



CLASS:BCOM3rdSem

Batch: 2018-19

IT Tools & E-Commerce

Notes as per IKGPTU Syllabus

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Unit –I

Computer Fundamentals: Meaning, Features of Computers, Advantages and Limitations of Computer, Classification of Computers. **Components of Computer :** Input Unit, output Unit and CPU. **Memory and storage:** Primary Memory & Secondary memory, Input devices, output devices. **Operating System-** Meaning and functions **Computer Software:** Types of Software, Application software and system software

Introduction to Windows Operating System: Directory Manipulation: Creating Directory, Sub Directory, Renaming, Coping and Deleting the Directory. File Manipulation: Creating a File, Deleting, Coping, renaming a file.

Unit –II

MS-Word: History, Creating, Saving, Opening, Importing, Exporting and Inserting document, Formatting pages, Alignment, Paragraphs and Sections, creating lists and numberings Formatting Commands: Headings, Styles, Fonts and Size editing, Viewing Text, Finding and Replacing text, Headers and Footers, Inserting page breaks, Page numbers, mail merge. **MS-PowerPoint:** History, Creating, Saving, Opening, existing presentation, Creating and Saving a Presentation using Auto Content Wizard, Design Template, Blank Presentation the Slide Sorter View, Slide Show, Inserting pictures and graphics and Printing Slides.

Unit III

MS-Excel: Introduction, Components of Excel History, Creating, Saving, Opening, Spreadsheet, Formatting numbers and Text, Graph and Chart Formatting Commands, Menu Bar, Toolbars, Producing Charges, Protecting Cell Macro and Printing Operation, Spell Checking, Cell Editing, Calculation of various Financial and Statistical Functions using Formulas.

Unit IV

Introduction to E- commerce : Meaning and concept – E- commerce v/s Traditional Commerce- E- Business, features & benefits of E- Commerce – Impacts, Challenges & Limitations of E-Commerce , **Website – components of website – Concept & Designing website for E- Commerce – Corporate Website – Portal – Search Engine –**

Internet Advertising – Emergence of the internet as a competitive advertising media,
Electronic Payment system, Security Issues in E-Commerce.

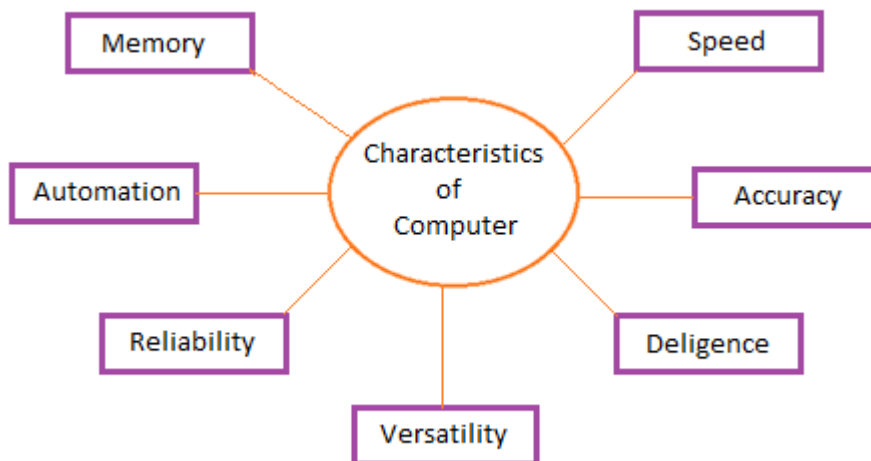
Unit-1

Meaning of Computer

A programmable electronic device designed to accept data, perform prescribed mathematical and logical operations at high speed, and display the results of these operations. Mainframes, desktop and laptop computers, tablets, and smart phones are some of the different types of computers.

Features of Computer

The characteristics of the computer system are as follows –



Speed

A computer works with much higher speed and accuracy compared to humans while performing mathematical calculations. Computers can process millions (1,000,000) of instructions per second. The time taken by computers for their operations is microseconds and nanoseconds.

Accuracy

Computers perform calculations with 100% accuracy. Errors may occur due to data inconsistency or inaccuracy.

Diligence

A computer can perform millions of tasks or calculations with the same consistency and accuracy. It doesn't feel any fatigue or lack of concentration. Its memory also makes it superior to that of human beings.

Versatility

Versatility refers to the capability of a computer to perform different kinds of works with same accuracy and efficiency.

Reliability

A computer is reliable as it gives consistent result for similar set of data i.e., if we give same set of input any number of times, we will get the same result.

Automation

Computer performs all the tasks automatically i.e. it performs tasks without manual intervention.

Memory

A computer has built-in memory called primary memory where it stores data. Secondary storage are removable devices such as CDs, pen drives, etc., which are also used to store data.

Advantages of computer

Multitasking

Multitasking is one of the major advantage of computer. Person can perform multiple task, multiple operation, calculate numerical problems within few seconds. Computer can perform trillion of instructions per second.

Speed

Now computer is not just a calculating device. Now a day's computer has very important role in human life. One of the main advantages of computer is its incredible speed, which helps human to complete their task in few seconds. All the operations can be performed very fast just because of its speed else wise it takes a long time to perform the task.

Cost/ Stores huge amount of data

It is a low cost solution. Person can save huge data within a low budget. Centralized database of storing information is the major advantage that can reduce cost.

Accuracy

One of the root advantage of computer is that can perform not only calculations but also with accuracy.

Data Security

Protecting digital data is known as data security. Computer provide security from destructive forces and from unwanted action from unauthorized users like cyberattack or access attack.

Disadvantage of Computer

As we know advantage comes with disadvantage.

Virus and hacking attacks

Virus is a worm and hacking is simply an unauthorized access over computer for some illicit purpose. Virus is being transferred from email attachment, viewing an infected website advertisement, through removable device like USB etc. once virus is transferred in host computer it can infect file, overwrite the file etc.

For example: Huge portion of **internet** was going down including Twitter, Netflix, Reddit and CNN in October 2016 because the largest DDoS attack was launched on service provider DYN using IoT Botnet.

Online Cyber Crimes

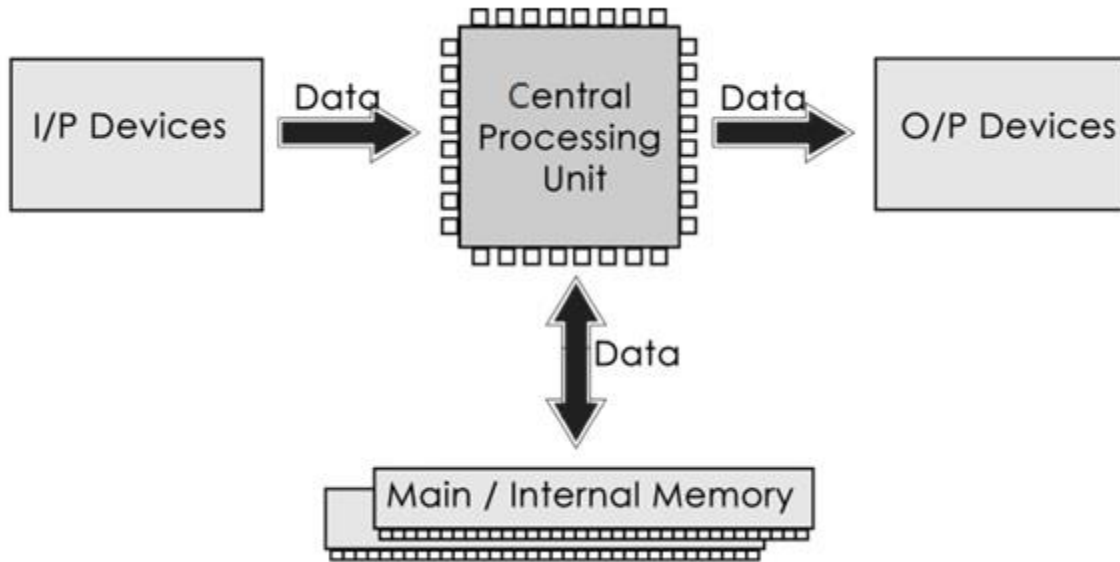
Online cyber-crime means computer and network may have used in order to commit crime. Cyberstalking and Identity theft are the points which comes under online cyber-crimes. For example: one may get the access of the access to your shopping account like amazon account now that person will be able to know your personal details like debit card or credit card number which can be than misused.

Reduction in employment opportunity

Mainly past generation was not used of the computer or they have the knowledge of computer they faced a big problem when computer came in field. As we have seen in banking sector senior bank employees faced this problem when computer came to the banking sector.

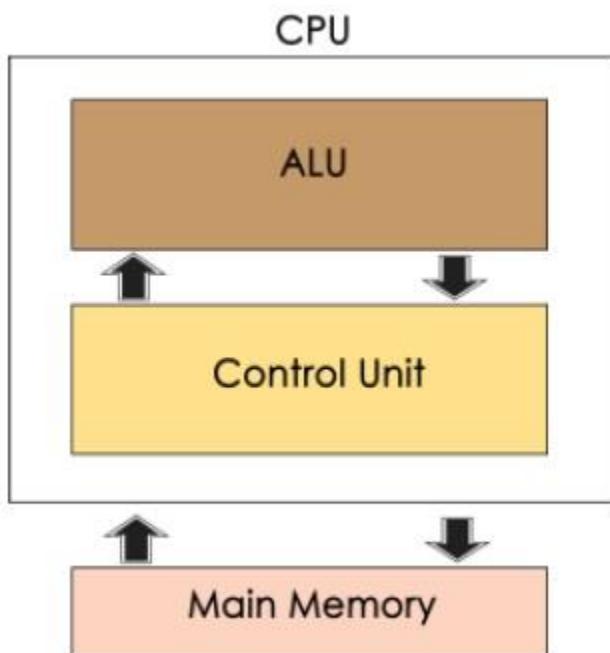
Computer System Components

Computer systems consist of three components as shown in below image: **Central Processing Unit, Input devices and Output devices**. Input devices provide data input to processor, which processes data and generates useful information that's displayed to the user through output devices. This is stored in computer's memory.



Central Processing Unit

The Central Processing Unit (CPU) is called "the brain of computer" as it controls operation of all parts of computer. It consists of two components: Arithmetic Logic Unit (ALU), and Control Unit.



Arithmetic Logic Unit (ALU)

Data entered into computer is sent to RAM, from where it is then sent to ALU, where rest of data processing takes place. All types of processing, such as comparisons, decision-making and processing of

non-numeric information takes place here and once again data is moved to RAM.

Control Unit

As name indicates, this part of CPU extracts instructions, performs execution, maintains and directs operations of entire system.

Functions of Control Unit

Control unit performs following functions –

- It controls all activities of computer
- Supervises flow of data within CPU
- Directs flow of data within CPU
- Transfers data to Arithmetic and Logic Unit
- Transfers results to memory
- Fetches results from memory to output devices

Memory Unit

This is unit in which data and instructions given to computer as well as results given by computer are stored. Unit of memory is "Byte".

Classification of Computer

Computer scan is broadly classified by their **speed and computing power**.

Sr.No.	Type	Specifications
1	PC (Personal Computer) or Micro-	It is a single user computer system having a moderately powerful

Sr.No.	Type	Specifications
	Computers	microprocessor. It is termed as a computer that is equipped microprocessor as its CPU.
2	Workstation	It is also a single user computer system, similar to the personal computer, however, has a more powerful microprocessor.
3	Mini-Computer	It is a multi-user computer system, capable of supporting hundreds of users simultaneously.
4	Main Frame	It is a multi-user computer system, capable of supporting hundreds of users

Sr.No.	Type	Specifications
		simultaneously. Software technology is different from minicomputer.
5	Super-Computer	It is an extremely fast computer, which can execute hundreds of millions of instructions per second.

PC (Personal Computer)



A PC can be defined as a small, relatively inexpensive computer designed for an individual user. PCs are based on

the microprocessor technology that enables manufacturers to put an entire CPU on one chip. Businesses use personal computers for word processing, accounting, desktop publishing, and for running spreadsheet and database management applications. At home, the most popular use for personal computers is playing games and surfing the Internet.

Although personal computers are designed as single-user systems, these systems are normally linked together to form a network. In terms of power, nowadays high-end models of the Macintosh and PC offer the same computing power and graphics capability as low-end workstations by Sun Microsystems, Hewlett-Packard, and Dell.

Workstation



The workstation is a computer used for engineering applications (CAD/CAM), desktop publishing, software development, and other such types of applications which require a moderate amount of computing power and relatively high-quality graphics capabilities.

Workstations generally come with a large, high-resolution graphics screen, a large amount of RAM, inbuilt network support, and a graphical user interface. Most workstations also have mass storage device such as a disk drive, but a special type of workstation, called diskless workstations, comes without a disk drive.

