐ Configuring devices
- ☐ Processor management e.g multi-tasking and time sharing.

ANSWER TO QUESTION 6:
<u>a). soft copy is any file that exist and can be transmitted in digital and electronic form. A document on computer that is not yet; but may be printed.</u>

<u>b). Judith can transfer the file to the computer lab by use of any of the following devices:</u>

i. Flash disk drive
ii. Memory card drive
iii. CD-ROM drive
iv. DVD-ROM drive
v. Blue Ray drive
vi. HDD-DVD drive
vii. Magnetic tape drive
viii. Zip drive
ix. Floppy diskettes

ANSWER TO QUESTION 7:

Item	Hardware	Function
a)	Cache Memory	A high speed memory built into the CPU that temporarily store data during processing
b)	Control unit [CU]	Part of the CPU unit that co-ordinates its operations
c)	A register [R]	A fast memory chip located on or near the CPU unit to help speed up processing
d)	A serial port	Used to connect up to 127 peripheral devices to a computer to a computer without additional expansion.
e)	An Arithmetic Logic Unit [ALU]	Part of the CPU that performs logical operations

Important Notes on CPU organization:
- The **Control Unit**
    - It is responsible for supervising the operation of the processor.
    - It does the fetch and execute jobs, that is retrieving instructions from memory and executing them accordingly.

- The **Arithmetic Logic Unit** (ALU):
    - This is responsible for all mathematical operations.
    - It receives data from the Control Unit and
    - performs either *Arithmetic* operations (add, subtract, multiply and divide)
    - or *Logic* operations (making a comparison and take an action based on the result) for example *If A=2 End, Else Begin.*

- Registers:

- Registers are storage locations inside the processor.
- Registers are used to keep track of the overall status of the running program.
- They keep current instructions and the operands of the instruction.
- There are also ALU registers that store data items that are to be added, subtracted, multiplied, divided or compared.

- Cache Memory:
  - Is a special high speed memory area that the CPU can access quickly.
  - It can be location in the CPU or on the system board/planner.
  - To store frequently used programs.

ANSWER TO QUESTION 8:
These include:
  a).Icons for folders, system programs, recycle bin, program   shortcuts, documents / files etc.
  b). Menus such as the start menu
  c). Files for various programs.

ANSWER TO QUESTION 9:
a). Whereas Local Area Network (LAN). It is an inter-connection of computers which are in a relatively close proximity. The size of LAN is typically inside a building or at maximum inside a campus.
On the other hand, Wide Area Networks (WAN), is a network connecting LANs across geographical distances. E.g. states and continents referred widely as internet. This is the biggest of all networks.
b). The advantages of computer networks are:
  - They facilitate sharing of peripherals devices.
  - Facilitate Sharing of programs and data files (resources).
  - Better and enhanced communication and collaboration (networking).
  - Better access to data bases and files for sharing through Uploading and Downloading receipt of files from host computer
  - Down-sizing and reduced operational cost. Flatter organizational structures.

- Offers more Data security. Information on networks (internet) cannot be easily altered.
- Better management control through shortening the decision making process.
- Data consistence. Necessary changes can easily be made.
- Down sizing
- Large data transfers.

Note carefully:

- *ADVANTAGES OF NETWORKING FROM UNEB UCE 2010, QUESTION 29 (A):*
- Facilitate communications e.g. through electronic-mail, chatting in chat rooms
- Reducing on cost by sharing hardware like printers and software.
- It allows for tight control over who has access to what data.
- It allows sharing of data and information stored on other computers on the network.
- It enables online learning and collaborative research
- It allows access to free common databases and databanks like free software, as in banks like ATM.
- It allows for advertising tools for products and services
- It allows access to more entertainment, leisure, clubs e.g. e-zoos.
- Has enabled improved travel service through e-books and e-reservation.
- News updates can be got on climate, weather, politics, and sports.
- Provides for online employment e.g. telecommuting.

