

# Government Polytechnic

## Jagatsinghpur

### COMPUTER APPLICATION

### Lab Manual

(For 1<sup>st</sup>/2<sup>nd</sup> Sem of all Engineering Branches)



**State Council for Technical Education and Vocational Training,  
Odisha, Bhubaneswar-751012**

## Syllabus

**Theory: 4 Periods Per Week**

**Total Periods : 60 Periods**

### **1. BASIC COMPUTER OPERATION**

Identification of different components of Computer, Switch on and Booting Process  
Shut down, Restart of computer

### **2. PERSONAL COMPUTER SYSTEM**

Study of device and power supply form factor of Personal Computer System  
Identification of various Mother Board components and Identification of different Ports  
Types of connectors, and their purpose, Cooling System of Processor and Case Identification  
Study of ROM, RAM, Adapter Cards, Expansion Slots, SATA connectors  
Study of Adapters and Converters

### **3. COMPUTER LAB SAFETY AND STUDY OF LAB TOOLS**

Study of various types of LAB Safety measures (General Safety, Electrical Safety, Fire safety)  
Analysis of various Power Fluctuation Types (Blackout, Brownout, Noise, Spike,  
Power surge), Power Protection Devices (Surge suppressor, UPS, Standby power supply)  
Procedures for proper disposal or recycling of hazardous computer components (Batteries,  
Monitors, Toner Kits, Cartridges, Chemical Solvents and Aerosol Cans) Study of General Lab  
Tools (ESD tools, Hand tools, cable tools, Cleaning tools, Diagnostic tools), Disk Management  
Tools

### **4. OPERATING SYSTEM**

Basic DOS commands (CLS, DIR, DATE, TIME, VERSION, MD, CD, RD, DEL, COPY, REN,  
USE OF WILD CARDS, PATH)

Basic Windows OS operations, MOUSE OPERATIONS, Utilities and Accessories, Installation and  
configuration of OS

### **5. WORKING WITH MS-OFFICE**

Basic operations of Word Processing Package. (MS-Word)

Basic operations of Electronic Spread Sheet Package. (MS-Excel).

Basic operations of Presentation Package (MS- Power point)

*(Create, Edit, Format, Save, Print/View in the above three packages)*

### **6. WORKING WITH INTERNET**

Getting acquainted with Internet connection, Browser, Website URL, Webpage, http,  
WWW, Net browsing, Creating E-Mail Id, sending and receiving E-mail Chatting

### **7. C PROGRAMMING**

1. Write a Program in C to find the greatest number among three numbers.
2. Write a Program in C to find the average of n numbers by using for loop.
3. Write a program in C to determine whether a number is prime or not?
4. Write a program in C to check whether a given number is palindrome or not?
5. Write a program in C to compute the sine series.
6. Write a program in C to accept row wise and column wise element in a two dimensional array & print them.
7. Write a program in C to find the vowels in a given string.
8. Write a program in C to find the factorial of a number, by using recursion.
9. Write a program in C to find the sum of Fibonacci series, by using function.
10. Write a program in C to accept a number from keyboard and print it in reverse order of entry, by using function.

## CONTENTS

Sl. No	Date	Name of the Experiment	Page No.	Remarks
01		Basic computer operation & Steps for Switch-On, Shut-Down, Restart & Booting Process.		
02		Device and Power supply form factor of Personal Computer System.		
03		Identification of various Mother Board components, ports, Connectors, Adapter Cards, Slots and Cooling system of		
04		Study of various types of Lab Safety Measures		
05		Study of Basic DOS Commands.		
06		Study of Basic Windows Operations		
07		Study of Basic operations of MS Word		
08		Study of Basic operations of MS EXCEL.		
09		Study of Basic operations of MS POWER POINT		
10		Getting acquainted with Internet connection, Browser, website, URL, http, WWW etc.		
11		Creating E-mail id, sending and receiving of E-mail.		
12		Basic C-Programming Concepts with examples		
13		C Program to find the greatest among three numbers.		
15		C Program to find average of n numbers by using loop.		
16		C Program to find whether a number is prime or not.		
17		C Program to find whether a number is palindrome or not		
18		C Program to find the sine series.		
19		C Program to accept row wise and column wise element in a 2-D array and print them.		
20		C Program to find the vowels in a given string		
21		C Program to find the factorial of a number using recursion		
22		C Program to find the sum of Fibonacci series by using function		
23		C Program to accept a number from KB, and print it in reverse using function		

## **BASIC COMPUTER OPERATION**

### **Experiment No 1: Study about Basic Computer Operation Steps for Switch-On, Shut-Down, Restart & Booting Process of a Computer System.**

**Aim of the Experiment:** To identify Different Components of Computer, Switch on , Booting process, Shut down, Restart of computer.