Common operating systems for workstations are UNIX and Windows NT. Like PC, workstations are also single-user computers like PC but are typically linked together to form a local area network, although they can also be used as stand-alone systems.

Minicomputer

It is a midsize multi-processing system capable of supporting up to 250 users simultaneously.



Mainframe

The mainframe is very large in size and is an expensive computer capable of supporting hundreds or even thousands of users simultaneously. Mainframe executes many programs concurrently and supports much simultaneous execution of programs.



Supercomputer

Supercomputers are one of the fastest computers currently available. Supercomputers are very expensive and are employed for specialized applications that require an immense amount of mathematical calculations (number-crunching).



For example, weather forecasting, scientific simulations, (animated)graphics, fluid dynamic calculations, nuclear energy research, electronic design, and analysis of geological data (e.g. in petrochemical prospecting).

What is Memory?

Memory is very much like our brain as it is used to store data and instructions. Computer memory is the storage space where data is to be processed, and instructions needed for processing are stored. The memory is divided into a large number of smaller portions called the cell. Every cell/ location has a unique address and a size.

Two types of memories are:

- Primary Memory
- Secondary Memory

What is Primary Memory?

Primary memory is the main memory of the computer system. Accessing data from primary memory is faster because it is an internal memory of the computer. The primary memory is most volatile which means data in primary memory does not exist if it is not saved when a power failure occurs.

Two types of Primary Memory are:

- RAM
- ROM

RAM (Random Access Memory)

Random access memory which is also known as RAM is generally known as a main memory of the computer system. It is called temporary memory or cache memory. The information stored in this type of memory is lost when the power supply to the PC or laptop is switched off.

ROM (Read Only Memory)

It stands for Read Only Memory. ROM is a permanent type of memory. Its content is not lost when the power supply is switched off. The computer manufacturer decides the information of ROM, and it is permanently stored at the time of manufacturing which can not be overwritten by the user.

What is Secondary Memory?

All secondary storage devices which are capable of storing high volume data is referred to secondary memory. It's slower than primary memory. However, it can save a substantial amount of data, in the range of gigabytes to terabytes. This memory is also called backup storage or mass storage media.

Types of Secondary memory

Mass storage devices:

The magnetic disk provides cheap storage and is used for both small and large computer systems.

Two types of magnetic disks are:

- Floppy disks
- Hard disks

Flash/SSD

Solid State Drive provides a persistent flash memory. It's very fast compared to Hard Drives. Frequently found in Mobile phones, its rapidly being adopted in PC/Laptop/Mac.

Optical drives:

This secondary storage device is from which data is read and written with the help of lasers. Optical disks can hold data up to 185TB.

Examples

- CD
- DVD

- **Floppy Disk:** A floppy disk is a flexible disk with a magnetic coating on it. It is packaged inside a protective plastic envelope. These are one of the oldest type of portable storage devices that could store up to 1.44 MB of data but now they are not used due to very less memory storage.

- **Hard disk:** A hard disk consists of one or more circular disks called platters which are mounted on a common spindle. Each surface of a platter is coated with a magnetic material MB,GB,TB.

USB drives:

It is one of the most popular types of secondary storage device available in the market. USB drives are removable, rewritable and are physically very small. The capacity of USB drives is also increasing significantly as today 1TB pen drive is also available in the market.

Input devices

Keyboard

Keyboard is the most common and very popular input device which helps to input data to the computer. The layout of the keyboard is like that of traditional typewriter, although there are some additional keys provided for performing additional functions.

Mouse

Mouse is the most popular **pointing device**. It is a very famous cursor-control device having a small palm size box with a round ball at its base, which senses the movement of the mouse and sends corresponding signals to the CPU when the mouse buttons are pressed.

Joystick

Joystick is also a pointing device, which is used to move the cursor position on a monitor screen. It is a stick having a spherical ball at its both lower and upper ends. The lower spherical ball moves in a socket. The joystick can be moved in all four directions.



Light Pen

Light pen is a pointing device similar to a pen. It is used to select a displayed menu item or to show objects on the monitor screen. It consists of a photocell and an optical system placed in a small tube.



Track Ball

Track ball is an input device that is mostly used in notebook or laptop computer, instead of a mouse. This is a ball which is half inserted and by moving fingers on the ball, the pointer can be moved.



Scanner

Scanner is an input device, which works more like a photocopy machine. It is used when some information is available on paper and it

is to be transferred to the hard disk of the computer for further manipulation.



Microphone

Microphone is an input device to input sound that is then stored in a digital form.



The microphone is used for various applications such as adding sound to a multimedia presentation or for mixing music.

Bar Code Readers

Bar Code Reader is a device used for reading bar coded data (data in the form of light and dark lines). Bar coded data is generally used in

labelling goods, numbering the books, etc. It may be a handheld scanner or may be embedded in a stationary scanner.



Output Devices

Monitors

Monitors, commonly called as **Visual Display Unit (VDU)**, are the main output device of a computer. It forms images from tiny dots, called pixels that are arranged in a rectangular form. The sharpness of the image depends upon the number of pixels.

There are two kinds of viewing screen used for monitors.

- Cathode-Ray Tube (CRT)
- Flat-Panel Display

Cathode-Ray Tube (CRT) Monitor

The CRT display is made up of small picture elements called pixels. The smaller the pixels, the better the image clarity or resolution. It takes

more than one illuminated pixel to form a whole character, such as the letter 'e' in the word help.



A finite number of characters can be displayed on a screen at once. The screen can be divided into a series of character boxes - fixed location on the screen where a standard character can be placed. Most screens are capable of displaying 80 characters of data horizontally and 25 lines vertically.

There are some disadvantages of CRT –

- Large in Size
- High power consumption

Flat-Panel Display Monitor

The flat-panel display refers to a class of video devices that have reduced volume, weight and power requirement in comparison to the CRT. You can hang them on walls or wear them on your wrists. Current uses of flat-panel displays include calculators, video games, monitors, laptop computer, and graphics display.



The flat-panel display is divided into two categories –

- **Emissive Displays** – Emissive displays are devices that convert electrical energy into light. For example, plasma panel and LED (Light-Emitting Diodes).
- **Non-Emissive Displays** – Non-emissive displays use optical effects to convert sunlight or light from some other source into graphics patterns. For example, LCD (Liquid-Crystal Device).

Printers

Printer is an output device, which is used to print information on paper.

There are two types of printers –

- Impact Printers
- Non-Impact Printers

Impact Printers

Impact printers print the characters by striking them on the ribbon, which is then pressed on the paper.

Characteristics of Impact Printers are the following –

- Very low consumable costs
- Very noisy
- Useful for bulk printing due to low cost
- There is physical contact with the paper to produce an image

These printers are of two types –

- Character printers
- Line printers

Character Printers

Character printers are the printers which print one character at a time.

These are further divided into two types:

- Dot Matrix Printer(DMP)
- Daisy Wheel

Dot Matrix Printer

In the market, one of the most popular printers is Dot Matrix Printer. These printers are popular because of their ease of printing and economical price. Each character printed is in the form of pattern of dots and head consists of a Matrix of Pins of size (5*7, 7*9, 9*7 or 9*9) which come out to form a character which is why it is called Dot Matrix Printer.



Advantages

- Inexpensive
- Widely Used
- Other language characters can be printed

Disadvantages

- Slow Speed

- Poor Quality

Daisy Wheel

Head is lying on a wheel and pins corresponding to characters are like petals of Daisy (flower) which is why it is called Daisy Wheel Printer. These printers are generally used for word-processing in offices that require a few letters to be sent here and there with very nice quality.



Advantages

- More reliable than DMP
- Better quality
- Fonts of character can be easily changed

Disadvantages

- Slower than DMP
- Noisy
- More expensive than DMP

Line Printers

Line printers are the printers which print one line at a time.



Laser Printers

These are non-impact page printers. They use laser lights to produce the dots needed to form the characters to be printed on a page.



Advantages

- Very high speed
- Very high quality output
- Good graphics quality
- Supports many fonts and different character size

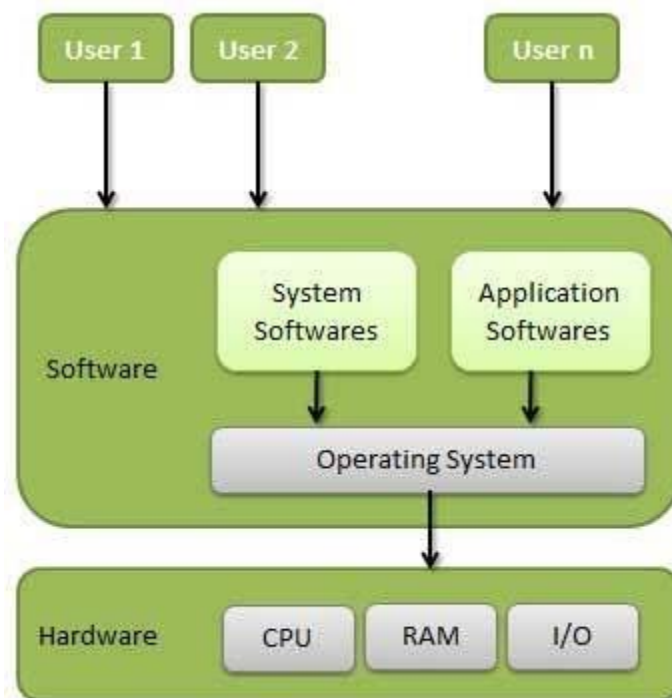
Disadvantages

- Expensive
- Cannot be used to produce multiple copies of a document in a single printing

Operating system

Definition

An operating system is a program that acts as an **interface** between the **user** and **the computer hardware** and controls the execution of all kinds of programs.



Following are some of important **functions of an operating System.**

- Memory Management
- Processor Management

- Device Management
- File Management
- Security
- Control over system performance
- Job accounting
- Error detecting aids
- Coordination between other software and users

Memory Management

Memory management refers to management of Primary Memory or Main Memory. Main memory is a large array of words or bytes where each word or byte has its own address.

Main memory provides a fast storage that can be accessed directly by the CPU. For a program to be executed, it must be in the main memory. An Operating System does the following activities for memory management –

- **Keeps tracks** of primary memory, i.e., what part of it are in use by whom, what part are not in use.
- In multiprogramming, the OS decides which process will get memory when and how much.
- **Allocates** the memory when a process requests it to do so.
- **De-allocates** the memory when a process no longer needs it or has been terminated.

Processor Management

In multiprogramming environment, the OS decides which process gets the processor when and for how much time. This function is called **process scheduling**. An Operating System does the following activities for processor management –

- Keeps tracks of processor and status(0) of process. The program responsible for this task is known as **traffic controller**.
- **Allocates** the processor (CPU) to a process.
- **De-allocates** processor when a process is no longer required.

Device Management

An Operating System manages device communication via their respective drivers. It does the following activities for device management –

- Keeps tracks of all devices. Program responsible for this task is known as the **I/O controller**.
- Decides which process gets the device when and for how much time(mouse, keyboard,printer).
- Allocates the device in the efficient way.
- De-allocates devices.

File Management

A file system is normally organized into directories for easy navigation and usage. These directories may contain files and other directions.

An Operating System does the following activities for file management –

- Keeps track of information, location, uses, status etc. The collective facilities are often known as **file system**.
- Decides who gets the resources.
- Allocates the resources.
- De-allocates the resources.

Other Important Activities

Following are some of the important activities that an Operating System performs –

- **Security** – By means of password and similar other techniques, it prevents unauthorized access to programs and data.
- **Control over system performance** – Recording delays between request for a service and response from the system.
- **Job accounting** – Keeping track of time and resources used by various jobs and users.
- **Error detecting aids** – Production of dumps, traces, error messages, and other debugging and error detecting aids.

What is Software

Software is a set of programs, which is designed to perform a well-defined function. A program is a **sequence of instructions** written to solve a particular problem.

There are two types of software –

- System Software
- Application Software

System Software

The system software is a collection of programs designed to **operate, control, and extend the processing capabilities** of the computer itself. System software is generally prepared by the computer manufacturers. These software products comprise of programs written in **low-level languages**, which interact with the hardware at a very basic level. System software serves as the interface between **the hardware and the end users**.

Some examples of system software are Operating System, Compilers, Interpreter, Assemblers, etc.



Here is a list of some of the most prominent features of a system software –

- Close to the system
- Fast in speed
- Difficult to design
- Difficult to understand
- interactive
- Smaller in size

- Difficult to manipulate
- Generally written in **low-level language**

Application Software

Application software products are designed to satisfy a particular need of a particular environment. All software applications prepared in the computer lab can come under the category of Application software.