The uses for the internet may be useful to understand:

(a) Offers personnel connectivity for friends and financiers through E-mails, E-collaboration and chat – rooms, online telephone calls, voice mails, video phones, etc

(b) It is a tool for entertainment through on-line games, clubs and interactive games, online chats, refreshing video clips (movies) and animals' zoos.

(c) It is a source of important electronic programs/applications through downloading of freeware, shareware and other programs.

(d) Offer travel services like E-Booking and reservations for aviation firms and hotels, to business travelers and holidaymakers.

(e) Is a tool for financial management offering answer to financial management challenges of where, when and how to invest especially in financial securities.

(f) Offers education and research facilities for either academic or knowledge enrichment. E-Publishing and E- Learning have greatly improved distance learning. Hence the WWW being a body of knowledge. The common wall-less classrooms.

(g) Multimedia: offers Audio and video services.

(h) Offers Banking services for online Banking institutions, and electronic funds transfers (EFT). A case for western union. Digi Cash, Cyber Cash, Millicent, ATMs, and credit card facilities are in this category.

(i) Offers news updates (information Retrieval) for politics, social events, climate and weather, and sports. These usually in form of live radio, live TV, online newspapers and magazines, educative short films, etc.

(j) On – line employment for job seekers through online employment agencies, and firms advertising jobs online.

(k) Tele and E-Medicine where diseases diagnosis and drug prescriptions, virtual surgery etc are done on-line

(l) Social networking e.g E-Courtships and E-marriages, etc

(m) **Telecommuting**. Through internet connectivity and interactivity one can now work from home and communicate with the office through networked computers and telephone facilities.

(n) **E-commerce or E- Business**: A tool for transacting business where products can be "Marketed" (Procured OR shopped) on-line (Tele-shopping).

(o) Internet printing allows you to print to network printer from anywhere in the world.

(p) Internet telephony enables you to talk to other people over the Internet Sometimes called Voice over IP

REVISION QUESTION: UNEB UCE P 840/1- QUESTION 29 THE DANGERS
QN: 'The Internet is a harmful tool to man'. What is your opinion?

ANSWER GUIDE: Positive aspects of internet:
- Personal/business connectivity – through E-mail, chatting, video conferencing, websites, etc

- News updates through online news groups and news rooms. secure online data storage.
- Internet based education and research e.g. online training, publications.
- Tool for entertainment and leisure through online games, music and video clips, visiting of electronic zoos, etc.
- Promotion of business through internet based trade and commerce (E-business and E-commerce).

Negative aspects of internet:
- Very high cost implications for initial capital outlay and maintenance costs.
- Display of illicit/dangerous (pornographic) materials on grounds of health and materials.
- Promotion of crime through Hacking, Piracy, and Money laundering.
- Internet as a source of viruses through e-mail attachments, free games, etc.
- Addiction where people waste a lot of time.
- Loss of man-hours as employees waste company time on unproductive surfing.
- Promotion of medicine and health through online medication and health care.
- Promotion of banking and finance through online banking.
- Widened business investment opportunities and job opportunities through; IPSs, internet service kiosks (café), online jobs, etc.

ANSWER TO QUESTION 10:

Item	Explanation	Application software name
a)	To prepare an invitation letter	Word processor e.g Ms Word,
b)	To prepare a budget	Spreadsheets software e.g Ms. Excel, open office Calc. etc
c)	To produce business cards	Desktop publishing software e.g Photoshop, Ms publisher
d)	To prepare an employee data bank	Databases e.g Ms. Access, MySql,
e)	To prepare a presentation	Presentation software e.g Power Point.

f)	Others To connect the internet	Web browser software e.g internet explorer, Google chrome, Mozilla Firefox etc
g)	To send an email	Internet service provider e.g Yahoo.com, Google.com etc
h)	To chat online	Socio-networking sites e.g Facebook.com, MySpace, Twitter.com, Skype.com etc
i)	Used in webpage creation and designs	Webpage authorizing software such as Micro media dream weaver, Netscape composer, Front page, Adobe go live, Ms publisher, General office

ANSWER TO QUESTION 11:

a). Any website that enables users to to create public profiles within the website and form relationships with other others.

b). Online discussion forums and chatrooms or environments like Facebook, Twitter and MySpace, Skype,
Notes:
- Social networking websites such as Facebook and MySpace have created a new form of socialization and interaction.
- Users of these sites are able to add a wide variety of information to their personal pages, to pursue common interests, and to connect with others.
- People use chat, messaging and e-mail to make and stay in touch with friends worldwide.

