NAME:- MAAZ HABIB

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Section:- C

Subject: Computer fundamentals

Submitted to:- Safdar Nawaz khan Marwat

Assignment No#1.

Q1:- What is a computer and what are the different categories of computer? Briefly describe these categories.

Ans:- Computer:-

Definition:-

An electronic device for storing and process data typically in binary form, according to instructions given to it in a variable program.

Types:-

1. PC:-

- It is abbrevatied as Personal ~~program~~ computer. It is relatively inexpensive computer designed for an individual user. They are used for house, office, Business, playing games and surfing the internet.

2: Workstation:-

Workstation is a computer used for engineering application, desktop publishing, software development etc. They come in very large storage, Ram, high resolution graphics screen. There is a special type of workstation ~~wll~~ which is diskless ~~st~~ called as diskless workstation.

3:. Minicomputer:-

A Minicomputer is a type of computer that possesses most of the features of a large computer but is smaller in physical size. It is a midsize multi-processing system capable of supporting upto 250 users simultaneously.

4:. Mainframe:-

Mainframe is a very large and expensive computer capable of supporting thousands of user simultaneously. They are high-performance computers with large amount of memory and processors that process billions of simple calculations.

5:. Supercomputers:-

Supercomputers are the fastest computers that are available at an expensive cost and are used where there is a need of alot of calculations. Like:- Nasa, Facebook etc.

Q2: What is the role of computers in the development of a society? Describe in brief the impact of computers on personal life, education, military, government and technology.

Ans:- Role of computers :-

Computers are now a part of our lifes as they are needed in every part, place and is a very basics thing of development. Computers have developed our society in many ways and helped us ease our work in different expect of life. Like a fresh example is online classes in this tough time people, students and workers can still do there Jobs, Not even that now people can do alot of online courses. Even sending mail or information in a few mints instead of days and months.

Impact on personal life :-

Computers are used and are basic and requirment of everyone living in 21st century. As on personal life everyone can order or buy stuff online. Even housewife, women can know about fashion and stuff.

Impact on Education :-

Computers, Now a days have a very important Impact on education as most of organizations use them for registration, processing of exam results. Also now a days student can excess courses, books, libary etc. The most important is online classes as in the covid.

Impact on Military :-

Computers are used for many purposes im military, Like used for organizing files for easy access, also it is used in testing students aptitude, also it helps in tracking.

Impact on government & Technology :-

Computers are widely used in government as it made things easy, Like collecting taxes, even records of files, lists of people, workers. They can design the structures of project using computers. They can present project, ideas or 3d designs even.

Q3. Describe briefly the four parts of computer system.

Ans: <u>Computer parts:.</u>

Every computer, large or small has these four parts which are as follows;

1) hardware
2) Software
3) Data
4) user

1) <u>Hardware:.</u>

Hardware is anything that we can touch, Computer hardware includes CPU, the case, monitor, mouse, keyboard, data storage of computer etc.

2) <u>Software:-</u>

Software is also called as programs and there are thousands of programs like microsoft. It tells the computer what to do. Software has two types, system software and application software. System software is used for operating computer hardware, while application software is used by user to perform specific task.

3) <u>DATA:-</u>

Data are facts which do not make sense but computer process it and convert it into useful information for the user.

4) <u>user:.</u>

Users are the people or person who are commanding the computer to perform a task and it is one of the important part required.

Q4) Differentiate data, information and knowledge with help of example.

Ans:- DATA:-

Data are facts that does not make sense, but when the computer process it and came it useful for the user. If it is in irregular form or distrube form it may not make any sense at all, but when arranged it makes sense.
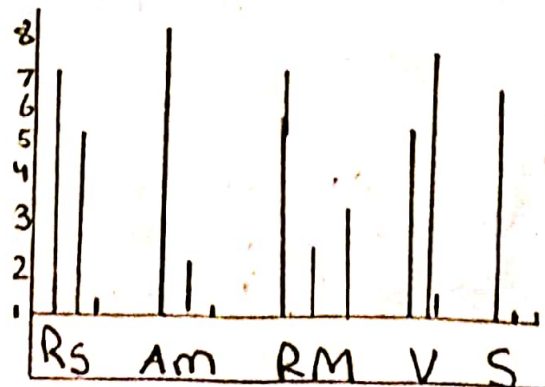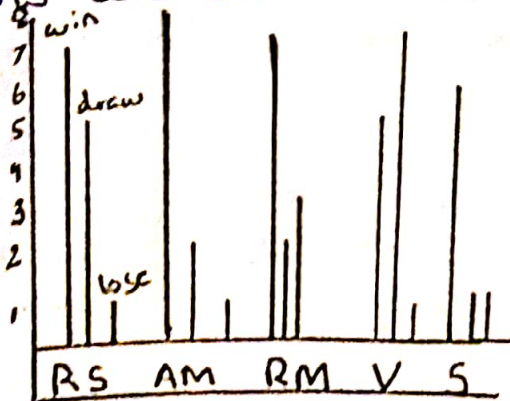
Information & knowledge:-