Application software may consist of a single program, such as Microsoft's notepad for writing and editing a simple text. It may also consist of a collection of programs, often called a software package, which work together to accomplish a task, such as a spreadsheet package.

Examples of Application software are the following –

- Payroll Software
- Student Record Software
- Inventory Management Software
- Income Tax Software
- Railways Reservation Software
- Microsoft Office Suite Software
- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint



Features of application software are as follows –

- Close to the user
- Easy to design
- More interactive

- Slow in speed
- Generally written in high-level language
- Easy to understand
- Easy to manipulate and use
- Bigger in size and requires large storage space

File Manipulation in Windows Operating system

File organization and manipulation is an essential skill for using a computer. We have summarized below some of the basic operations that are used to perform these tasks

1.1 Windows Explorer

Windows Explorer is a computer program that helps you organize and access your data files. With this program you can create folders, copy, move, rename, and delete files and folders.

1.2 Basic File and Folder Operations

1. Creating a New Folder or Subfolder

Folders are used to organize your documents. Each document you create should be saved in a specific folder. To create a new folder or subfolder:

- Select the folder under which the new folder should reside. For example, if you want to place a subfolder within *My Documents*, go to this folder.
- Select *File* from the menu bar.
- Select *New*, then click on *Folder*. A blank folder icon will be created in the selected location.

- Type the new folder name.
- Press the *Enter* key.

2. Renaming a File or Folder

To rename a file or folder:

- Select the file or folder you wish to rename.
- Right-click on the file or folder and select *Rename*. Backspace or delete the original name and type in the new name.
- Press the *Enter* key.

3. Copying a File or Folder

Files and folders can be copied from one folder to another folder or even from one disk drive to another drive. To copy a file from one folder to another folder:

- Select the file or folder you wish to copy.
- Select *Edit* from the menu bar, and then select *Copy*.
- Select the new folder in which the copied file or folder should reside.
- Select *Edit* from the menu bar, and then select *Paste*. The file or folder has been copied to the new folder. Keep in mind that the original file or folder remains in its original location, and a new copy exists in the new location.

4 Moving a File or Folder

Files and folders can be moved from one folder to another folder or even from one disk drive to another drive. To move a file from one folder to another folder:

- Select the file or folder you wish to move.
- Select *Edit* from the menu bar, and then select *Cut*.
- Select the new folder in which the moved file or folder should reside.

- Select *Edit* from the menu bar, and then select *Paste*. The file or folder has been moved to the new folder.

5.Deleting a File or Folder

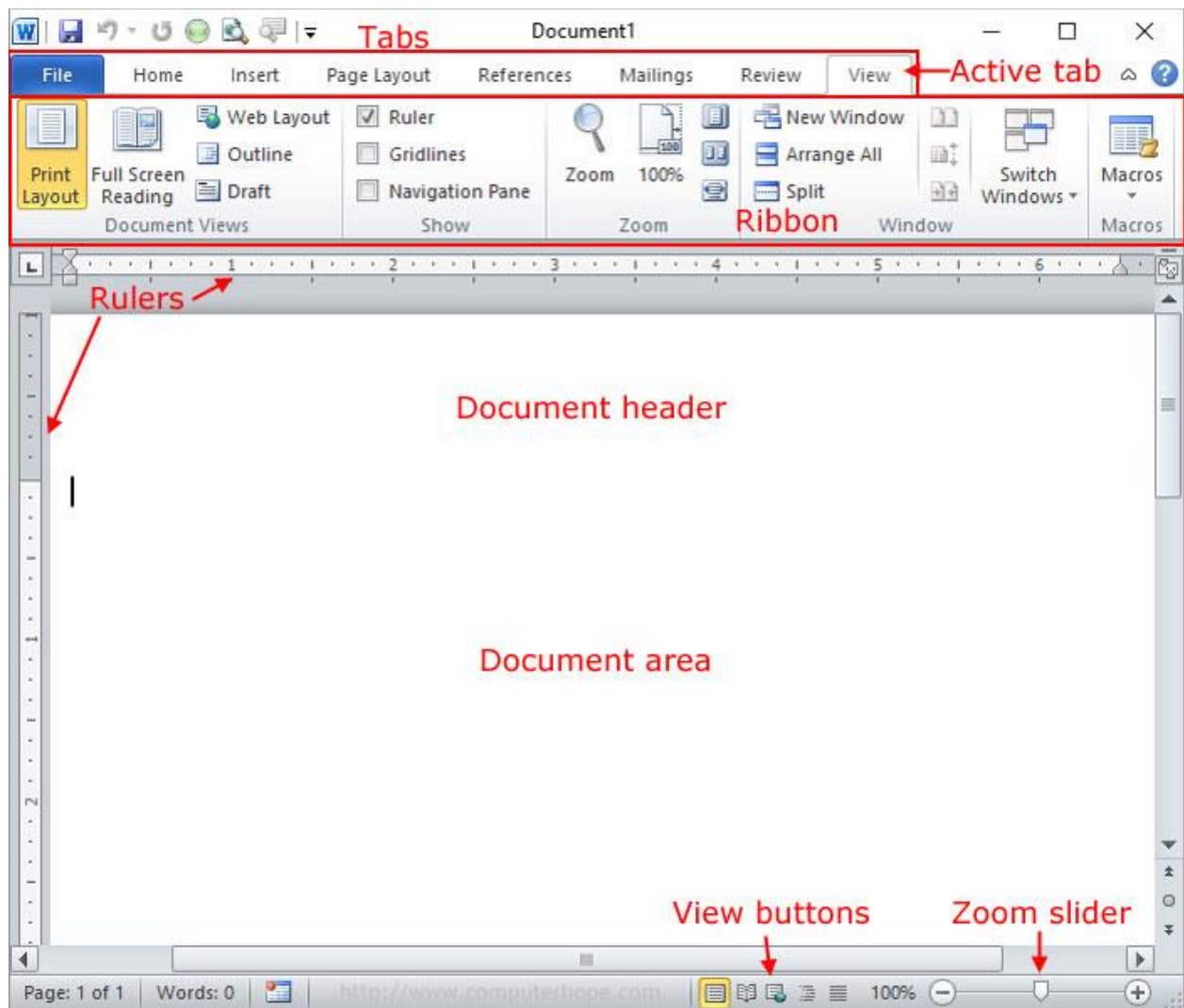
To delete a file or folder:

- Select the file or folder you wish to delete.
- Right-click on the file and select *Delete*.
- A *Confirm File (or Folder) Delete* box will be displayed. Click on *yes* .
- *Note:* When you delete a folder, all files and subfolders in the folder are also deleted.

Unit-II

What is Microsoft Word used for?

Microsoft Word allows you to create professional-quality documents, reports, letters, and résumés. Unlike a plain text editor, Microsoft Word has features including spell check, grammar check, text and font formatting. extension name of word file is .docx..



Microsoft word features

1. Working With Text and Styles

Microsoft Word is a word processor, which means that it's designed primarily for text-based documents. In Word, you type text and see roughly how it will appear on someone else's computer screen or on paper. You can change the font, color, size and other style settings for text using Word's built-in options.

2. Saving and Printing

After you create a document in Word, you usually want to save it for later access, send to someone, print it out, or any combination of these uses. With Word, you can save a document in a variety of formats for compatibility with other software.

3. Word and Compatibility

Microsoft Word has been designed for years to maximize compatibility between versions. Typically, versions of Microsoft Word can open files created in previous versions of the software and **save files in formats usable by earlier versions**. You can also save files in formats such as Rich Text Format, which is used by a variety of competing products.

4. Cloud and Local Support

Microsoft Word offers a local version of the software that you can access on your computer and a version you can access through your web browser. In the past, Word was only available as a program you install locally on your computer.

5. Built-in Collaboration

Modern versions of Microsoft Word allow multiple people to edit the same document. This is an improvement on previous editions and some competing products, which require people to edit documents one at a

time and email or otherwise share changed versions for review and further editing.

6. Microsoft Word Formatting Features

A substantial number of parts of Microsoft Word are designed around formatting text. You can choose from a wide variety of fonts and colors for text in a document, create formatted sections such as tables with bulleted or numbered lists and entries, and insert images

7. Saving, Loading and Printing

Like other modern word processing programs, Microsoft Word enables you to save files so that you can reopen them later. You can save your documents in a variety of formats to ensure compatibility with older versions of Word or with other word processing tools.

8. Save and Save As:

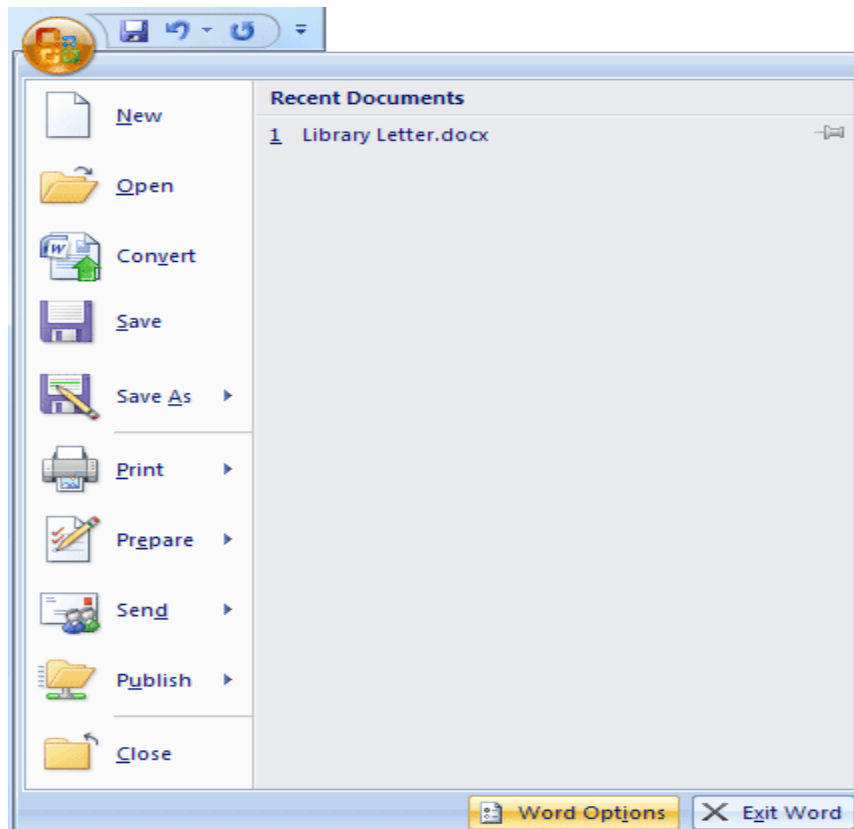
This is possibly the first command you should use when you type some text. It enables you to save your document on the hard disk as a .docx file (by default). Take note of the type of file here.

9. Templates: – In MS Word are pre-defined professional designs for users. In which all the page layout, fonts, colors, graphics, outline, text boxes, etc. word processor user get by default. To insert template you need to go File Menu -> New then you can see available templates and office.com template.

10. Clipboard: – In Microsoft Word Home Menu Clipboard is the first category menu that is used to store copied material temporarily. Such as text and picture or any object in Microsoft Word.

Word Options

1.File tab. From then menu on the left, select Options. (Rather confusingly it looks like the Info tab is selected).

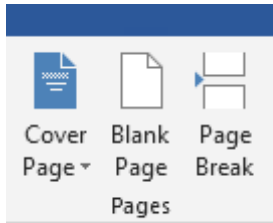


2. Home Tab

It have Font, Font Size, Bold , Italic , Font Color options .

3.Insert Tab

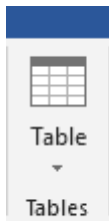
This tab contains all the commands for inserting items into your documents such as **Cover Page, Tables, Header & Footer etc.**



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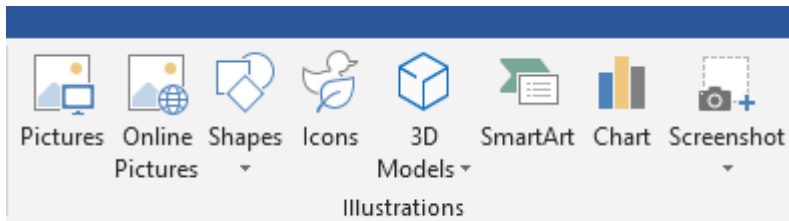
Tables

When a table is selected you will see additional contextual tabs [Tables > Table Tools Design](#)



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Illustrations

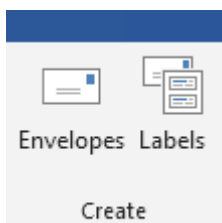


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4. Mail merge

This tab contains everything needed to complete a successful mail merge.