**Components Required:** Keyboard, Mouse, Monitor, Cabinet, Printer, Scanner, Speaker, ups etc.

**Theory:**

#### **Computer**

A computer is a programmable electronic device that accepts raw data as input from user and processes it with a set of instructions (called as program) to produce the result as output as per the user requirement. It is capable of performing mathematical and logical operations and can save the result for future use.

#### **Hardware vs. software:**

**Hardware** is the physical parts of a computers, which have a shape, size, volume and weight. Example of Hardware is cabinet, monitor, keyboard, mouse, scanner etc.

**Software** is the logical parts of computers, which do not have any shape, size, volume and weight. Normally Software is a set of instructions that can be stored and run by Processor.

Example of software is Operating System, Drivers, Browser, different applications etc.

### **IDENTIFICATION OF DIFFERENT COMPONENTS OF COMPUTER**

#### **Overview of Front panel and Back panel of a computer**

##### **Front panel**

- CD drive - This is the drive where any external CD/DVD can be inserted.
- Power button - It is the button where the power can supply in to the system.
- USB ports - It is used to attach any KBD, mouse, printer, pendrive etc.
- Headphone / Mic port - it is use to attach headphone or speaker.
- LED - It is the indicator which shows the power supply current is going on into the system.

##### **Back panel**

- SMPS (Switch Mode Power Supply) : Used to convert 230V AC input to 12V DC output.
- Power supply cooling Fan - This fan cool the SMPS.
- PS/2 connector - This is 6 pin female port used to connect Keyboard and mouse.
- VGA port - This is 15 pin female port used to connect VGA cable.
- Parallel port - This is 25 pin female port used to connect printer.
- USB port - This port can connect up to 127 peripherals (such as mouse, keyboard, printer, pen drive etc.)
- RJ-45 LAN port.
- Audio Jack - Mike in port (pink), Audio/Speaker output (green), Line in port (Blue)
- Expansion slots - It is a socket on the motherboard that is used to insert an expansion

card (or circuit board), which provides additional features to a computer such as video, sound, advanced graphics, Ethernet or memory.

### Components inside the computer CPU :

- SMPS (Switch Mode Power Supply),
- MOTHER BOARDS,
- PROCESSOR with Cooling System,
- RAM, ROM/BIOS, CMOS BATTERY, IDE/SATA/FDD/POWER CABLES,
- HARD DISK
- CD/DVD DRIVE
- MODEM

### Monitor

A monitor is an electronic output device that is also known as a **video display terminal** (VDT) or a **video display unit** (VDU). It is used to display images, text, video, and graphics information generated by a connected computer via a computer's video card.

