UGANDA NATIONAL EXAMINATIONS BOARD 2010
COMPUTER STUDIES 840/1
DRAFT MARKING GUIDE 2010

SECTION A

1.	**C**	**5.**	**D**	**9.**	**A**	**13.**	**B**	**17.**	**C**
2	**B**	**6.**	**D**	**10.**	**D**	**14.**	**B**	**18.**	**B**
3.	**C**	**7.**	**B**	**11.**	**A**	**15.**	**D**	**19.**	**D**
4.	**A**	**8.**	**C**	**12.**	**B**	**16.**	**A**	**20.**	**A**

(20x1)= 20 marks

SECTION B
Qn. 21. Solutions

(a) Characteristics of a computer;

- ***Speed:*** i.e. Computer operations are in millions or thousands of calculations per second.
- ***Accuracy:*** i.e. Computers are thorough once the right instructions and data are entered.
- ***Storage:*** i.e. Computer can store huge volumes of data without losing it through their storage devices like hard disks, flash disks, CDs, etc.
- ***Versatility:*** i.e. Computers can handle many various tasks at the same time or one at a time. Capable of multitasking.
- ***Diligence/consistency:*** i.e. Computers can execute tasks repetitively.
- ***Automation:*** i.e. Computers work with minimal or no human intervention.

(Any 3 x 2 = 6 marks)

(b) **Examples of personal computers**

- Hand held PCs; PDA like Palm VII, Sinclair 2481, TRS – 80, etc.
- Portable PCs like; Small laptops, Osborne I, Outran PCs, etc.
- Business PCs like; Apple Lisa, TRS-8011, DRC-300, etc.
- Professional PCs like; TRS-8011, HP 85/6, etc
- Consumer PCs like; ATTARI 1400, TI – 99/41, etc.

(Any 2 x 1 = 2 marks)

(c) **Uses of computers in the area of entertainment:**

- Audio and video clips
- Playing computer games
- Chatting in cases of networked computers.

(Any 2 x 1 = 2 marks)

Qn. 22. Solutions

(a) Explanation of the following terms:

(i) ***Character map:*** Is a group of symbols not found on the keyboard. ***(1 mark)***

(ii) ***Formatting:*** Changing the appearance/parameters of a text or document. ***(2 mark)***

(iii) ***Footer:*** Is any text which is placed in the bottom margin of a page. ***(1 mark)***

(iv) ***Page break:*** A parameter that controls the number of lines to a page after which additional text will be placed onto the next page. ***(2 mark)***

(b) Uses of word processors in business include;

⇒ Production of reports and business proposals.
⇒ Making of adverts and posters (a case for word and clip art application).
⇒ Production of business cards.
⇒ Form letters and mailing label
⇒ Publications
⇒ Payroll where tables can be used for simple calculations.
⇒ In built templates for curriculum vitae.

(Any 4 x 1 = 4 marks)

23 (a) Ms Excel Super Calc Coral Quattro pro
Lotus 1-2-3 Visi calc MultiMate
Any 2 x1=2marks

(b) (i) $\mathbf{F_2}$ and $\mathbf{H_2}$ **2 mark**

(ii) = or @ or + SUM (G_3:G_{11}) **or** = (G3+G4+G5+G6+G7+G8+G9+G10+G11)
or
= (G3, G4, G5, G6, G7, G8, G9, G10, G11) (**01 mk)**

(iii) = AVERAGE (B_4:F_4) **or =(**B4+C4+D4+E4+F4)/5 **or**
= (B4, C4, D4, E4, F4)/5 (**01 mk)**

(iv) = MAX (G3:G11) **or** =MAX (H3:H11) (**02 mks)**

(v) = MIN (G3:G11) **or** =MIN (H3:H11) (**02 mks)**

24 (a) **(i) A browser** is a communication software that allows a user to access and view web pages on the internet while **E- mail software** enables a user to create, send, receive, forward, store and print email messages. (**02 marks)**

(ii) Examples of **browser**

- Ms internet explorer
- Nets cape navigator
- Mozilla fire fox
- Google chrome
- Conqueror **Any 2 x1 = 02 marks)**