Create

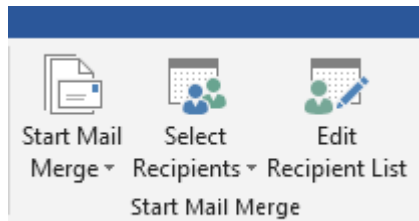


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Envelopes - Lets you create and print envelopes.

Labels - Lets you create and print labels.

Start Mail Merge



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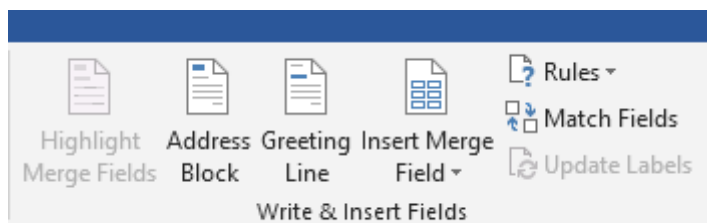
Start Mail Merge - Drop-Down. The drop-down contains the commands: Letters, E-mail Messages, Envelopes, Labels, Directory, Normal Word Document and Step-by-Step Mail Merge Wizard. Creates a from letter which you intend to email or print multiple times sending each copy to a different recipient. Displays the "New Address List" dialog box.

Select Recipients - Drop-Down. The 3 options are from step 3 of the wizard. The drop-down contains the commands: Type New List, Use Existing List and Select from Outlook Contacts. Type New List displays the "New Address List" dialog box. You will have to save this list as a Microsoft Office Address List (.mdb).

Edit Recipient List - Displays the "Mail Merge Recipients" dialog box allowing you to change or filter the list of recipients.

Write & Insert Fields

These commands are only available when you are in a mail merge document.



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Highlight Merge Fields - Highlights all the fields in the active document that have been inserted. This makes it easy to see what will be replaced.

Address Block - Displays the "Insert Address Block" dialog box. This allows you to customise how the address will be inserted.

Greeting Line - Displays the "Insert Greeting Line" dialog box. Lets you add a greeting line to your document.

Insert Merge Field - Button with Drop-Down. The button displays the "Insert Merge Field" dialog box. The drop-down allows you to quickly insert a merge field just by clicking on it in the list and contains the commands: Title, First_Name, Last_Name, Company_Name, Address_Line_1, Address_Line_2, City, State, Zip_Code, Country_or_Region, Home_Phone, Work_Phone, Email_Address.

Rules - Drop-Down. Lets you add decision making rules to the mail merge. The drop-down contains the commands: Ask, Fill-in, If-Then-Else, Merge Record, Merge Sequence, Next Record, Next Record If, Set Bookmark, Skip Record If.

Match Fields - Displays the "Match Fields" dialog box allowing you to match the required fields with the recipients list.

Update Labels - Only enabled when creating labels. Updates all the labels in the document to be consistent with the first label.

5. Image Size and Quality

Apply image size and quality settings for an open document or for all new documents.

6. Chart

Allow custom formatting and labels to stay with data points, even if the chart changes.

7. Show document content

Choose formatting, text, and image options.

8. Display

Choose a measurement format, show scrolling bars, and select the number of documents shown in the Recent Documents list.

9. Print

Optimize the appearance of the hard-copy version of the document or change your printer paper size.

10. Save

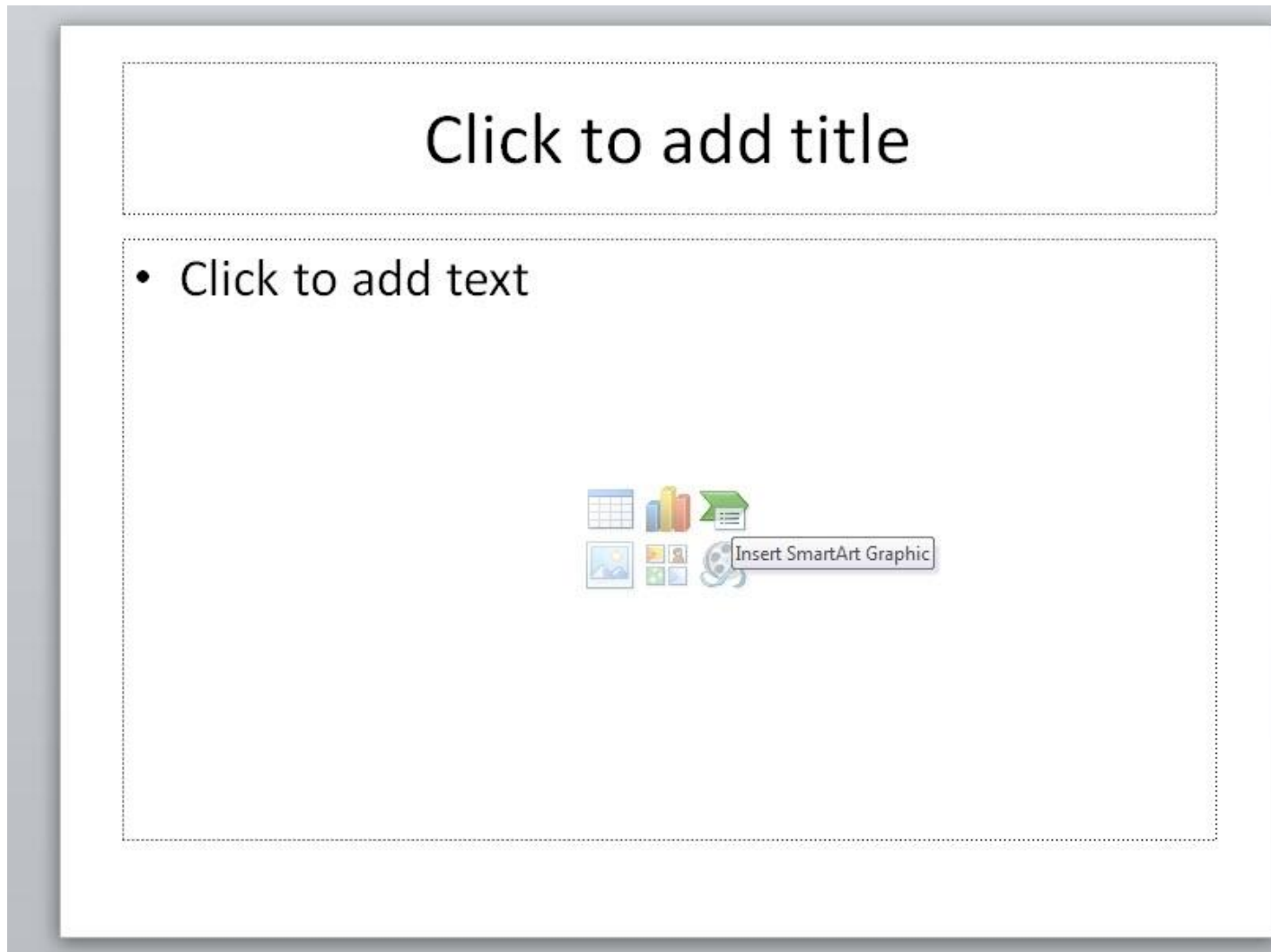
Save backup copies, automatically save changes to templates, or allow backup saves.

PowerPoint

PowerPoint is a complete presentation graphics package. It gives you everything you need to produce a professional-looking presentation. PowerPoint offers word processing, outlining, drawing, graphing, and presentation management tools- all designed to be easy to use and learn.

Features of PowerPoint

1) Adding Smart Art



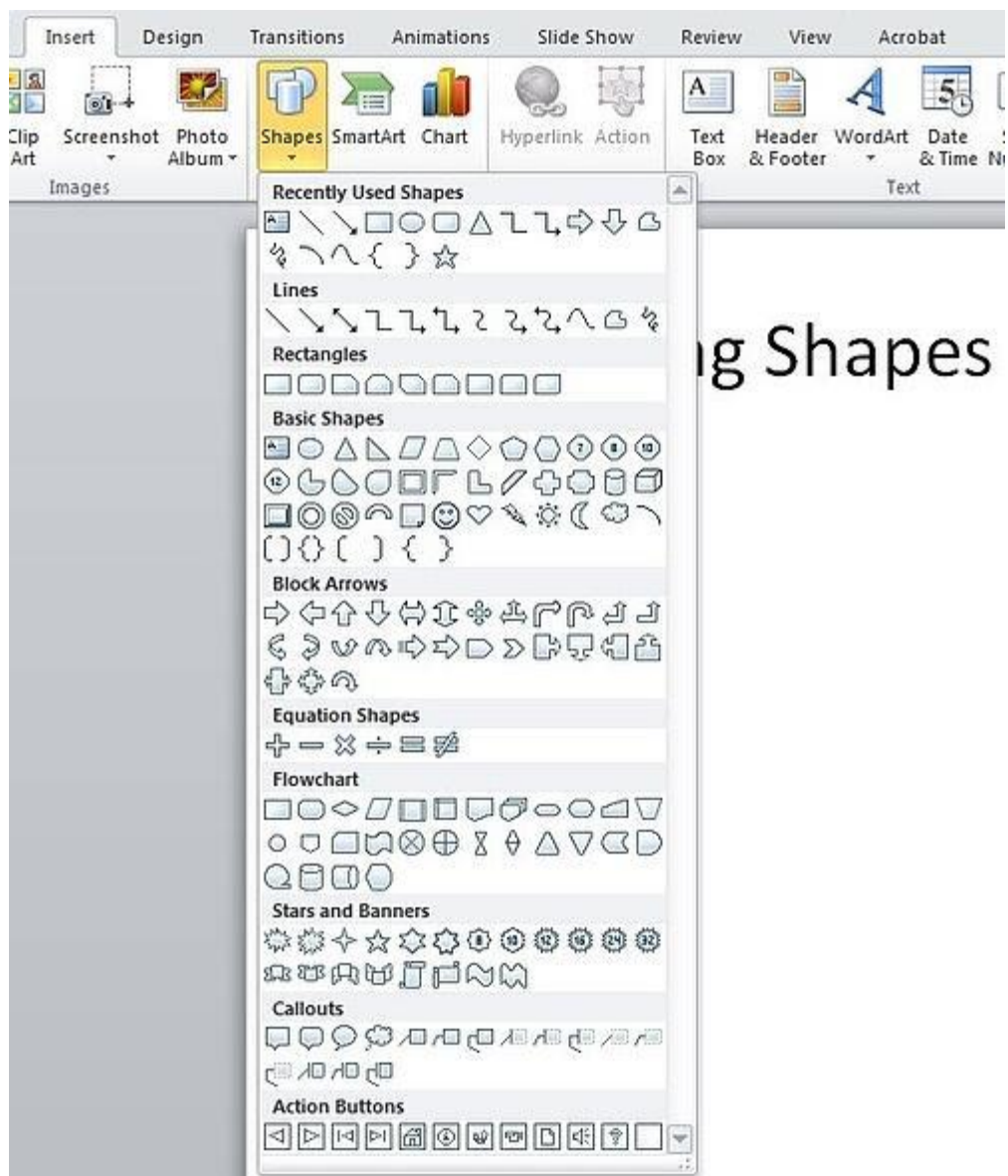
Don't confuse SmartArt with the similarly named WordArt. Where WordArt just allows you to display text using a wide variety of different formats and effects,

SmartArt is a comprehensive and flexible business diagram tool that greatly improves upon the 'Diagram Gallery' feature found in previous versions of Office.

Click the insert SmartChart Graphic to choose from a selection of options.

SmartArt can be used to create professional diagrams that include pictures and text or combinations of the two. An obvious use of SmartArt would be to create an organisation chart but it can be used for many different kinds of diagrams and even to provide some variety to slides using text bullet points.