facts provided or learned about something is called information, while knowledge is information gained through experience.

Example:-

Let us see it through example.

	Teams	wins	Draw	Lose
1	Real Sociedad	7	5	1
2	Atletico Madriad	8	2	1
3	Real Madriad	7	2	3
4	Villarreal	5	7	1
5	Sevilla	6	1	1

As we can see from above Data of 5 football teams

As we can see from above Information states of team so we can conclude that Real Sociedad (RS) is first and Sevilla (S) is last which is knowledge.
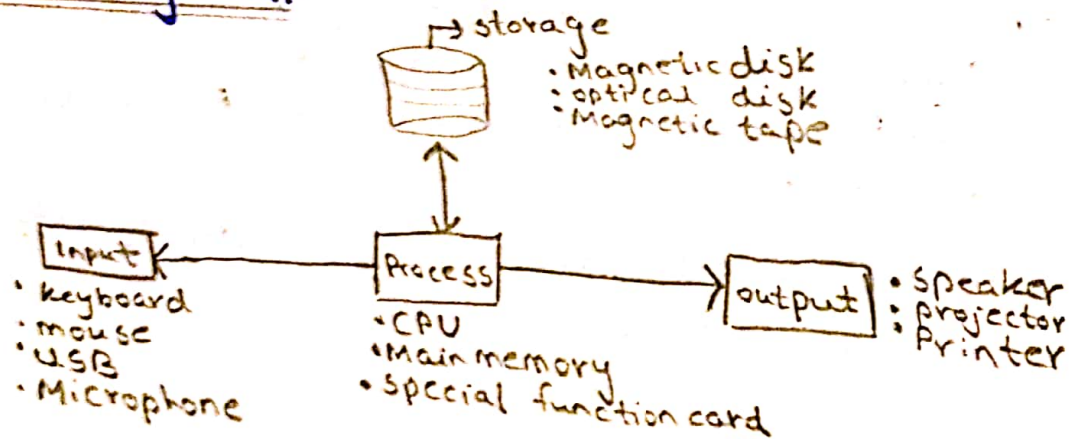
Qs) What are four phases of information process cycle Describe each phase and draw the cycle diagram

Ans:- four phases:-

The four phases are:-

i) Input

ii) output

iii) storage

iv) Processing

cycle diagram:-

→ storage
- Magnetic disk
- optical disk
- Magnetic tape

Input
- keyboard
- mouse
- USB
- Microphone

Process
- CPU
- Main memory
- special function card

output : Speaker
: projector
: Printer

i) Input devices:

It includes keyboard, mouse, USB, microphone etc
- keyboard is the most common input device which is used for writting/typing
- Mouse is another common device which is used for selecting, holding, scrolling, moving, clicking etc for files, or any document.
- USB is an input device used for storage of files or importing it from another device.
- microphone is most offten used in adding sounds

ii) Output devices:

It includes speakers, printers, Scanners, projectors, Monitors etc.

- Monitors are used for display purpose
- Printers are such output devices which are used for making copy or converting soft file in hard file.
- Scanners are used for Scanning document
- Projectors are used for display but it is larger than monitor.

iii) storage:-

Storage device are for keep a file or document store Permanently or temporarily. In permanently storage devices USB, flopy disks etc. It can be external and internal. While temporarily has RAM or cache memory. If files are temporarily storged and u restart or shutdown computer than all files will be lost.

iv) Processing:-

They are responisble for processing information within the computer. They include CPU (central processing unit), memory (RAM & RoM) and motherboard. All of these are inside the CPU.