Disadvantages of Social networking websites are:
- They release pornographic materials
- They are not secure- private information can easily leak to public by people following you.
-

ANSWER TO QUESTION 12:

Services provided or offered by the internet service providers [ISPs] are:
a) Provide access to Web or Internet both LAN and WAN-[INTARNET and EXTRANET]
b) Dial-up services
c) **File sharing**: method of transferring large amounts of data across the Internet using FTP [File Transfer Protocol]
d) Internet transit enables data flow for Newsgroups etc. E-Mail through gmail, yahoomail, hotmail etc & Instant Messaging thru. SMS on phones and other devices.
e) **Streaming media** refers to the act that many existing radio and television broadcasters promote Internet "feeds" of their live audio and video streams (for example, the BBC) thr. Cable TV and telephone companies.
f) **Video chats** such as YouTube and Chat Rooms using twitter.com, skype.com etc
g) **Web Folders**
a) **Fax Machine or Computer Fax/Modem**
b) **Video Conferencing-** the technology in which people in different geographical locations can exchange text, sound and video clips over a computer net work in real time as if they are in the same location.
c) **VoIP [Voice-over-Internet Protocol]:** the protocol that underlies all Internet communication enables transmission of the voice traffic over IP networks
d) **Message board**
e) **Internet telephony** is another common communications service.
f) **Webcams** can be seen as an even lower-budget extension for transmission of photographs.

USES OF INTERNET UNEB UCE 2009 QUESTION 26 (a). (i)
Mention any two services offered by the Internet.
People have different reasons for connecting to the Internet, which include:
- Assess a wealth of information, such as news, weather reports, and airline schedules.
- Shop for goods and services.
- Use online banking services and manage investments.
- Do research and take online training courses.

- Download files, listen to music, and watch movies.
- Send and receive messages to and from other connected users.
- Communicate with others around the world.
- Access sources of entertainment and leisure,

ANSWER TO QUESTION 13:

a). The advantages of using email address over manual postal services are:
- It is cheap- Reduces paper costs and irritation.
- It is convenient- E-mails can be conveniently sent to multiple recipients.
- It is very fast- instant
- Very reliable because it is efficient and effective method of sending documents.
- Less risky- it is relatively safer than postal services- Secured by passwords.
- Increased Storage Capacity
- Provides immediate delivery feedback.
- They offer provision for attachments.
- By providing a list of senders and subjects one can prioritize on which messages to read first.
- Sending is cheaper.
- There is a possibility of multimedia mails where they can be received as voice mails and read aloud.
- Can easily go across many time zones (continents).

Note:
Disadvantages of electronic mails;

- ✓ Involves time consuming sorting through lots of messages every day.
- ✓ E-mails are not very private through tapings.
- ✓ System overloads can cause unnecessary delays.

b). Uses of the following in email software:
Bcc = Enables copies of the E-mail to be sent to a third party without acknowledging any other recipients.

<u>**To**</u> = It's where you typeset the E-mail address of the receiver.

Notes on email basics:
How to create a free mail account
- Get hooked on the net or ISP such as Yahoo.com, Google.com, Hotmail.com etc.
- Select my mail or mail icon.
- Double click **new user** or **sign me up** or **email creation** button to load the account application form for new user.
- Fill in user identification details/account name (**email address-usually following your name**); pass word, location of the user, security questions, first name, last name, language, country, active contact phone number code and zip.
- Click on submit button for your account to be registered for use.

<u>**Basic E-mail features;**</u>
In box = Lists the messages received.

Out box = Lists the messages you have composed but not sent.

Sent = Lists copies of all sent copies for reference purposes.

Send = Sends the message you have composed.

Compose = Activates the screen onto which a message to be sent is typeset.