2) Inserting Shapes

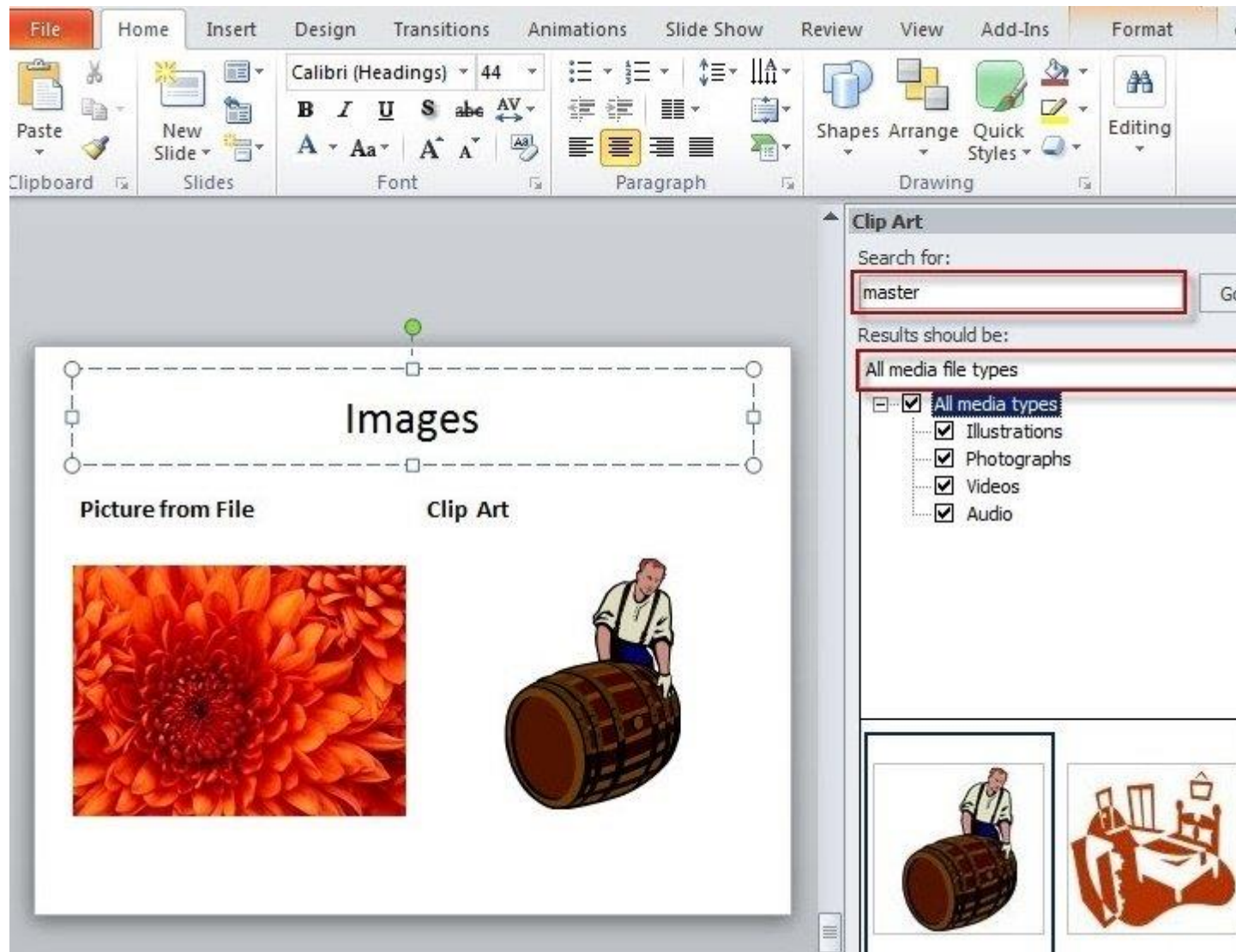


If you need to include some sort of diagram in your presentation, then the quickest and easiest way is probably to use SmartArt. However, it is important to be able to include shapes independently of SmartArt and worth being familiar with the various Drawing Tool format options.

Not only will they be useful if you do need to manually draw a diagram (and SmartArt doesn't suit all diagrams), but they can also be applied to objects on a slide that you might not immediately think of as shapes. For example the box that contains your slide title or your content. This can be anything from text to a video, or even the individual shapes in a SmartArt diagram.

As you can see, the gallery of available shapes is very extensive. Once you have selected your chosen shape, you can just click in your slide to insert a default version of the shape or, to set a particular size and position, click and drag with the mouse to create the shape and size you want.

3) Inserting an Image



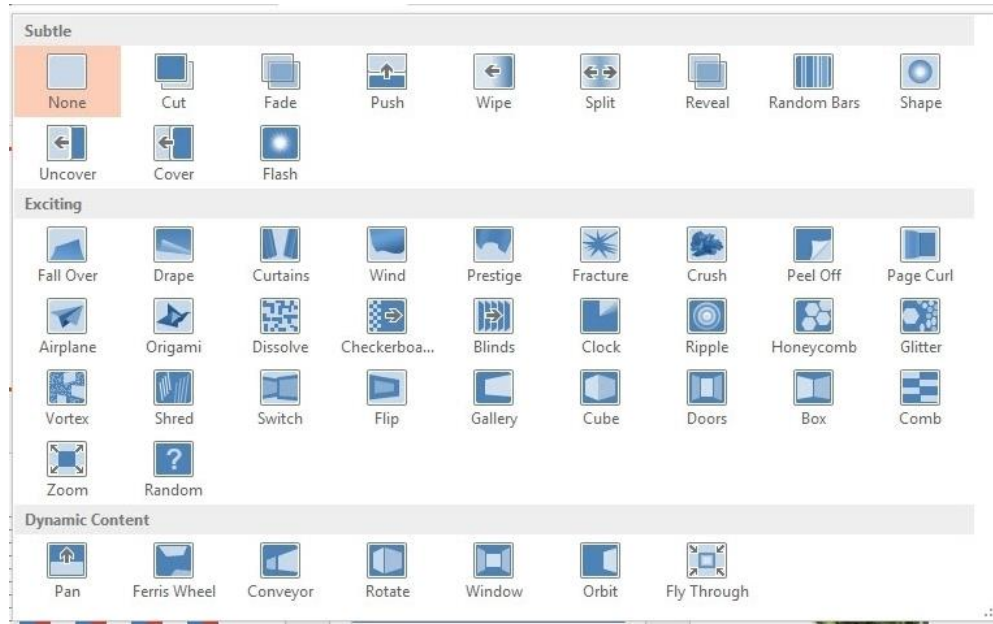
Here are two content type icons which appear in new content Placeholders for inserting pictures. You can Insert Picture from File or Insert Clip Art. Alternatively, the Illustrations group of the Insert ribbon tab includes the same two tools. In addition, [PowerPoint 2010](#) has a new 'Screenshot' option that allows you to capture an entire window or part of a window for inclusion on a slide. You can also copy any image and just paste it directly to a slide.

Insert Picture from File allows you to browse to an image file saved somewhere on your system whereas Clip Art is held in an indexed gallery of different media types. Clip Art is not limited to pictures: 'The Results should be:' box lets you choose between: 'All media file types' and one or more of the following different types:

- Illustrations
- Photographs
- Video
- Audio

Once you have found the image you want to use, click on it to insert it into the current slide. You can now re-size and move the image accordingly with further editing options available when you right click the desired image.

4) Slide Transitions

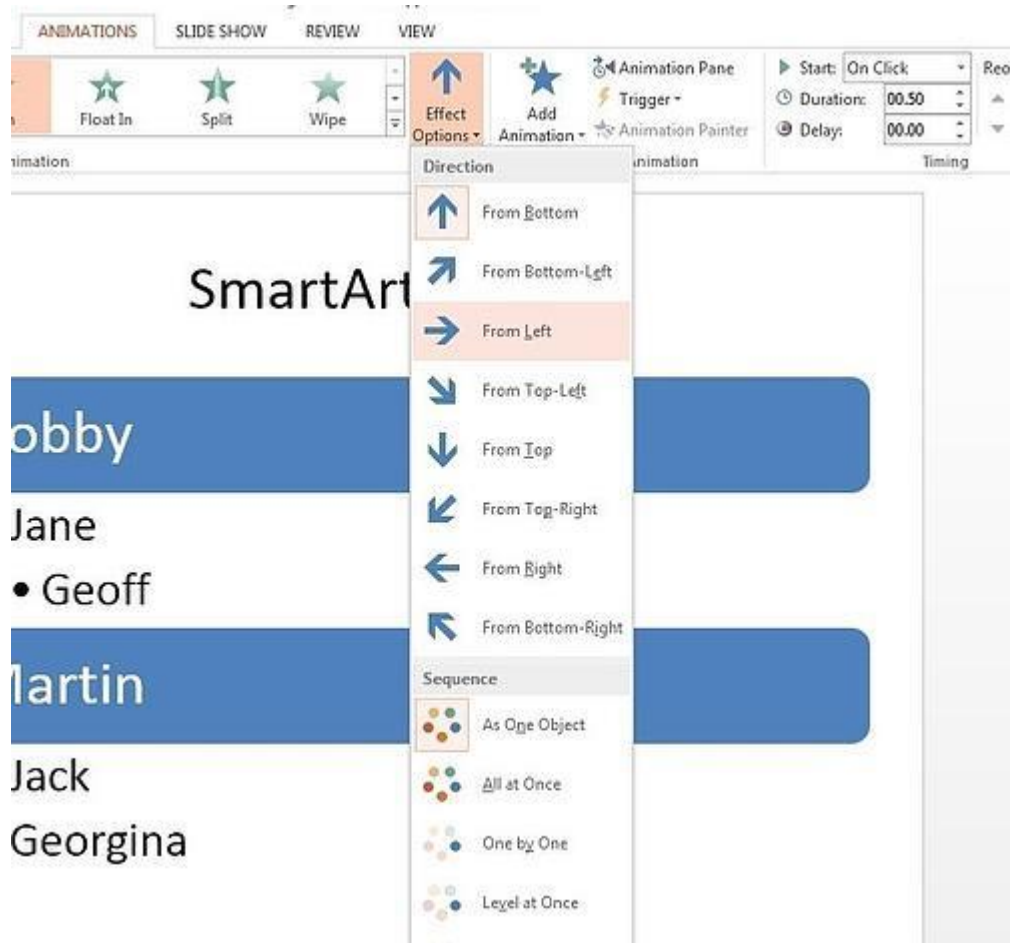


Properly used, slide transitions can make your presentations clearer and more interesting and, where appropriate, more fun. Badly used, the effect of slide transitions can be closer to irritating or even nauseating. Simple animation effects are often used to add interest to bullet point text. Much more extreme animation effects are available but, in most cases, should be used sparingly if at all.

Two main kinds of animation are available in a PowerPoint presentation: the transition from one slide to the next and the animation of images/text on a specific slide.

In PowerPoint 2010 & 2013 there is also a separate Transitions ribbon tab that includes a gallery of different transition effects. These can be applied to selected slides or all slides. If you want to apply different transition effects to different groups of slides, then you might want to choose 'Slide Sorter' view from the Presentation Views group of the View ribbon.

5) Adding Animations



Whereas the transition effects are limited to a single event per slide, animations can be applied to every object on a slide – including titles and other text boxes. Many objects can even have animation applied to different components, for example each shape in a SmartArt graphic, each paragraph in a text box and each column in a chart. Animations can be applied to three separate ‘events’ for each object:

Entrance – how the object arrives on the slide

Emphasis – an effect to focus attention on an object while it is visible

Exit – how the object disappears from the slide

To apply an animation effect, choose the object or objects to be animated, then choose Animation Styles or Add Animation from the Animations toolbar.

PPT Options

1.Editing options

When selecting, automatically select entire word Select this check box to select the entire word when you click a word, or clear this check box to select an individual letter in a word when you click a word.

2.Cut, copy, and paste

Use smart cut and paste Select this check box if you want PowerPoint to adjust the spacing of words and objects that you paste into your presentation. Smart cut and paste ensures that pasted content does not run up against other words or objects that appear before or after the content that you paste.

3.Image size and quality

Options that you set in this section are only applicable to the presentation file that you have open at the time.

4.Chart options

Properties follow chart data point for all new presentations Select this check box to have custom formatting and chart data labels follow data points as they move or change in the chart. This setting applies to all presentations created hereafter.

5.Display

Show this number of recent documents/presentations Enter the number of recently opened or edited presentations that you want to appear in the **Recent Documents** list.

6.Show shortcut keys in ScreenTips

Select this check box to show the keyboard shortcuts in all [ScreenTips](#), or clear this check box to hide the keyboard shortcuts in all ScreenTips.

7.Automatically extend display when presenting on a laptop or tablet

(PowerPoint 2013 and newer versions) To turn off using presenter view, clear this check box. By default, PowerPoint uses presenter view for slide shows.

8.Open all documents using this view

Select an option from the list to specify that all presentations open in a specific view each time that you start PowerPoint.

9.Slide Show

Show menu on right mouse click Select this check box to show a shortcut menu when you right-click a slide in [Slide Show view](#), or clear this check box to prevent the shortcut menu from showing.

10.Print

Print in background Select this check box to work in PowerPoint while you print your presentation (printing can slow the response time in PowerPoint), or clear this check box to turn off background printing when you want rapid response time while you work in PowerPoint.