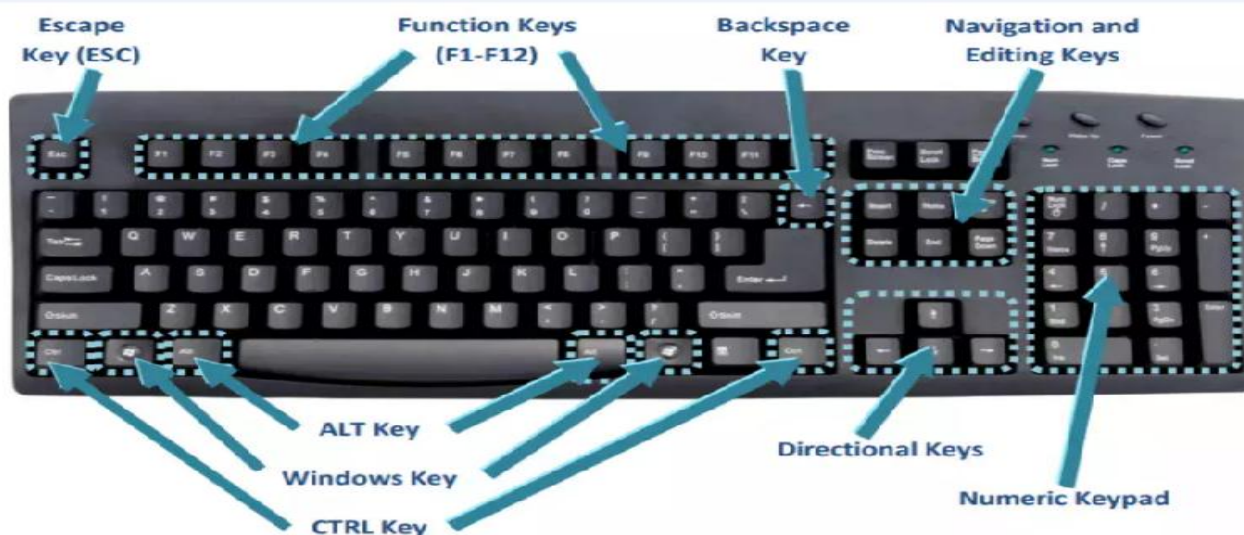
#### Types of Monitor

1. CRT Monitor (Cathode Ray Tube)
2. Flat Monitor
  - a. TFT (Thin Film Transistor)
  - b. LCD (Liquid Cristal Display)
  - c. LED (Light Emitting Diode)
  - d. OLED (Organic Light Emitting Diode)



### Keyboard

A **keyboard** is one of the primary input devices used with a computer. It consists of a no of keys used for letters, numbers, symbols, and perform additional operations. Diagram of key board is given below.



### Mouse

A **computer mouse** is an input device that controls the cursor in a GUI (graphical user interface) and can move and select text, icons, files, and folders on our computer.

### Uninterruptible Power Supply (UPS)

An **UPS** is a device that provides battery backup when the electrical power fails or drops to an unacceptable voltage level. During power surges and failures, Uninterruptible Power Supply

(UPS) devices keep computer systems and IT equipment safe and operational. An Uninterruptible Power Supply (UPS) provides battery backup power when the flow of electricity drops to an inadequate voltage, or if it stops.

### STEP TO SWITCH ON THE COMPUTER

1. Switch on the power switch from the switch board
2. Switch on UPS power button
3. Switch on the CPU power button
4. Switch on the monitor power button.

### BOOTING PROCESS

This is the process to loading Operating System from Hard disk to Primary memory.

### STEPS FOR BOOTING

1. The power switch for the computer should be ON.
2. The BIOS (basic input output systems) program present in the ROM gets active.
3. The BIOS program checks for the available memory and all attached peripheral devices like CD, TAPE, etc. This process is termed as POST (power on self-test). In case of any fault in them it is pointed out by either a sequences of beep on error message on the screen. The BIOS is read into RAM during system initialization.
4. The BIOS looks for presence of small program on 1<sup>st</sup> sector (sector 0) of 1<sup>st</sup> track (track 0) on the floppy disk (drive A) on the hard disk (drive c) loads it into memory. This program is called the boot program or boot strap loader. If the boot program is not found, the floppy disk or hard disk is not recognize for use under MS DOS an error message is display accordingly.
5. This program searches for the operating system and copy them into the memory. For ex. In DOS, operating system, 1st it load msdos.sys and io.sys into the memory and then the command.com. In case this program are not found in bootable disk an error message is displayed. It indicates that the disk was a non-system disk and requesting for inserting newdisk with operating system.

### STEP TO SHUT DOWN THE COMPUTER

Press alt+f4 key simultaneously, select shut down option and click on ok.

Or

Press the windows key from the keyboard, select shut down or move the mouse pointer to the extreme right corner of the screen just right side of notification area, click on setting, click on power, click on shut down.

### Restart :

Restart is a process of shutting down of all of the computer's processes and get a totally clean start. It allows the computer boots up again. Restart should be used when installing updates/software and to resolve any errors. Some software installations and updates actually require you to use restart to finish the process. If our computer has frozen or is giving off some other error, we should use Restart rather than Shut Down, even though it may seem to us that Shut Down would be a more complete option.

## **PERSONAL COMPUTER SYSTEM**

### **Experiment No 2.1:**

**Study of device and Power supply form factor of Personal Computer System.**

**Aim of the Experiment:** To identify Different Power supply form factor of Personal Computer System.

**Components Required:** SMPS.

**Theory:**

#### **SMPS :**

Switch Mode or Switching Mode Power Supply or simply SMPS is a type of Power Supply Unit (PSU) that uses some kind of switching devices to transfer electrical energy from source to load. Switching type power supplies convert higher AC voltage into lower DC voltages required for PC components. Usually, the source is either AC or DC and the load is DC.

Conventional desktop power supply is used to convert either 230 V(50 Hz) into +3.3 V, +5V + 12V , -5 , -12 DC power.