Attachment = Helps you to attach other files and folders to accompany the directly composed message.

To = It's where you typeset the E-mail address of the receiver.

Subject = Subject of the message.

Cc = Enables copies of the E-mail to be sent to a third party while acknowledging other recipients.

Bcc = Enables copies of the E-mail to be sent to a third party without acknowledging any other recipients.

ANSWER TO QUESTION 14:

Item	Statement	Assertion: True or False
a)	Visual Display units can be either in-put or storage device	False
b)	Out-put devices provide feedback to the users	True
c)	Dot-matrix printers produce better images that inkjet printers.	False
d)	Secondary storage media is volatile	False
e)	The more pixels per square inch on a computer monitor the higher the resolution	True

Notes:

Input Devices
- Accept external data or commands
- Send data or commands to the processor.
- Include mouse, keyboard etc.

Output/ Display Devices
- Show people the processed data in understandable terminology.
- Include monitor, speaker, printer etc.

Secondary memory
- It is also called **auxiliary memory** store information that is not necessarily in current use.
- It is slower and having higher capacity than primary memory.
- It is non-volatile storage media i.e. the contents are not erased when the power is switched off.
- Magnetic tape, floppy disk, hard disk and optical disk are the examples of secondary storage.
- Generally referred to as **back-up**.

Printers

- Dot matrix printers are a common type of impact printer.
- A dot matrix printers' print head contains a cluster of pins.
- The printer can push the pins out to form patterns in rapid sequence.
- The pins press an inked ribbon against the paper, creating an image.
- Image quality - Measured in dots per inch (dpi). Most printers produce 300 - 600 dpi.
- Produce dull images in comparison with inkjet printers [Non-impact printer].

ANSWER TO QUESTION 15:

a). **Bluetooth** is a wireless technology standard for exchanging data over short distances (using short-wavelength UHF radio waves in the ISM band from 2.4 to 2.485 GHz from fixed and mobile devices, and building personal area networks (PANs).

b). Some of the networking protocols include:

- HTTP
- FTP
- TELENET
- Ethernet
- Token Ring
- FDDI

ANSWER TO QUESTION 16:

- **File viewer:** Facility that helps to display various files to provide better viewing options for proper doc. scrutiny.
- **Disk Defragmenter** - Reorgnises & re-arrange the fragmented files and unused space on a hard disk so that data is accessed more quickly.
- **Diagnostic utility** - Compiles technical computer information & helps outline any identified problems; checks for errors or bugs.
- **Antivirus utility** - Prevents, detects and removes viruses.
- **File compression:** Facility that helps to reduce the size [number of bytes] of selected files to provide more storage capacity to the disk eg Zip, Winzip etc.

Other utilities:

- **Uninstaller utility** removes programs.
- **Folder management utility** – creating, viewing, deleting and rearranging files and folders Compression utility – reduces the size of files to free disk space
- **Backup utility** – allows a user to copy, or backup files from one disk/storage device to another.
- **Screen saver utility** – causes the monitor's screen to display a graphic automatically after a period when no input device is in use, for entertainment, security or business.
- **Sort utility** – used for taking in data and re-arranging it in any prescribed order.
- **Merging utility** – Involves combining data from more than one file into one or so.
- **Memory management utilities:** Are programs that determine how to efficiently control and allocate memory resources – (usually activated by software drivers).
- **Data Processing Utilities:** Utility programs which remove redundant elements, gaps, and unnecessary data from computer storage space. E.g.Drive-space to stacker, Double Disk, Superstar pro.
- **Back-up utilities:** Help in making duplicate copies of every file on either internal or external media as security files for reference incase the original copy is destroyed. e.g. Colorado scheduler.
- **Data Recovery utility:** Used to "undelete" or resurrect a file or information that has been accidentally deleted e.g. – Recycle bin for windows, Norton un-erase wizard, etc.
- **Disk Repair Utility:** Checks your disk drive for defects and make repair on the spot or mark the bad area. E.g. Norton's disk Doctor.