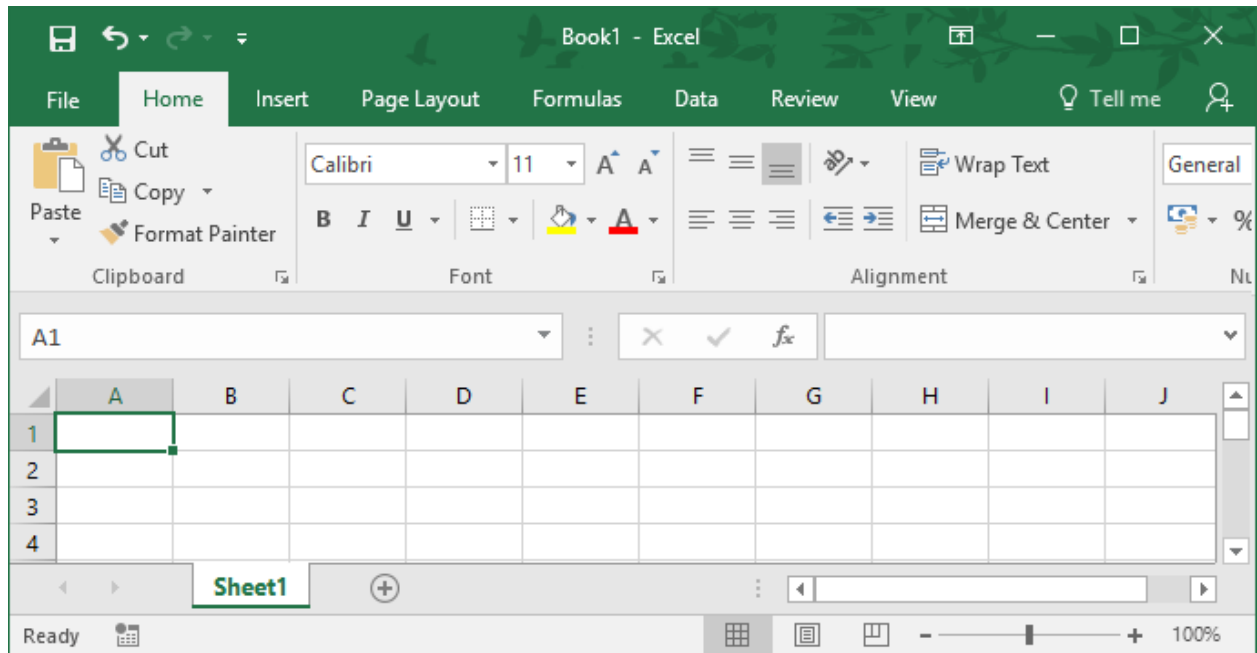
Unit-III

Microsoft Excel

Workbooks/Sheets

A workbook is the name given to an Excel document and has the file extension ("**.xlsx**"). A workbook contains one or more worksheets and there are 3 worksheets in the default workbook.

There are tabs at the bottom of the workbook to enable you to select which worksheet is currently displayed.



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Features of Microsoft Excel

1. Add Header and Footer

MS Excel allows us to keep the header and footer in our spreadsheet document.

2. Find and Replace Command

MS Excel allows us to find the needed data (text and numbers) in the workbook and also replace the existing data with a new one.

3. Password Protection

It allows the user to protect their workbooks by using a password from unauthorized access to their information.

4. Data Filtering

Filtering is a quick and easy way to find and work with a subset of data in a range. A filtered range displays only the rows that meet the criteria you specify for a column. MS Excel provides two commands for filtering ranges:

- AutoFilter; which includes filter by selection, for simple criteria
- Advanced Filter; for more complex criteria

5. Data Sorting

Data sorting is the process of arranging data in some logical order. MS Excel allows us to sort data either in ascending or descending order.

6. Built-in formulae

MS Excel has got many built-in formulae for sum, average, minimum, etc. We can use those formulae as per our needs.

7. Create different charts (Pivot Table Report)

MS Excel allows us to create different charts such as bar graph, pie- charts, line graphs, etc. This helps us to analyze and compare data very easily.

8. Automatically edits the result

MS Excel automatically edits the result if any changes are made in any of the cells.

9. Formula Auditing

Using formula auditing we can graphically display or trace the relationships between cells and formulas with blue arrows.

Excel Components

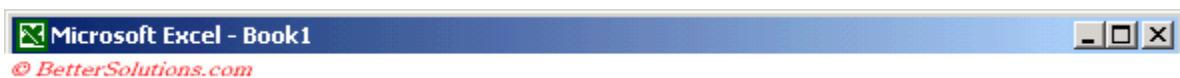
1.The outside window is the **Title Bar or Application Window**. This window displays the name of the application and the name of the active workbook.

Minimise - Excel is reduced to a button on the taskbar.

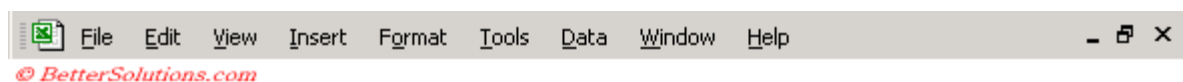
Restore - Restores the application window to its original size before it was maximised or minimised.

or Maximise - Increases the size of the Excel window to fill the whole screen.

Close - Closes Excel completely.



2.The inside window is the **Menu Bar** or Workbook Window.



Creating

When you start Excel an empty workbook is automatically opened for you. You can easily create a new workbook by selecting (**File > New**) and clicking on Blank workbook in the New Workbook task pane. You can also use the shortcut key (**Ctrl + N**).

Deleting

There are several ways you can delete unwanted workbooks. Probably the easiest way is to open Windows Explorer, browse to the folder, select the file and press Delete. You can also delete workbooks from the (File > Open) and (File > Save As) dialog boxes. Just select the workbook and either use the Delete button on the top or select the file and use the shortcut menu.

Opening

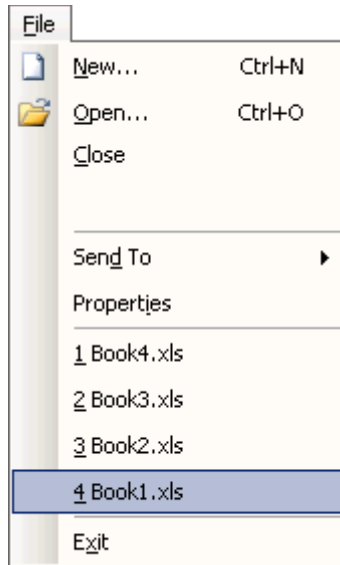
You can open a workbook by selecting (**File > Open**) or by using the shortcut key (**Ctrl + O**). Alternatively you can use the button on the Standard toolbar.



Open - Displays the (File > Open) dialog box.

When you display the (File > Open) dialog box, a default folder location is used. This can be changed from (Tools > Options)(General tab, **Default File Location**). If you save all your workbooks in the same folder it is definitely worth changing your default folder.

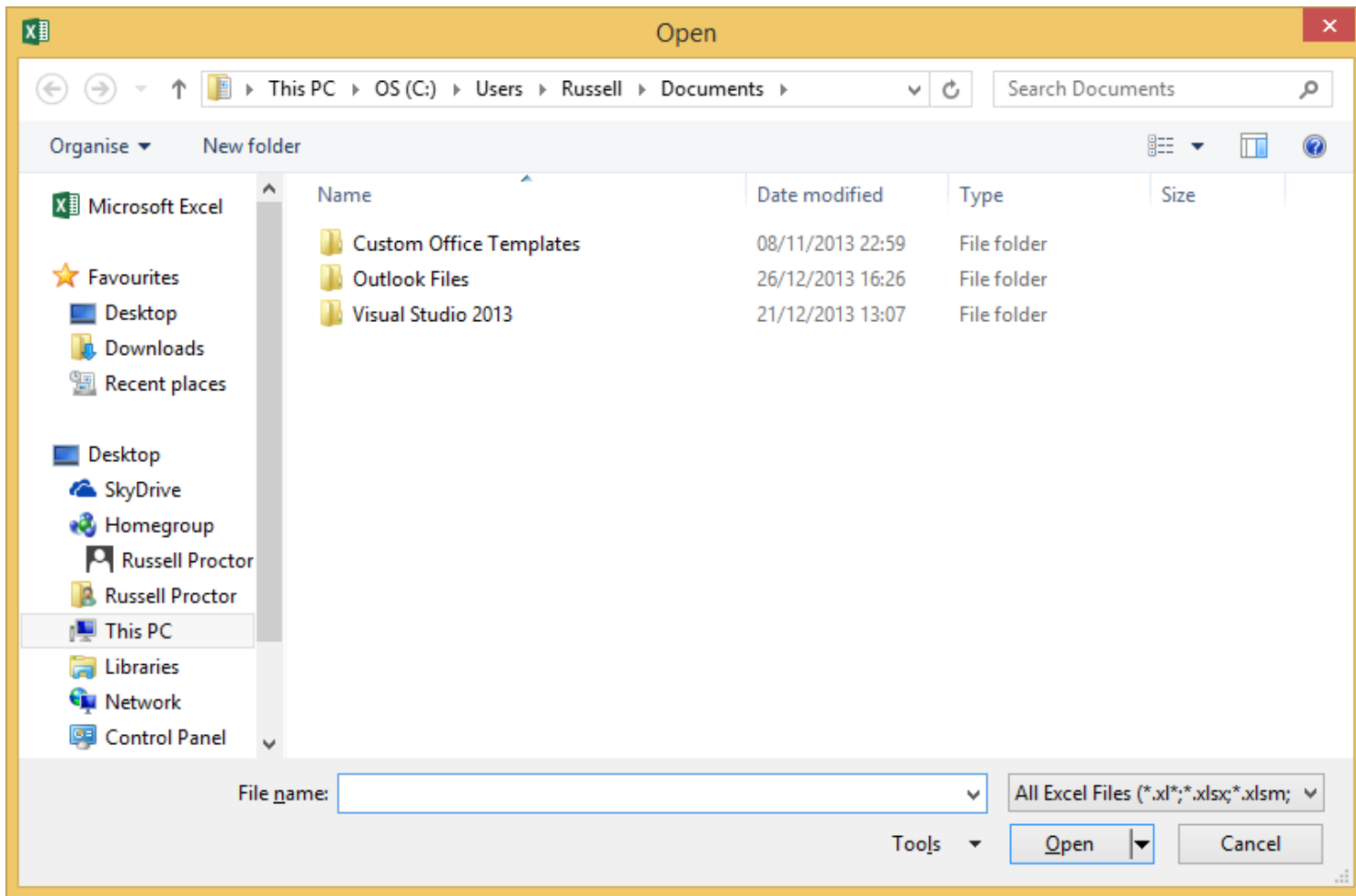
You can also double click an Excel file from within Windows Explorer. Excel files have the file extension (".xls"). If Excel is not currently open then it will open automatically. You can also open a file using the Recently Used Menu. This is located at the bottom of your File menu (see below).



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By default your last **4** Excel workbooks that have been opened using the (File > Open) dialog box will be listed here. You can select one of these to quickly re-open the workbook. You can change the number of files listed here by selecting (Tools > Options)(General tab, **Recently used file list**). This can be a number between 1 and 9. If you attempt to open an Excel workbook that is already open you will be asked if you want to open a read-only copy.

Dialog Box



It is possible to open more than one file by holding down the Ctrl key and selecting the files with your mouse.

Look in - Displays the folder where the workbook will be saved. To change to a different disk drive or folder, open the Look in drop-down list and click the letter of the disk drive or name of the folder. F4 or (Alt + I). Pressing F5 will refresh the list of files.

File name - The name of the file you want to open.

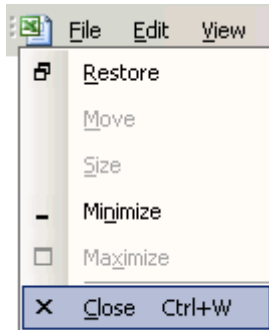
Files of type - Provides a list of all the different formats you can open using Excel. The default is "All Microsoft Excel files". You can find a list of all the [File Extensions](#) page.

Open - Opens the workbook that is currently selected.

Cancel - Closes the dialog box.

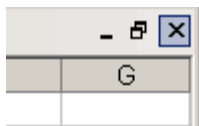
Closing

Closing your workbooks when you have finished with them can be done in several ways. The easiest way is to select (**File > Close**) or by using the shortcut key (**Ctrl + W**). You can also close the active workbook by clicking on the icon on the left of the Menu Bar.



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An alternative way to close the active workbook is to press the black cross on the control menu in the top right hand corner of the Menu Bar.



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Formatting

Applying formatting to your worksheets will make them easier to read and interpret your data. You can apply formatting to cells very quickly by selecting the cells or range of cells and choosing the appropriate commands.

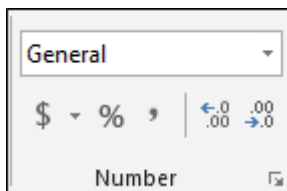
Formatting toolbar

Allows you to alter the appearance and alignment of the data on a worksheet.