#### **BENEFITS OF SMPS**

- The switch-mode power source is small in scale.
- The SMPS is very lightweight.
- SMPS power consumption is typically 60 to 70 per cent, which is ideal for use.
- SMPS is strongly anti-interference.
- The SMPS production range is large.

#### **Power Supply Form Factors**

Today's power supply form factors are ATX, ATX12V v1.x, ATX12V v2.x, and micro-ATX. The ATX12V version 2 standard has a 24-pin motherboard connector instead of a 20-pin version 1 connector. This negates the need for the extra 6-pin auxiliary connector. In addition, version 2 power supplies have a SATA power connector. Some 24-pin motherboard connectors accept the 20-pin power supply connector.



## Experiment No 2.2 :

**Identification of various Mother Board components, ports, Connectors, Adapter Cards, Slots and Cooling system of Processor etc.**

**Aim of the Experiment:** To identify Different Mother Board components, ports, Connectors, Adapter Cards, Slots and Cooling system of Processor etc.

**Components Required:** Mother Board.

## Theory:

### Mother Board :

A Computer Motherboard is commonly known as Main board or System board which is designed on PCB (Printed Circuit Board) that holds or connects all components and parts together on a single sheet. The Computer Motherboard holds all the circuitry to connect the various components of a computer system. Therefore it is also called as backbone of Personal computer system. The Main board or Motherboard is the main crucial and important part of the computer system. It holds many important components such as Computer memory slots, CPU, SATA IDE slots, expansions slots (PCI,AGP etc), capacitor's, resistor's ,BIOS chip etc. The Computer main board is made up of thin sheet of non-conductive material from plastic.

### Different Motherboard parts :

- CPU
- BIOS
- CMOS Battery
- Cache Memory
- CPU Clock
- Switches And Jumpers
- Memory Slots
- CPU Sockets
- Expansion Card Slots
- Storage Connectors
- Power Connectors
- Heat Sink/Cooling System

### Different types of Ports :

**1. RJ-45 (Registered Jack 45) LAN port:** This port allows connection to a Local Area Network (LAN) through a network hub using a RJ-45 cable.

**2. Analog Audio port:** This port connects a tape, CD, DVD player or other audio sources.

**3. VGA Port (Video Graphics Array) :**VGA cables carry an analog signal as opposed to a digital signal (ones and zeroes). Using higher frequencies, it's possible to reach a relatively high range of video resolutions.

**4. USB (Universal Serial Bus) 2.0 Ports:** There are usually a couple of these ports located on each motherboard used for connecting pen drives and external hard drives, like I-pods or Mp3 players.

**5. PS/2 Keyboard Port (purple):** This port is for a PS/2 keyboard



**6. PS/2 mouse port (green):** This port is for a PS/2 mouse.

**7. 1394a Port:** This port is used to connect to any FireWire device.

**8. Optical S/PDIF** Used for sound connections to home audio receivers or powered PC speakers with optical connections.

**9. eSATA port (External Serial Advanced Technology Attachment):** It is an external interface for SATA technologies. It competes with FireWire 400 and universal serial bus (USB) 2.0 to provide fast data transfer speeds for external storage devices.

**10. HDMI Connector (High-Definition Multimedia Interface):** HDMI is a digital interface for transmitting audio and video data in a single cable. It is supported by most HDTVs and related components, such as DVD and Blu-ray players, cable boxes, and video game systems.

- **DVI (Digital Visual Interface) connector:** It is used to send digital information from a computer to a digital display, such as a flat-panel LCD monitor

### Different types of Connectors :

#### 20/24 ATX

The **20/24 ATX** pin allows us turn on the motherboard. Early models had a 20-pin configuration, whereas the current standard is now 24.

#### ATX P4

The **ATX P4** was introduced by Intel for Pentium 4. It plugs into the motherboard & exclusively powers the processor. Today, most motherboards possess 4 to 8 pins dedicated to powering up the CPU.

#### MOLEX

Present in every PC, it is sometimes used directly on the motherboard (MSI) and is used to connect the hard disk and other drives. Some graphics cards may require this connector, too.

#### SATA CONNECTOR

Stands for "Serial Advanced Technology Attachment," or "Serial ATA." It is an interface used to connect ATA hard drives to a computer's motherboard. SATA transfer rates start at 150MBps.

#### PCI EXPRESS

Modern graphics cards need more power, so they need to power themselves directly from the power block. This is the role of this connector. If we plan to buy a powerful graphics card, make sure that your power supply contains at least two PCI Express slots, including one that is convertible.

