

Components of a Computers

1. Hardware - Components of computers having physical structures
2. Software - Programs and data make up the software
3. Central Processing Unit (CPU) –
 - ‘Brain’ of the computer
 - It executes instructions and performing calculations
 - It interprets and carries out the commands from software and hardware
4. Computer Memory- stores data for computer to use
 - RAM- Random Access Memory is volatile memory for temporary storage
 - ROM- Read Only Memory is a non-volatile memory. It contains instructions needed to boot up the computer system and run programs.
 - SSD- Solid-State Drive offers non-volatile, long-term storage for programs and files.
5. Arithmetic Logic Unit: An ALU is a part of CPU and performs all arithmetic and logic operations , enabling the CPU to execute tasks.
6. Input Devices
7. Output Devices
8. **Motherboard:** A motherboard acts as the central hub, connecting all the computer components. It houses the CPU, memory modules, expansion slots, and connectors, facilitating communication and data transfer between different parts of the system.

Basics of Operating system and File management:

An operating system is a program that controls the execution of application programs and acts as an interface between the user and the computer hardware. Examples of operating systems are UNIX, MS-DOS, MS-WINDOWS, LINUX, Android etc.

Components of Operating system:

1. Memory Management
2. Process Management
3. Input\Output device Management
4. File system Management
5. Network Management
6. Security Management

File Management in Operating System:

File management in Operating System is a software that manages or handles the files such as video, audio, docs, pdf, text etc. present in the computer software.

Function of the file management in Operating system:

1. File and directory creation and deletion.
2. For manipulating files and directories.
3. Mapping files onto secondary storage.
4. Backup files on stable storage media.

File: A file is a named collection of related information that is recorded on secondary storage. There are different types of files in a computer including audio, video, presentation, image and text.

The operating system must do to perform basic file operations given below

1. Creating
2. Writing
3. Reading
4. Repositioning
5. Deleting
6. Protection
7. Truncating (decreasing the size of a file)

Internet and Web Browsing:

The Internet is a global network of networks. It is a worldwide system of computer networks in which users at any one computer can get information from any other computer.

Hardware and software requirements for connecting to the Internet:

1. A computer with Network Interface Card (wired\wireless) facility and an operating system that supports TCP\IP protocol. (Transmission Control Protocol/Internet Protocol, is a set of rules that govern how the internet operates. It's a collection of protocols that define how data is transmitted, from breaking it into packets to routing it to its destination)
2. Modem
3. An internet account is given by an Internet Service Provider.
4. Software like browser, client application for e-mail, chat etc.

Uses of Internet:

1. Research: it is beneficial for our research works as we can search the concerned topic and can be able to get hundreds of references.
2. Education: There are a number of e books, online help centres, expert's views and other study oriented materials on the internet can make the learning process easier.
3. Training and Information: It allows access to resources and communication with distant tutors. Anyone requiring any kind of information is able to find and access the necessary resources via internet.
4. Communication: it is possible to stay in touch and communicate with friends and family via e-mail, social networking and chat facilities.
5. Leisure and entertainment: movies and games can be easily accessed; travel destination, information and arrangements, arts, crafts, hobbies and any related information can be accessed.
6. Business: through internet we can make business communications, advertising, direct access to companies, chat based customer service, online conferencing, online payments and transactions through internet banking etc.
7. Shopping: from appliances and books to clothing, foodstuff and devices, from insurance service, anything can be found and purchased via internet.
8. Health service: through internet we can make arrangement of doctor's appointment, can search a proper doctor for a specific disease and also able to consult a doctor with video conferencing.

Navigating the web and search engines:

Search engines act as tools to access the information that we need and to navigate through the internet. It is a specialized program that facilitates information from large segments of the internet. It attempts to help a user locate desired information or resources by seeking matches to user-specified key words.eg: Google, Bing, Yahoo!, DuckDuckGo, Ask.com etc.

Components of a search engine

The main components of a search engine are:

1. **Gatherer:** Gatherer or Crawler or Spider gathers content descriptors from the document collection, which continuously traverses the Web and picks up the newly added WebPages/documents.
2. **Indexer:** Indexes the web pages gathered by the spider and build the database.
3. **Search Interface:** It is an interface between user and database. It collects query (Keywords) from the user, submit to the Database and display results based on the matching and relevance.

Search strategies

Search strategies are the terms and techniques used to find information in a search engine or library database. Adopting basic search strategies which are specific and focused help us in better and enhanced search outcomes. The basic search strategies are

1. **Keyword searching:** This type of search allows the searcher to enter or one or more terms that represent a concept to search.
2. **Keyword Phrase Search:** Enclose a phrase or words in double quotations (" ") when exact word order is required. This type of search is one of the most efficient and effective ways to narrow down results. Using this type of search finds sites, titles, and names when all or exact parts are known.
3. **Implied Boolean Search:** Use a plus (+) before a word or phrase that is to be included in a site, title, and/or document. Using a minus (-) in front of a word or phrase excludes these concepts from the site, title, and/or document.
4. **Wild card and truncation:** Use an asterisk (*) or question mark (?) to indicate missing letters if you are uncertain of the spelling or want a variant spelling of the word(s).

Email:

Email or electronic mail is a method of communication that transmits information using the internet. It is a common part of education, business and commerce interactions. Emails can also be used for personal interactions.

Benefits of sending emails

1. **Cost effective:** In case one uses a website that offers free email service, emails are usually free and cost effective, provided one has access to internet connectivity.
2. **Flexible:** Email can be accessed from any location and device like computer, mobile, laptop, etc., provided it has proper internet connectivity.
3. **Paperless:** The practice of receiving and sending emails is ecologically friendly as it prevents the use of papers.

Creating and managing email account

➤ How to create an email account?

Step 1: Visit a website that offers an email service. For example, yahoo, google, outlook, etc.

Step 2: Find where to **sign up**. Usually there is a link showing '**register**' or '**sign up**'

Step 3: Follow all the instructions on the page. Enter the necessary details.

Step 4: Read the service agreement and click on the box that says you agree to abide by the email system's rules. Once completed, click on the '**submit**' or '**enter**' button usually at the bottom of the screen.

Step 5: Once all the steps are followed, your email account will be created successfully.

Managing email accounts

What is email management?

- Email management refers to the practice of organizing, prioritizing, and handling emails in a way that optimizes productivity and efficiency. It involves strategies for managing incoming emails, responding promptly, and organizing email archives for easy retrieval.

Ways of email management:

1. Create labels, folders and categories
2. Star or flag important emails
3. Set up filters in your email account
4. Unsubscribe from unimportant sites
5. Use your calendar to track emails that require follow ups
6. Create templates for your go-to responses
7. Follow the four D's: 4 D's of email management:

Delete: Delete unimportant or unnecessary emails immediately

Delegate: Assign emails that can be handled by someone else to the appropriate person.

Do: Respond to emails that require immediate action.

Defer: Postpone dealing with emails that require more time or consideration to a later time.

Email etiquette and best practices.

Email etiquette is a set of socially accepted norms that are to be followed while communicating through email. Based on the person/group receiving the email, the etiquettes will be different.

Why is email etiquette important?

1. It increases clarity of the message that is to be delivered through email.
2. It brings efficiency. Following email etiquettes aides in making the message precise and focussed, thereby saving time on part of both the sender and the reader.
3. Following email etiquette helps in protection from legal liability.

Email etiquette:

1. Use a direct subject line
2. Use a professional email address
3. Add a professional email signature
4. Use professional greetings
5. Avoid use of excessive exclamation points
6. Always proof read before sending an email
7. Always be careful while typing the recipient's address
8. Keep the message clear