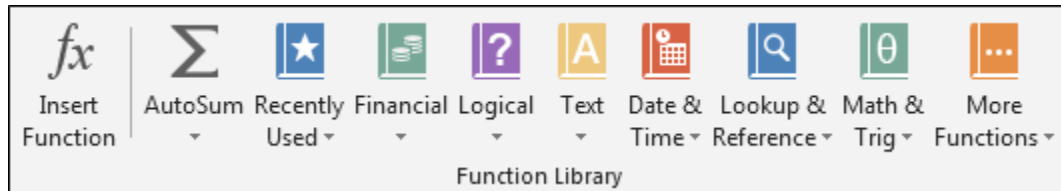


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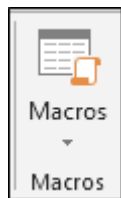
Number: - We use this option to change the number formatting into General, Percentage, Currency, Date, Time, Fraction etc. We can increase and decrease the decimal and convert the number into accounting number.



Function Library: -In Excel, we have 461 functions and they are available in the formulas tab under the function library group. And there is no need to learn every formula for we can find formulas category wise such as:- Financial, Logical, Text, Date & Time, Lookup & Reference, Math & Trig, many more.



Macros: -With this option, we can record the macro and then we can view the macro.



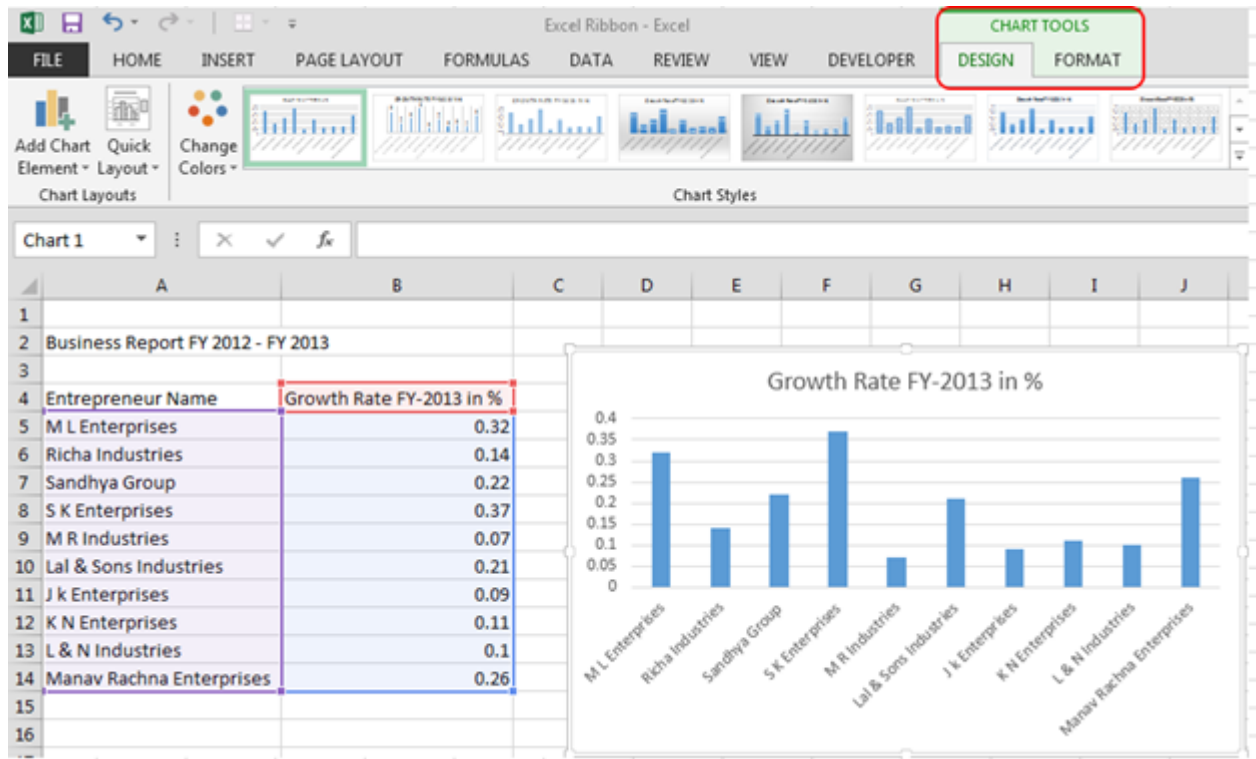
File

In this tab, we can use the object relate options such as we can change the fill color, outline color, outline width, shape style, and we can insert more objects, even.

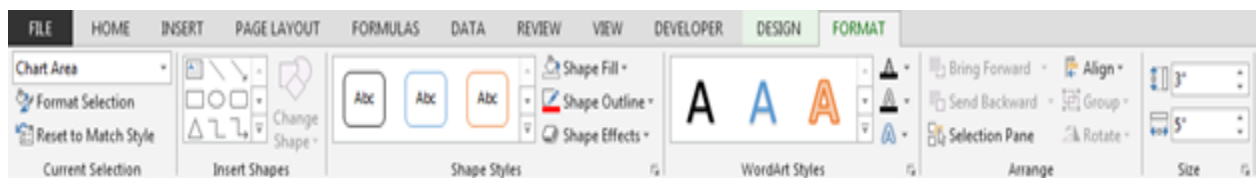


Insert

If we insert the chart, then 2 contextual tabs will be activated: - 1st Design and 2nd Format.



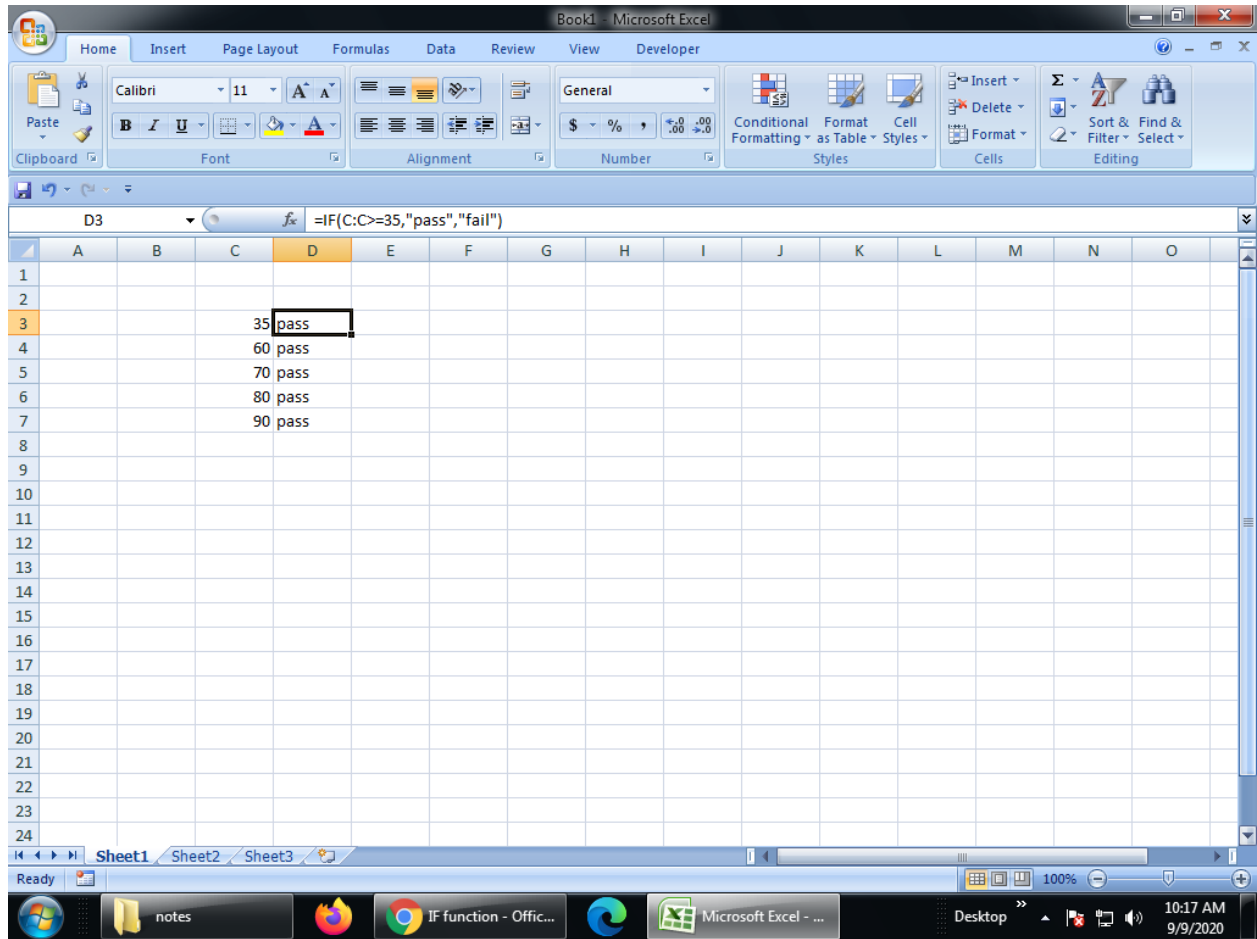
Format Tab: - We use this tab to format the chart as an object. In order to insert the new shape, we can change chart's shape-style, Fill-color, Shape-outline, shape-effects, etc.



Types of Formulas in Excel

1. Automatic Functions

- Sum= This Function is Used to find sum of given data
- Average = This Function is Used to find average of given data
- Count= This Function is Used to find total of given data
- Min= This Function is Used to find minimum value of given data
- Max=This Function is Used to find Maximum of given data



2. Manual Formulas

Create a formula that refers to values in other cells

1. Select a cell.
2. Type the equal sign =.

Note: Formulas in Excel always begin with the equal sign.

3. Select a cell or type its address in the selected cell.

	Jan
Sale	120
Overhead	100
Profit	=B2

4. Enter an operator. For example, – for subtraction.
5. Select the next cell, or type its address in the selected cell.

120
100
=B2-B3

6. Press Enter. The result of the calculation appears in the cell with the formula.

See a formula

1. When a formula is entered into a cell, it also appears in the Formula bar.



2. To see a formula, select a cell, and it will appear in the formula bar.



Enter a formula that contains a built-in function

1. Select an empty cell.
2. Type an equal sign = and then type a function. For example, =SUM for getting the total sales.
3. Type an opening parenthesis (.
4. Select the range of cells, and then type a closing parenthesis).

	Jan	Feb	Mar	Apr	May	Jun	Total
Sales	100	200	250	150	300	500	=SUM(B2:G2)

5. Press Enter to get the result.

Unit-IV

E-Commerce

Meaning

Ecommerce, also known as electronic commerce or internet commerce, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. Ecommerce is often used to refer to the sale of physical products online, but it can also describe any kind of commercial transaction that is facilitated through the internet.

E-commerce vs Traditional commerce Comparison Table

Let's look at the top Comparison between E-commerce vs Traditional commerce –

The basis of comparison Between E-commerce vs Traditional commerce	E-commerce	Traditional commerce
Definition	E-Commerce is a form of online shopping where users can buy goods and services from their electronic devices such as a laptop, mobile, tablet.	Traditional-Commerce is a traditional approach to buy goods and services in person which involves face to face dealing.
Usage	It is used to save valuable time and money.	It is ancient and still in usage where the digital network is not reachable.
Process	It is easier to use and operate if the customer has basic digital gadget knowledge.	It can be followed by any person irrespective of education or knowledge.
Mode	It is in electronic or digital mode only	It can be in any form which is non-electronic or manual form.
Time	It is available round the clock	It is available during the limited time as prescribed by the law and based on the type of business.
Purchase	Inspecting a product before purchasing is not possible in this type.	Inspecting a product before purchasing is possible in a traditional commerce business model.
Involvement	It involves only digital gadget engagement to place the order	It involves face to face involvement of both buyer and seller
Business	More business can be done easily without any hassles	It is difficult to perform more business in this model
Maintenance	Easier to maintain this as the only warehouse is enough to	It is cost effective as display and showcase of the products are

	store the goods.	required to attract the customers.
--	------------------	------------------------------------

Features of E-commerce

1. User-Friendly

Simplicity should be a goal in good design and you don't have to sacrifice elegance to achieve it.

As a matter of fact, studies show that [76%](#) of consumers say the most important characteristic of a website is ease of use.

2. Mobile-Friendly Website

Mobile shopping accounts for [50%](#) of online transactions.

With a responsive website, content intuitively adapts to whatever device is accessing it to provide the most user-friendly experience.

Walmart increased mobile sales by [98%](#) after optimizing its mobile site.

3. High-Resolution Photos & Video

Gone are the days of posting one photo with a few bullet points and a price tag.

Shoppers want to see multiple angles and people using the product in different environments. They want to be able to zoom in and get a feel for the product.

Technical considerations for images are crucial. Images that don't load or take too long to load will see a consumer drop-off rate of [39%](#), according to Adobe

4. User-Generated Reviews

Shoppers read reviews. About 95% of them, in fact.