Q6) what are the major difference between RAW, ROM and storage devices?

RAM:-

RAM stands for "random acess memory" which saves files or document temporarily which you are working on. It is erased when you restart or shutdown your device as it is stored in electrical transistor, So when no electric current the data is erased. It can be changed, expand accordingly.

RoM:-

RoM stands for "Read only memory" which saves files permanently. It is stored on a chip and is not lost or erased when device is off or turned off. It is not of on electric current but on binary data. It cannot be changed by users.

storage Devices:-

It contains USB, floppy disk, Optical storage, Magnetic storage. It also ~~storag~~ store files Permanently and is different from RAM.

• Magnetic storage include floppy and hard drive and uses a magnet to access them.

- optical storage contains CD and DVD and uses a laser to access them.
- USB is also a storeing device, it is to import or export through devices.

Q7) What are advantages and disadvantages of CRT monitors? Why should a person prefere LCD over CRT.

Ans: Advantage and disadvantage of CRT:

Advantage	Disadvantage
1. They operate at any resolution, geometry and aspect ratio.	Subject to geometric distortion and screen regulation problems.
2. CRT's generally run at the highest pixel available.	Relatively bright but not bright enough,
3. Less expensive than others	Very heavy and bulky. uses alot of electricity.
4. CRT's have fast response time and no motion artifacts.	All colours produce annoying moire patterns.
5. Produce a very dark black and the highest contrast level	Emits electric, magnetic and electromagnetic fields.

LCD VS CRT:

LCD stands for "liquid crystal display" and CRT stands for "cathode ray tube". People prefer LCD over CRT bcoz it is litter than CRT. CRT uses alot of electric current, while LCD uses less. CRT is heavy than LCD. LCD is having quiet high resolution than CRT.

Q8) Explain the mechanisms of pixel forming in both CRT and LCD monitors?

Pixel of CRT:

CRT uses three colours red, green and blue which are emitted through electron guns passing through metal mask. When the colours combine they formed other colour Also changing the intensity creates new colours.

Pixel of LCD:

LCD uses four colours red, blue, green and opaq-

Pixels are arranged in grids. These grids are active by using transistors and litting row and columns. They are arranged in a thin film. Animation is clear but sometimes blurry.

Q9) What is the difference between resolution and dot-pitch? Explain how increasing the resolution decreases the image size.

Resolution:-

Resolution measures the number of pixel in a digital image of or display. It is given as W × H, where W is the horizontal pixels and H is vertical pixel. For example resolution of HDTV is 1920×1080.

Dot-pitch:-

It is also called as pixel pitch. It is used for describing the sharpness of display. It is measured by taking the distance between two same colours. It's range is from 0.15 millimeter to 0.40 millimeter. For best quality it must be less than 0.22 millimeter but will cost more.

Increasing resolution causing decrease in image size:-

The image size doesn't depend on the resolution, as if we lower the resolution or increase it the file size will remain same. It depends upon the number of pixels and it's dimensions. The number of pixel in width and height makes the image size smaller.

Q(o) Explain the working principle of keyboard and Mouse. How can these devices be used in accordance with ergonomics?

Ans:- Keyboard:-

Keyboard is the common input device. It is used in for typing words, sentences etc. The working principle of keyboard are, when a key(any key) on keyboard in pressed there are controller below them. The controller sends a code to CPU that a key is pressed. Every key has it's own code. Then controller notifies the operating system, and it responds in a way that the number or key pressed works.

Mouse:-

Mouse was first inverted by Engelbart in 1963. The mouse has type and every type has it's working principles. Like

Mechanical mouse:

It would have a rubber ball below which would determine the speed and direction of the pointer, it also needed maintance.

Optical mouse;

It works on the basis of light and it's reflection. The light would shown on mouse pad, then the reflection would be the speed and direction of the pointer, it required very less maintance.

Ergonomics:-

It is the study of interaction between human's and tools, devices etc. If it is not in accordance then it may cause RSI (Repetitive strain Injury). To prevent that we use or should use chairs with armrests, keyboard having keyboard tray. Monitor according to eye level. Also sit up straight, and in a place where your hands are straight. Dont work continuously. Also have a mouse pad to level your arm with elbow to relax your shoulders.