Examples of **E- mail software**

- Ms out look express
- Eudora light
- Web mail **Any 2 x1 = 02 marks)**

(b) **(i) Search engine** refers to software program that can used to locate websites, pages and files on the internet. Or program that enables one to search for resources on the web (internet) (**01 mark)**

(ii) Multimedia refers to using computers to integrate text, graphics animation, audio and video into pone application. (**01 mark)**

(c) Examples of webpage authorizing software

- Micro media dream weaver
- Nets cape composer
- Front page
- Adobe go live
- Ms publisher
- General office Any 2 (**02 marks)**

25 (a) (i) **BIOS** Basic Input and Out put System (**01 mark)**

(ii) **CMOS** Complementary Metal- Oxide Semi conductor (**01 mark)**

(iii) **ALU** Arithmetic and Logic Unit (**01 mark)**

(iv) **ICT** Information and Communication Technology (**01 mark)**

(b) Function of the following

(i) **ROM- BIOS** Keeps the computer's basic start up information **OR** Contains the sequence of instructions the computer follows to load the operating systems and other files when computer is turned **ON** (**01 mark)**

(ii) **CMOS** Used to store configuration information about computer (**01 mark)**

(c) (i) Term **Cache** refers to a high speed memory that a CPU can access quickly. (**02 marks)**

(ii) **Buffer** is necessary to provide a **temporary** storage so that the **CPU** is set free to carry out other activities instead of waiting for all data to be entered or information to be out put. (**02 mks)**

26 (a) **Software suite** refers to a collection of individual application software Sold as a single package e.g. ms office (**02 marks)**

(b) (i) features of **desktop publishing software**

- it includes color libraries
- supports color separation
- supports page lay out
- combines word processor and graphics to produce high documents

Any 2 (**02 marks)**

(ii) Video conferencing refers to 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 (**02 marks)**

(c) Use of the following features

(i) **Radio button** – this a type of graphical user inter face element used to select or choose only one of a predefined set of options (**02 marks)**

(ii) Check box - this is graphical user interface used to select several choices from the available options . (**02 marks)**

Qn. 27. Solutions

Positive effects of using computers to society

- Created and widened employment opportunities e.g.; software engineers, computer teachers, technicians, etc.
- Improved education and research by simplifying teaching and learning. E.g. abstract content can be made real through cyber science technology – others are computer aided teaching and computer aided learning, presentations software, etc.
- Improved entertainment and leisure through computer games, music, etc for people to refresh and make-up.
- Improved communication and collaboration through computer networks.
- Improved health services where computers facilitate recording, monitoring, and diagnosis for patients.
- Improved security through computer managed gates and monitoring of commercial and domestic premises, detecting and controlling crime by police.

- Reduced production time and manufacturing processes through computer aided manufacturing and computer aided designing which have greatly improved the quantity and quality of life.
- Improved customer services delivery and care eg networked computers provide 24/7 on-line services like credit cards
- Improved business and investment opportunities.
- Improved data and document production, storage and manipulation.

(Any 5 x 2 = 10 marks)
Mention = 1mark
Explanation = 1mark
Sub-Total = 10 marks

Negative effects of using computers to society

- Computer related crime e.g. forgeries, computer based illegal funds transfers, etc
- Moral degeneration through morally dangerous clips, messages, etc
- Increased cost of production as computers are very expensive to buy and maintain. Computer experts can as well be expensive to hire.
- They are both health and environmental hazards e.g. can cause eye defects, and their disposal after use has got a lot of environmental concerns.
- Loss of employment as they take over job assignments for semi and less skilled job functions.
- Deaths and accidents due to computer malfunctioning or explosion.
- Virus threats which has made data storage and safety very vulnerable.
- Erosion of human integrity and creativity as even the smallest calculation is assigned to the computer. Other cases are GMFs, test tube children, etc.
- Loss of man-hours as some workers go for unproductive computer based leisure at the expense of their work.
- Cyber terrorism

(Any 5 x 2 = 10 marks)
Mention = 1mark
Explanation = 1mark
Sub-Total = 10 marks

A 28. Hardware devices for information processing

1. Input device

An Input device is any hardware component that allows a user to enter data and instructions into a computer.