And [57%](#) of consumers will only use a business if it has 4 or more stars.

You might think that having **negative** reviews is a sale killer. The opposite is actually true.

Having negative reviews can often be positive. It's shown that products without negative reviews are seen as censored and, in turn, shoppers will assume the positive reviews are fake.

5. Special Offers

Most ecommerce sites are using special offers in their standard marketing practices via email, social, text, etc.

6. Wish Lists

Oh, how I love wish lists. One for fashion, one for books to read, one for holiday gift ideas.

7. Related Items

Simply seeing the phrase, "you might like this" causes a serotonin release signaling curiosity and excitement.

A 'Related Items' feature on an ecommerce site creates the desirable stickiness effect that so many marketers strive to achieve.

8. Frequently Asked Questions (FAQ)

Complex purchases require confidence with a seller and detailed information when buying products online versus face-to-face.

Fine Watch Bank (disclosure: they were a client) sells expertly crafted high-end watches.

The company's buyers need confirmation of watch authenticity and detailed product information to feel comfortable when making a purchase.

9. Security Features

Online transactions are an integral part of our lives.

As such, ecommerce websites can be a lucrative target for **cybercriminals**. It's crucial that online sellers protect customer information and take steps to ensure **privacy**.

Challenges/Limitations of E-commerce

1. Cyber security: Businesses that focus their attention in the e-commerce space need policies and procedures to create a solid cybersecurity framework for the organization. In the case of a **cyberattack**, a small business cannot afford to have downtime in operations and sales.

2. Competition

Competition comes in many forms for small businesses, especially in the e-commerce space. You have to keep up with competitive pricing, products and service.

3. Order fulfillment

Not everything has to fall on the back of the small business owner. You could be inundated with more orders than you are prepared to handle on your own.

4. Customer experience

As a primarily e-commerce business, or a business that has an e-commerce site as a secondary means of selling its products, figuring out how to offer your customers the same experience they would get in a brick-and-mortar store can be challenging.

5. Visibility

How are you supposed to get **quality traffic** to your site and turn visitors into customers if people can't find your site to begin with? It's a big issue for e-commerce businesses, and one that could make or break a business.

6. Return/refund policy

Having a good return/refund policy could be the difference between success and failure. That sounds extreme, but it's true.

"If you want your brand to stand tall, then customer satisfaction should be the first priority, and whatever you're selling should be the same as what's advertised

7. Finding the right market

"The first step of any business is to find product/market fit, and e-commerce is no different," said Rubright. "Product-market fit is the degree to which a product satisfies market demand. The easiest way to find that fit quickly is to build a product that solves a problem you have."

8. Technical Issues

Running an e-commerce store makes you reliant on both **soft- and hardware**. In addition to actions that can be planned, such as **migrations and upgrades**, you may face sudden server issues, problems with security, various downtimes and more.

9. Shipping Issues

Shipping is one of the biggest headaches for every e-commerce business owner. In contrast to traditional retail where the customer contacts the seller directly, e-commerce means you need to arrange the shipment of products.

What is Website ?

A **website** (also written as **web site**) is a collection of web pages and related content that is identified by a **common domain name** and **published on at least one web server**. Notable examples are wikipedia.org, google.com, and amazon.com, www.ptu.ac.in.

Website Components

1. Reliable Web Hosting Service

Think of your web host as similar to a landlord who **rents you space** for a physical store. They provide and maintain the server space where your site files “live” and make it possible for visitors to come by and explore your site.

2. A Content Management System (CMS)

Your content management system works behind the scenes to help you **organize and maintain parts of your website like your site pages and** meta data, and it makes it easier for visitors to find their way around your site.

3. SEO Basics

Optimizing your site so it appears in search engines is a must. With millions of sites on the internet now in competition for a spot on the 1st page of search results, you’ll need to follow a few search engine optimization (SEO) best practices to get found.

4. Analytics Tools

You’ll want to know how people are finding your site, which pages they spend the most time on, and how well different elements of your site convert. Google Analytics is the most popular and easy to use resource, it doesn’t cost anything, and it integrates easily with WordPress and some website builder tools.

5. Inventory Management

When you're selling products on your site, you'll want to make sure you keep track of what you have in stock, what's sold, and what's on order.

6. Sections That Visitors Expect

A **home page** that lets you know what the site's for, an **about us** section that shows there are real people behind the site, and contact information so readers or customers can reach you if they have questions or feedback.

7. Media

It's a rare site that can build an audience on words alone. Our eyes are naturally drawn to images, especially if they move and make noise, and images are a must if you're selling merchandise online. People will also want to see a photo of you in your about us section.

8. Shopping Cart and Payment Tools

If your site includes a shop, you'll want a reliable, easy to use shopping cart and payment tools like PayPal or Square that are popular with most online shoppers.

9. Search engine

A **search engine** is a **website** through which users **can search** internet content. To **do** this, users enter the desired **search** term into the **search** field. The **search engine** then looks through its index for relevant **websites** and displays them in the form of a list.

Internet in advertising media

Digital marketing is the component of marketing that utilizes internet and online based digital technologies such as desktop computers, mobile phones and other digital media and platforms to promote products and services.

Features /Advantages

Cost

The **low costs** of electronic communication reduce the cost of displaying online advertisements compared to **offline ads**. Online advertising, and in particular **social media**, provides a low-cost means for advertisers to engage with large established communities. Advertising online offers better returns than in other media.

Measurability

Online advertisers can collect data on their ads' effectiveness, such as the size of the potential audience or actual audience response, how a visitor reached their advertisement, whether the advertisement resulted in a sale, and whether an ad actually loaded within a visitor's view. This helps online advertisers improve their ad campaigns over time.

Formatting

Advertisers have a wide variety of ways of presenting their promotional messages, including the ability to convey **images, video, audio, and links**. Unlike many offline ads, online ads also can be interactive. For example, some ads let users input queries or let users follow the advertiser on social media. Online ads can even incorporate games.

Targeting

Publishers can offer advertisers the **ability to reach customizable and narrow market segments** for targeted advertising. Online advertising may use geo-targeting to display relevant advertisements to the user's geography. **Advertisers can customize** each individual ad to a

particular user based on the user's previous preferences. Advertisers can also track whether a visitor has already seen a particular ad in order to reduce unwanted repetitious exposures and provide adequate **time gaps** between exposures.

Coverage

Online advertising can reach nearly every global market, and online advertising influences offline sales.

Speed

Once ad design is complete, online ads can be deployed immediately. The delivery of online ads does not need to be linked to the publisher's publication schedule.

Engage Your Customers

The Internet is the best platform to keep your target audience engaged. Do thorough research on your target audience and find out what type of products and services they are looking for and what they think about your products. Plan your ad campaigns accordingly.

Access to Data

With the help of online analytics tools, you can decipher which strategies are working for you and which are not. You can analyze customer data such as keyword data and can further make the required changes.

Fast and Easy

Unlike traditional marketing and advertising methods, online advertising is fast and easy. Traditional advertising procedure is too long and consumes much time.

The Web as a Sales Channel

The Internet also gives retailers an additional channel to sell products. Thirty years ago, a retail store without a physical storefront was all but unheard of. Today, you can buy almost anything you want on the Internet by visiting a company's website. This lets you sell more products without the cost of having to rent out and stock additional retail floor space.

Electronic Payment Services

An **E-commerce payment system** (or an **electronic payment system**) facilitates the acceptance of electronic payment for online transactions. Also known as a subcomponent of electronic data interchange (EDI), e-commerce payment systems have become increasingly popular due to the widespread use of the internet-based **shopping and banking**.

Listed below are some of the modes of electronic payments –

Credit Card

Debit Card

Smart Card

E-Money

Electronic Fund Transfer (EFT)

Paytm

UPI

Credit Card

Payment using credit card is one of most common mode of electronic payment. Credit card is small plastic card with a unique number attached with an account. It has also a magnetic strip embedded in it which is used to read credit card via card readers. When a customer purchases a product via credit card.

Debit card

Debit card, like credit card, is a small plastic card with a unique number mapped with the bank account number. It is required to have a bank account before getting a debit card from the bank. The major difference between a debit card and a credit card is that in case of payment through debit card, the amount gets deducted from the card's bank account immediately and there should be sufficient balance in the bank account for the transaction to get completed; whereas in case of a credit card transaction, there is no such compulsion.

Smart Card

Smart card is again similar to a credit card or a debit card in appearance, but it has a small microprocessor chip embedded in it. It has the capacity to store a customer's work-related and/or personal information. Smart cards are also used to store money and the amount gets deducted after every transaction.

E-Money

E-Money transactions refer to situation where payment is done over the network and the amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient, and saves a lot of time.

Electronic Fund Transfer

It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in the same bank or different banks. Fund transfer can be done using ATM (Automated Teller Machine) or using a computer.

Nowadays, internet-based EFT is getting popular. In this case, a customer uses the website provided by the bank, logs in to the bank's website and registers another bank account.

Paytm

Paytm is India's largest mobile payments and commerce platform. We help you transfer money instantly to anyone at zero cost using the Paytm Wallet. This money can then be used to pay seamlessly at several places like taxi and autos, petrol pumps, grocery shops, restaurants, coffee shops, multiplexes.

UPI

Unified Payments Interface (UPI) is an instant real-time payment system developed by National Payments Corporation of India facilitating inter-bank transactions. The interface is regulated by the Reserve Bank of India and works by instantly transferring funds between two bank accounts on a mobile platform.

Google Checkout

Google Checkout is Google's answer to PayPal. Google Checkout allows users to pay for goods and services through an account connected to their Google profile. The major benefit that Google Checkout has over the competition is that millions of Internet users use Google for other services, making a purchase through Checkout a simpler process.

Paypal

PayPal is the world's most widely used payment acquirer, processing over \$4 billion in payments in 2011. PayPal payments are made using a user's existing account or with a credit card. Money can be sent directly to an email address.

Authorize .net

Authorize.Net is the Internet's most widely used payment gateway. With a user base of over 300,000 merchants, Authorize.Net has been the go-to method for e-commerce sites that need a gateway to accepting payments.

Security Issues of Online Payment

Security is an essential part of any transaction that takes place over the internet. Customers will lose his/her faith in e-business if its security is compromised. Following are the essential requirements for safe e-payments/transactions –

Confidentiality – Information should not be accessible to an unauthorized person. It should not be intercepted during the transmission.

Integrity – Information should not be altered during its transmission over the network.

Availability – Information should be available wherever and whenever required within a time limit specified.

Authenticity – There should be a mechanism to authenticate a user before giving him/her an access to the required information.

Non-Repudiability – It is the protection against the denial of order or denial of payment. Once a sender sends a message, the sender should not be able to deny sending the message. Similarly, the recipient of message should not be able to deny the receipt.

Encryption – Information should be encrypted and decrypted only by an authorized user.

Auditability – Data should be recorded in such a way that it can be audited for integrity requirements.

Credit Card Fraud

Credit card fraud is the most common security threat that online retailers face. It occurs when a hacker gains unauthorized access to customers' personal and payment information. To access this data, the hacker may penetrate the database of an e-commerce site using malicious software programs. At times, a hacker's intention when stealing customers' data is to sell it on black markets.

Distributed Denial of Service (DDoS) Attacks

This type of security threat aims at taking down an online retail store by sending overwhelming requests to its servers. The attacks originate from thousands of untraceable IP addresses. When this type of threat hits the servers, they slow down or completely shut down. An e-commerce site can also go offline temporarily when a DDoS attack affects its servers.

Man-in-the-middle Attacks

As hackers are becoming smarter with technology, they are devising ways of listening to the communications made by users of an e-commerce website. Through an approach known as a man-in-the-middle attack, these hackers maliciously trick users into connecting to a public wireless network. They gain access to people's devices once they are on public wireless networks. Hackers get to see a people's browsing history, credit card numbers, passwords and usernames if the websites they are visiting lack strong encryptions.

Bad Bots

Bots, either good or bad, are all over the worldwide web. Search engines such as Bing and Google use good bots for indexing search results. On the other hand, there are hackers that use malicious bots for gathering data such as product data, inventories and pricing data. These bots are also capable of accessing the database of an e-commerce site and listing the logins of user accounts.

Malware

In information technology, malware simply refers to malicious software programs. Attackers usually inject web pages or files with these malicious programs to help them in gaining access to online retails

stores. Through means such as SQL injection, they can easily insert the malware into a website's database allowing it to compromise the data stored in the database.

Phishing Scams

E-commerce sites are also prone to phishing scams sent by known or unknown people in form of emails. These scams focus on targeting important user data like credit card numbers and login credentials. An attacker may use a scheme known as social engineering to lure online shoppers to give out their personal information.

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