ANSWER TO QUESTION 17:
a). Computer security risks include:
- Virus attack/ infections that corrupt files.
- Hard disk crash due to overheating, virus attack etc.
- Computer hackers in case the school runs a website.
- Power disconnection or interruptions- switch offs.
- Theft by robbers

Notes:

A computer laboratory: It is a room or building where computers are stored and used for learning purposes -[teaching & learning practical skills, internet surfing etc.
- It is a place or room [building] where computers are kept, used to teach students practical skills like typing, computer repairs, programming etc.

Data risks in the laboratory are:

- Erroneous deletion of files
- Failure to save files
- Computer may hang or freeze.
- Poor file management
- Storage media may be destroyed.

Enforcing computer lab security /data security is by:
- Use of burglar proof doors, windows and locking systems.
- Avoid dust in the lab by regular cleaning- mopping, sweeping, dusting of shoes, woolen carpets etc.
- Avoid carrying food items- water etc in the computer laboratory.
- Avoid use of storage devices like flash disks that are infected with virus.
- Disable ports to avoid carrying thru flash disks into ur computer.
- Installing updated anti-virus and Use of updated antivirus to avoid oss of data and computer crash.
- Proper ventilation and installing air conditioners and fans.
- Scan all storage media like flash disks using updated anti-virus.
- Ensure steady supply of power e.g use of UPS [Uninterruptible Power Supply], stand by generators.
- Employ security guards to keep the computer lab safe from strangers

QUESTION FOR REVISION:
Mention and explain five ways of ensuring computer safety in the computer laboratory

b). To enforce computer laboratory security, is by:
- Use of burglar proof doors, windows and locking systems.
- Avoid dust in the lab by regular cleaning- mopping, sweeping, dusting of shoes, woolen carpets etc.
- Avoid carrying food items- water etc in the computer laboratory.
- Avoid use of storage devices like flash disks that are infected with virus.
- Disable ports to avoid carrying thru flash disks into ur computer.
- Installing updated anti-virus and Use of updated antivirus to avoid loss of data and computer crash.
- Proper ventilation and installing air conditioners and fans.
- Scan all storage media like flash disks using updated anti-virus.
- Ensure steady supply of power e.g use of UPS [Uninterruptible Power Supply], stand by generators.
- Employ security guards to keep the computer lab safe from strangers

ANSWER TO QUESTION 18:
Roles of the following are as tabulated below:

	ICT SPECIALIST	ROLE
f)	Data base administrator	Responsible for installation, configuration, upgrading, monitoring and maintenance of organizations' data base systems. Manages and supervises the company's database.
g)	Programmer	Designs, develops, implements and create software/ codes to operate computers and for use as support or application software
h)	Computer technician	To carry out minor hardware / software installations and repairs

i)	Systems administrator	Manages and is responsible for configuration of computer systems [servers] by upgrading, software installations and troubleshooting etc
j)	Computer instructor	To teach and guide users on how to use computers and other related devices.

ANSWER TO QUESTION 19:

ID NUMBER	EMPLOYEE NAME	DOB	TELEPHONE NUMBER
U01	ARINDA RUTH	03/03/79	07724311224
U02	NAMBA PERUTH	23/11/8	0413556594

a). Application software used to capture the information is:

- Ms. Office Access
- My Sql
- Etc
-

b).   Data types for entries:
   i.   ID Number – text/ number
   ii. DOB   – date/ number

c).   Appropriate primary key is: ID NUMBER

d).   Number of records shown in the table is: Two for two persons: ARINDA RUTH and NAMBA PERUTH

ANSWER TO QUESTION 20:

a). Electronic publishing:

Refer to digital publication of electronic documents and or articles, books and or development of digital libraries.

b). Electronic publications include:

- Offline and on-line web publications
- Encyclopedias: eg Wikipedia, webopedia etc.
- Digital materials and softwares such as Encarta encyclopedia.
- Online tutorials
- Cyber software technology
- E-books
- E-magazines
- E-mail
- On-line dictionaries
- E-bibles e.g bible soft
- Html
- Flash
- etc

END