**COMPUTER APPLICATION CAT 1 &2 VICTOR KAMAU 24/06382**

1. Briefly explain what a computer is stating its key components.

A computer is an electronic device that accepts data input processes the data and displays the output as information

* Key components:
* Input devices – they allow data entry
* Central processing unit – it is the brain of the computer
* Memory – it is used for data storage
* Output device – it is used in displaying information

1. Explain what a CPU is and Draw a clear structure of the CPU based on Von Neumann Architecture explaining each of its components

* The central processing unit is the core/brain of the computer that is used in performing arithmetic calculations and controls all the functioning/components of a computer

Control Unit

Arithmetic logic

unit

Output

input

Central processing unit

memory

1. What is a difference between Data Processing & WordArt?

* It processing is the mechanism of converting raw/ unprocessed data into useful information using a systematic process while WordArt is a feature in word processor that is used to create stylized text.

1. Explain three requirements needed to connect to email.

* Requirements needed to connect to email include :
* Email account – an email account with a provider e.g gmail is reuired
* Internet connection – this is inorder to access email services
* Email App – Software like Gmail, Yahoo are required to send/receive emails

1. What is the internet and of what importance is it.

* Internet is a World Wide Web used in connection of computers which connect all computers through routes
* Importance:

1. It facilitates information access through the web
2. It is used for online researches and online services
3. It is used in education for example in E-learning and student research
4. Explain the difference between Microsoft word, Microsoft PowerPoint and Microsoft excel.

* Microsoft word is a application software that is designed to create and edit text documents(letters, reports) while Microsoft Powerpoint is a application software that is used to design presentations with text, images, e.t.c while Microsoft Excel is a application software that is designed to manage data, perform arithmetic calculations and create spreedsheets

1. Computers have evolved over time with a new technology coming up explain and give all the 5 types of computers;

* Micro computers : - also known as personal computer they are designed for personal use they include laptops desktops e.t.c
* Mini Computers:- this are types of computer that are usually smaller than most computer and are designed to process all computer functionalities they are also referred to as mid.size multi processing system they include: PDP11, Honewell 200
* Main frame:- these are large and very expensive computers that are capable of 100|1000 users at the same time they include Hitachi V053, IBM Z series
* Super Computer:- these are special type of computers that are powerfull and capable of high computing performance which can compute complex and intensive task which reqular computer cannot handle they include Quantum sp, Google sp e.t.c

1. Faith, a computer technician at Faida Technical Training Institute, would like to prepare a report detailing quantities of equipment in the laboratory using charts. Outline two application programs that she would use to achieve her objective.

* Faith would use Microsoft excel to organize and create data and Microsoft word to write the report and embed the charts.

1. The computer memory supports computers in various ways explain what RAM & ROM is clearly giving 4 differences of each

* A RAM is a random access memory that is used to temporarily store data in a computer while ROM is a read only memory that is used to permently store data in a computer
* Differences include:

1. Ram is volatile which means data is when when computer is shut down while ROM is non-volatile data cannot be lost when computer shuts down
2. RAM is faster compared to ROM thus used for active processes
3. RAM is readabl/writable which means dara can be read and changed while ROM is read only which means data cannot be changed
4. RAM stores applications and data in use while ROM stores the boot instruction in the bios
5. Giving examples explain the difference between an antivirus and a worm

* An antivirus is a software that is designed to detect and remove malware/viruses in a computer while Worm is a self-replacating malware that spreads across computer networks

1. State and explain the 3 types of ROM.
2. MASK ROM:- these is a type of ROM that is written at time of manufacture and cannot be changed
3. Erasable Read Only Memory(EPROM):- it has a transparent quartz window through which its content can be erased by exposing it to uv lights and reprogrammed for another use
4. Programmable Read Only Memory(PROM):- this allows the user to alter it only once after the content is written and once its programmed the context cannot be changed again
5. Explain three ways in which computers are used in the medical field

* They are used in storage of patient data
* They are used for medical research
* They are used in booking of appoitments

1. Define an Operating systems, its functions and give OS examples

* An operating system is a system software that is designed to manage computer hardware and software resources its functions are to control program execution, allocate memory to programs, organize and manage file and to handle communication within the device they include Windows, Mac OS, Linux e.t.c

1. What is the difference between application software and system software

* System software are software that are designed to manage the computer hardware and provide services for applications eg operating system while Application software are programs designed for specific user task eg word processors

1. What is Graphical User Interface (command prompt cmd) and how important is it in computers.

* Graphical user interface is an interface that uses visual elements for user interaction unlike command prompt which uses text commands to interact with computer the GUI is important since it is user friendly making it easy to use even if the user is not a computer expert

1. Explain what a Network is giving and give four different types of networks.

* A computer network refers to connection of 2 or more devices so that they can be able to communicate and share devices
* They include :

1. Local Area Network (LAN)
2. Metropolitan Area Network (MAN)
3. Wide Area Network (WAN)
4. Personal Area Network (PAN)
5. Define what a network topology is stating 4 types of topology

* Network topology refers to design of arrangement of computer in a network
* They include :

1. Bus topology- network nodes are arranged through a central cable which carries network to both direction
2. Star topology – all compute are separated to central node
3. Ring topology – all computer are connected in cirulare node
4. Mesh
5. Explain what a virus is giving 4 types of viruses and the possible ways of resolving virus infections

* A computer virus refers to unwanted software programmeswhich interfere with proper functioning of computer
* They include:  
  (i) append virus- it appends its malicious code to end of malicious file

(ii) Boot virus- replaces the boot setup with its own malicious version

(iii)Macro virus – it affects the macros of computer document

(iv)Trojan horse – malware like virus that replicate computer virus and hides in computer program

* Resolution in to install antivirus software to detect and remove viruses

1. What is a computer password?

* This is a secret word that is used to authenticate a user and contoll access to a computer