Keyboard

A keyboard is an input device tat contains keys that allow a user to enter data and instructions into a computer.

Or

A keyboard is an input device tat contains keys which initiate programmed routines.

Mouse

A mouse is a pointing device that allows the entering of data and instructions by controlling a pointer on the screen which the user has to move on a smooth flat surface.

Trackball

A trackball is a stationary pointing device with a ball mechanism on its top.

Joystick

A joystick is a pointing device with a vertical lever mounted on a base to control the position of the cursor.

Light pen

A light pen is a handheld pen like pointing device that has a light sensitive point to select options on the screen.

Touch screen

A touch screen is an input device that permits the entering or selecting of commands and data by touching the surface of a sensitized video display device with a finger or a pointer.

Touch pad

A touch pad is a small flat rectangular pointing device that is sensitive to pressure and motion.

digital camera

A digital camera is an input device tha takes pictutre and store the images digitally rather than traditional films which image can then be transferred to the computer using a specialized cable or wireledd technology.

Scanner

A scanner is a light sensing input device that converts printed text and graphics into digital form for computer use.

Others include:

Optical character recognition reader
Optical maek recognition reader
Barcode reader

Magnetic ink character recognition reader
Magnetic strip reader
Sensors

Microphone
Microphone is an input device that allows a user to input voice or sound to a computer.

MIDI
MIDI short for musical instrument digital interface is an input device that defines how sounds are represented electronically by digital musical devices and connected to the sound card of the computer.

Digitizer
A Digitizer is an input device with a graphic tablet on which the user writes with a pen like device called a stylus.

A **terminal** is nay device that sends data and instructions to a computer.

Explanation	**=1 mark**
Mention	**=2 marks**
Describing @	**=2 marks**
Sub-Total	**=5marks**

2. Processing Hardware
This is a hardware component used to manipulate symbols, number and letters and controls the other parts of the computer system.

Alphanumeric logic unit (ALU)
Alphanumeric logic unit (ALU) is the hardware which performs the computers principal ligic and arithmetic operations or calculations and logical operations.

Control unit (CU)
The control unit (CU) is the part of the processor which manages the other parts of the computer system.

Register
Register is the part which holds one piece of data and instruction one a time during processing by the CPU.

Explanation	**=1 mark**
Mention	**=2 marks**
Describing @	**=2 marks**
Sub-Total	**=5marks**

3. Output hardware
An output hardware is any device used to display or remove information from a computer to a user.

A monitor is an output device that provides a visual image of both the users input and computer output.
Or
A monitor or a VDU display information on its screen thus helping the user to monitor operations carried out by the computer.

Printer
A printer is an output evice that produces text and graphics on a physical medium such as a paper.

Speaker
A speaker is an audio output device that produces sound signals.

Data projector
A data projector is an output device that takes the image that displays on the computer screen and projects it on a lerger screen so that people can see the image clearly.

Facsimile machine
A Facsimile machine (Fax) is a device that transmits and receives documents over a telephone line and print it out on paper.

Other include:
Plotter
Terminal

Explanation	**=1 mark**
Mention	**=2 marks**
Describing @	**=2 marks**
Sub-Total	**=5marks**

4. Storage hardware
A storage hardware is any device designed to retain data and instructions in a relatively temporay or permanent form.

Primary memory
Random Access Memery(RAM) is where data and instructions are stored temporaily during processing.

Read Only Memory(ROM) is where programs are stored permanently.

Secondary storage
Floppy disk(Diskette) is a thin flexible device with magnetic coating enclosed in a square shaped plastic shell.

A zip disk is like a floppy disk but can store up to 100MB of data.

A compact disk (CD-ROM) is a flat portable storage media that is usually 4.5”(inches) in diameter used to store information using microscopic pits and lands that are in the midlle layer of the disk.

Hard disk is a storage device composed of several inflexible circular disks called platters.

Magnetic tapes are magnetically coated ribbons of plastic cable of storing large amounts of data and information.

Flash disk is a storage device that operates as a plug and play device which is removable and connected using a USB port and usually have fast access to to data stored in large amounts.