If our power supply doesn't have an 8-pin connector, there are 6-to-8 adapters:

## Adapter Cards and Their Functions

Some motherboards may not carry some of these ports due to old fashion or maybe faulty. Therefore, we have to improvise by mounting what are called 'Adapter Cards.'

- Video Cards (PCI, PCIe, and AGP)
- Multimedia Cards (Sound Cards, TV Tuner Cards, and Capture Cards)
- I/O Cards (SCSI, Serial, USB, and Parallel)
- Communications Cards (NICs and Modems)

## Expansion Slot

An expansion slot refers to any of the slots on a motherboard that can hold an expansion card to expand the computer's functionality, like a video card, network card, or sound card. The expansion card is plugged directly into the expansion port so that the motherboard has direct access to the hardware.

## Different Kinds of Expansion Slots

There have been several types of expansion slots over the years, including PCI, AGP, AMR, CNR, ISA, EISA, and VESA, but the most popular one used today is PCIe. While some newer computers still have PCI and AGP slots, PCIe has basically replaced all of the older technologies.

## Processor Cooling

Keeping the CPU cool is critical. Both Intel and AMD have technologies that reduce processor energy consumption (and heat) by turning off unused parts of the processor or slowing down the processor when it starts to overheat. But these measures alone are not enough.

A single CPU cooler system is comprised of hundreds of tiny parts, and there are multiple choices to make when picking the cooling system that's right for us. Buyers need to decide between an air cooler or a liquid cooler. To complete their setup, buyers also need to decide between a silicone-based thermal paste or a carbon-based paste.

### Experiment No 3.1:

**Name of the Experiment:** Study of various types of Lab Safety Measures

**Aim of the Experiment:** To study different types of Safety Measures

**Components Required:** Safety Instruments

**Theory:**

**General safety:**

Safe working conditions help prevent injury to people and damage to computer equipment. A safe workspace is clean, organized, and properly lighted. Everyone must understand and follow safety procedures.

Follow the basic safety guidelines to prevent cuts, burns, electrical shock, and damage to eyesight. As a best practice, make sure that a fire extinguisher and first-aid kit are available in case of fire or injury. Poorly placed or unsecured cables can cause tripping hazards in a network installation. Cables should be installed in conduit or cable trays to prevent hazards.

This is a partial list of basic safety precautions to use when working on a computer:

- Turn off the power and unplug equipment before performing service.
- Never open a power supply or a CRT monitor.
- Do not touch areas in printers that are hot or that use high voltage.
- Know where the fire extinguisher is located and how to use it.
- Keep food and drinks out of your workspace.

**Electrical Safety:**

Follow electrical safety guidelines to prevent electrical fires, injuries, and fatalities in the home and the workplace. Power supplies and CRT monitors contain high voltage.

**Fire Safety:**

Fire can spread rapidly and be very costly. Proper use of a fire extinguisher can prevent a small fire from getting out of control. When working with computer components, be aware of the possibility of an accidental fire and know how to react. Be alert for odours emitting from computers and electronic devices. When electronic components overheat or short out, they emit a burning odour. If there is a fire, follow these safety procedures:

- Never fight a fire that is out of control or not contained.
- Always have a planned fire escape route before beginning any work.
- Get out of the building quickly.
- Contact emergency services for help.
- Locate and read the instructions on the fire extinguishers in your workplace before you have to use them.

Be familiar with the types of fire extinguishers used in your country or region. Each type of fire extinguisher has specific chemicals to fight different types of fires.

## Experiment No 4.1:

**Name of the Experiment: Study of Basic DOS Commands.**

**Aim of the Experiment :** To study the Basic MS DOS Commands.

**Components Required:** MS DOS Operating System installed in the computer.

### Theory:

#### BASIC MSDOS COMMANDS

MS-DOS stands for Microsoft Disk Operating System. In the operating systems MS-DOS, a number of standard system commands were provided for common tasks such as listing files on a disk or moving files.

Basically, there are two types of DOS commands.

1. Internal DOS commands
2. External DOS commands

Internal Commands are built into the operating system as the part of a file called COMMAND.COM which is generally stored in root directory or C: or C drive. For example: date, time, dir, ver, md, cd, rd, etc.

External DOS commands are the basic DOS commands used for performing advanced tasks. They require external executable files to be included in the operating system directory as they are not stored in COMMAND.COM file. Without the external files these commands can not be executed. However, with complete installation of DOS, these files are copied to the system and external commands become operational. For example: Format, Diskcopy, Tree etc.

#### COMPLETE LIST OF BASIC DOS COMMANDS AND THEIR USES:

1. CLS (Clear Screen)
2. DIR
3. DATE
4. TIME
5. VER (Version)
6. MKDIR/MD
7. CHDIR/CD
8. RMDIR/RD
9. DEL
10. COPY
11. TYPE
12. REN
13. PATH
14. EXIT

## Experiment No 4.2 :

Name of the Experiment: Study Basic Windows Operations

**Aim of The Experiment: Study Basic Windows Operations, Mouse Operations, Utilities & Accessories, Installation & Configuration of the OS.**

**Components Required:** Windows Software and a computer system.

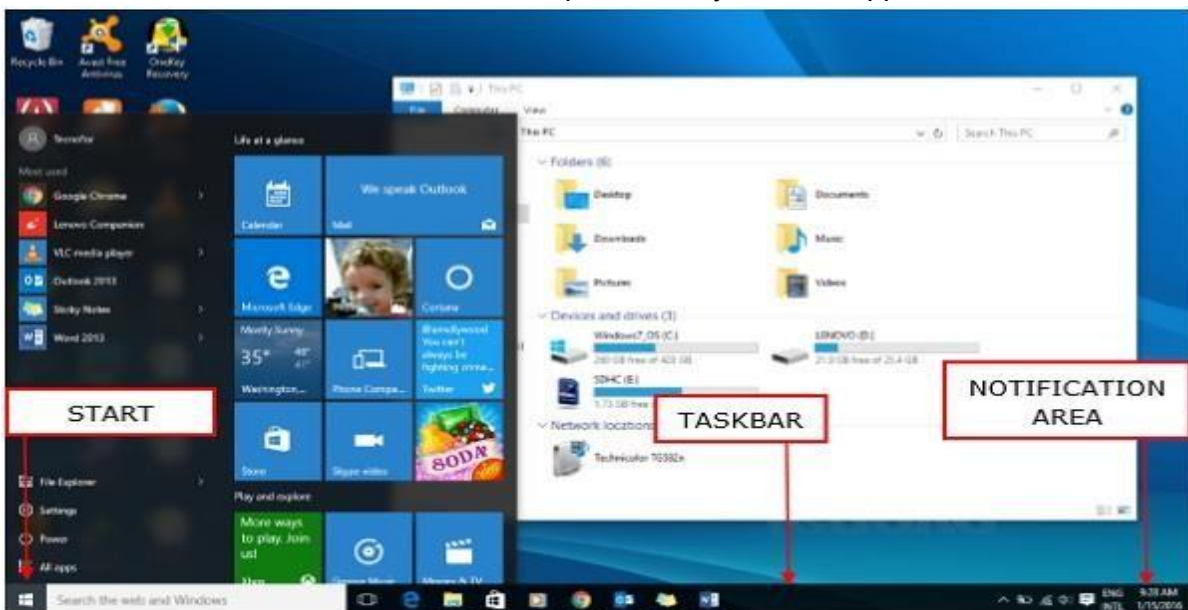
### Theory:

#### BASIC WINDOWS OPERATING SYSTEM OPERATIONS

**Operating System:** It is a type of system software that acts as an interface between the users of a computer and the computer hardware. It acts as the resource manager that use the computer resources like CPU, memory, files and I/O devices in an efficient manner. Example: MS DOS, MS Windows, Unix etc. There are various versions of MS Windows available like Windows XP, Vista, 7,8 or 10.

#### What is a window?

A window is an area on the desktop with in which all window based programs run. Each application opened will appear in its own window, or its own little section of the screen. Windows can be moved and resized so that we can operate many different applications at the same time.



#### Basic components of windows

**Window :** A window is a area of desktop within which all widows based program run.

**Desktop:** Desktop refers to main background area. We can customize desktop in various ways such as editing background pictures, changing background color and changing the icons on the desktop. There are small pictures which appear on the left side of the desktop called icon. We choose are of the icon by double clicking on it.

**Taskbar:** The taskbar is a simple row at the very bottom of the screen where all currently opened files or applications are listed. It helps you select what you want to keep opened and what you want to close.

**Start Menu:** By clicking the start menu, in the bottom left corner of the screen, a vertical window consisting of the recently opened applications and saved locations will pop-up.