Other include: Memory card, Jazz disk, Magnetic strip cards(ATM), plastic card
Sim card

Explanation	**=1 mark**
Mention	**=2 marks**
Describing @	**=2 marks**
Sub-Total	**=5marks**
Total =20marks	

A.29 (a) Advantages of Networking over stand alone computers

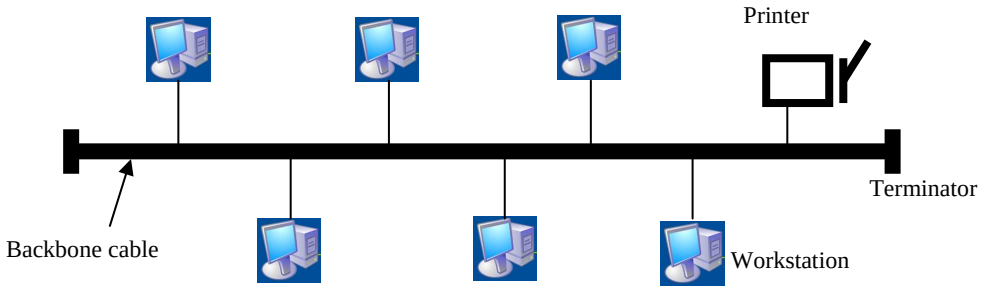
- Facilitate communications e.g. through electronic-mail, chatting in chat rooms
- Reducing on cost by sharing hardware like printers and software.
- It allows for tight control over who has access to what data.
- It allows sharing of data and information stored on other computers on the network.
- It 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.

Any 8x1= 8marks

(b) various illustrations of LAN topologies

Bus or linear topology

This is a LAN topology which consists of a single central cable tat connects all computers and devices together.
Diagram to illustrate a bus or linear topology



Mention	**=1 marks**
Explanation	**=1 mark**
Diagram	**=1marks (labeled)**
Subtotal	**=3 marks**

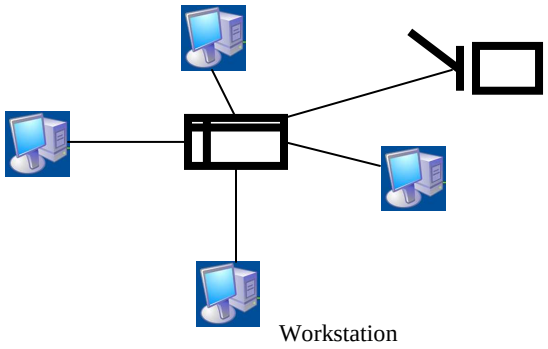
Star topology

A star topology is a LAN topology in which all the computers and devices are connected to a central computer thereby forming a star.

Or

A star network topology is a network configuration where all communication to workstations on a network go through a common hub or switch.

Diagram to illustrate a Star topology

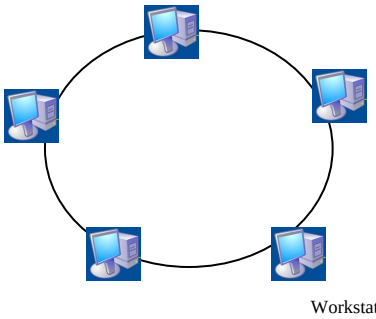


Mention =1 marks
Explanation =1 mark
Diagram =1marks (labeled)
Subtotal =3 marks

Ring topology

A ring topology is LAN topology which consists of a cable forming a closed ring or loop with all the computers and devices in a network.

Diagram to illustrate a ring topology

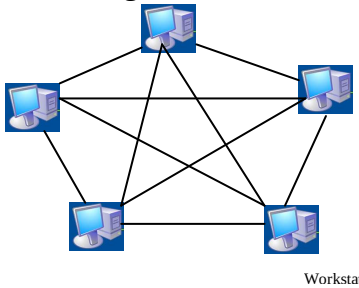


Mention =1 marks
Explanation =1 mark
Diagram =1marks (labeled)
Subtotal =3 marks

Mesh or hybrid

A mesh or hybrid LAN topology is a network topology which combines the bus, star and ring network to form big network.

Diagram to illustrate a mesh or hybrid topology



Mention=1 marks
Explanation =1 mark
Diagram =1marks(labeled)
Subtotal =3 marks)
Total =20 marks