**Clock:** It displays the current time. It appears on the right side of the taskbar.

**My computer:** It provides a quick access to our computer disk device. Control panel and internal devices.

**My document:** It provides a complete space to store our document.

**Recycle bin:** It stores all the information of all the deleted files and folder. It also allows us to recover them.

**Network place:** It allows us to view or display various network available and files and folders on our network.

### **Maximize/Minimize/Close Buttons:**

These buttons are located at the top right corner of our opened documents, and the area used to close, minimize or maximize the document window. They help us jump from one task to another fast and let us decide either we want to close an application or resize it's area on the screen or just hide it for a few moments.

### **WINDOWS UTILITIES & ACCESSORIES**

In Windows 10 we still have well-known Windows Accessories folder. It is available in Start Menu > All Apps > Windows Accessories.

1. Note pad: It is a simple text editor for microsoft windows. It is a common text only editor which have no format tags or styles. The extension name is .TXT .
2. Word pad: It is a basic word processor. It is more advanced then note pad but less efficient then Microsoft word. The extension name is .DOC.
3. Paint: It is a drawing tool. The extension name is .BMP
4. Calculator: It is commonly used icon calculating tools in window OS.
5. Character Map: It is the built-in utility for helping us insert all possible text symbols or special characters into our document.
6. Sound recorder: It record sound and save it in the computer

Experiment No 5.1: Study Basic operations of the MS Word.

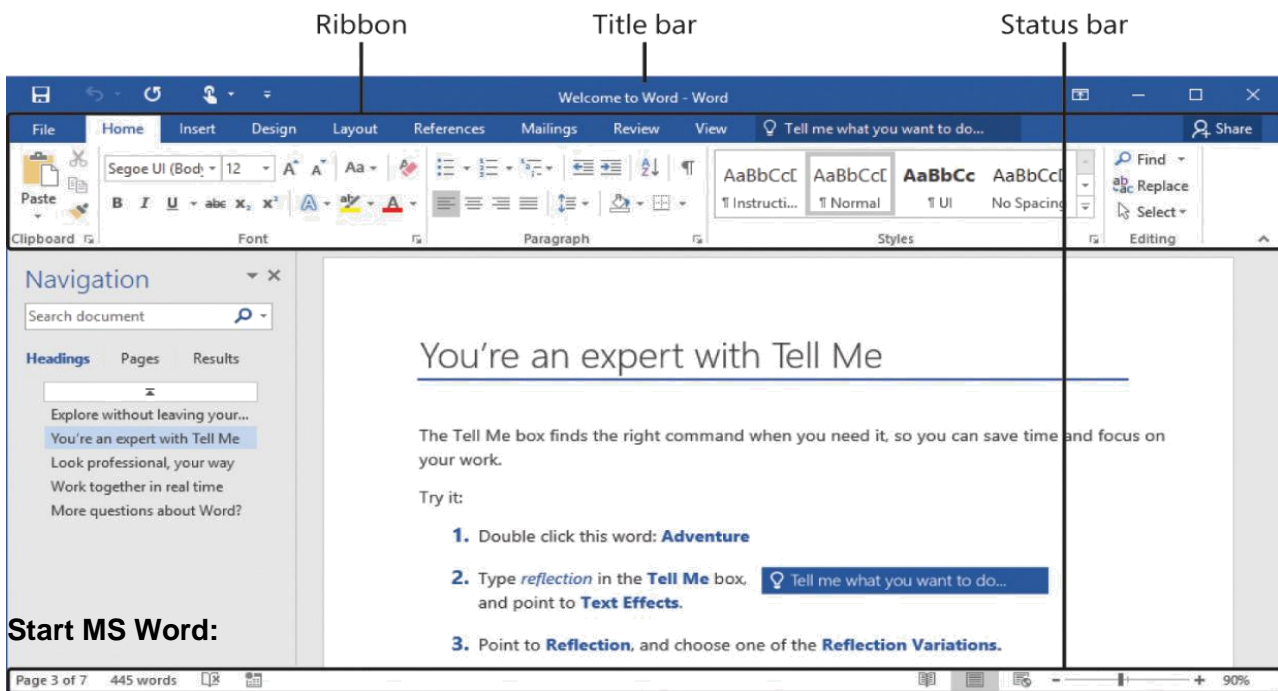
**Aim of The Experiment:** Study Basic operations of the Word Processing Software (MS WORD)

**Components Required:** MS WORD Software installed computer system.

**THEORY:**

**BASICS OF MICROSOFT WORD**

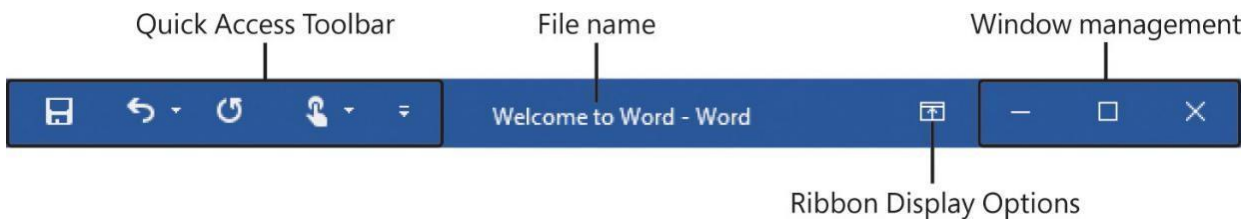
When we use a computer app to create, edit, and format text documents, we are performing a task known as word processing. Microsoft Word is the most popular word processing program in use today. We can use Microsoft Word to efficiently create a wide range of business and personal documents, from the simplest letter to the most complex report. Word includes many desktop publishing features that we can use to enhance the appearance of documents so that they are visually appealing and easy to read. It is used throughout the world and is available in many different languages.



**Start MS Word:**

**Title bar**

At the top of the app window, this bar displays the name of the active file, identifies the app, and provides tools for managing the app window, ribbon, and content.



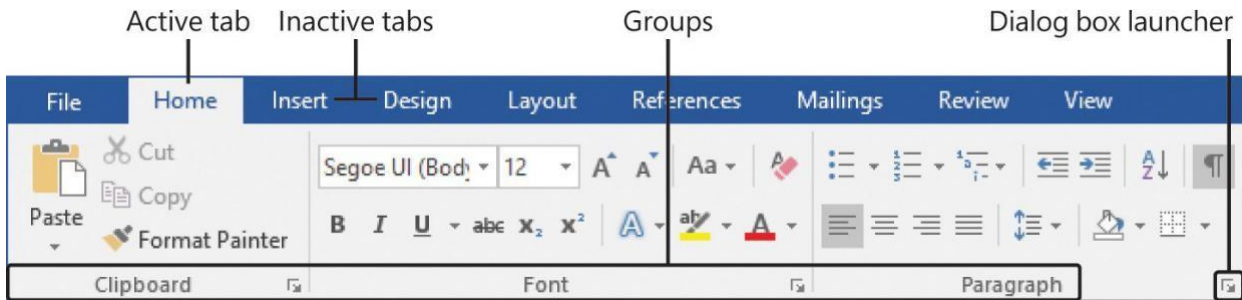
The Quick Access Toolbar at the left end of the title bar can be customized to include any commands that we want to have easily available.

**Ribbon:**



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The ribbon is located below the title bar. The commands we'll use when working with a document are gathered together in this central location for efficiency.



Across the top of the ribbon is a set of tabs. Clicking a tab displays an associated set of commands arranged in groups. Commands related to managing Word and documents (rather than document content) are gathered together in the Backstage view, which we display by clicking the File tab located at the left end of the ribbon.

When a graphic element such as a picture, table, or chart is selected on a page, one or more tool tabs might appear at the right end of the ribbon to make commands related to that specific object easily accessible. Tool tabs are available only when the relevant object is selected.

Sl. No	Tabs in the ribbon	Commands they contain
1.	File	Create blank document, open, save, save as, print, exit
2.	Home	Edit text by Cut, Copy, Paste, Change font, font size, bold, centered, underlined, change text alignment from centered, left, right or justified, find and replace.
3.	Insert	Insert pictures, tables, clip arts, shapes, videos, link to web pages, mathematical equations add headers, footers and page numbers to the document.
4.	Design	Change themes to change font, font size, title, header look and paragraph set up.
5.	Layout	Change settings like margins, page orientation and page size, adjust object image position, create columns and page breaks.
6.	References	Add source of information, index, create a bibliography, insert captions and mark citations.
7.	Mailing	Mail merge
8.	Review	Check Spelling and Grammar, add comments, show comments, compare documents, protect document.
9.	View	Manages the way the document is displayed such as Read mode, Print layout, Web layout, add rulers, gridline, zoom, one page or multi page view.

### Status bar

Across the bottom of the app window, the status bar displays information about the current document and provides access to certain Word functions.



## Experiment No 5.2:

Name of The Experiment: Study Basic operations of the Electronic Spreadsheet Package (MS EXCEL)

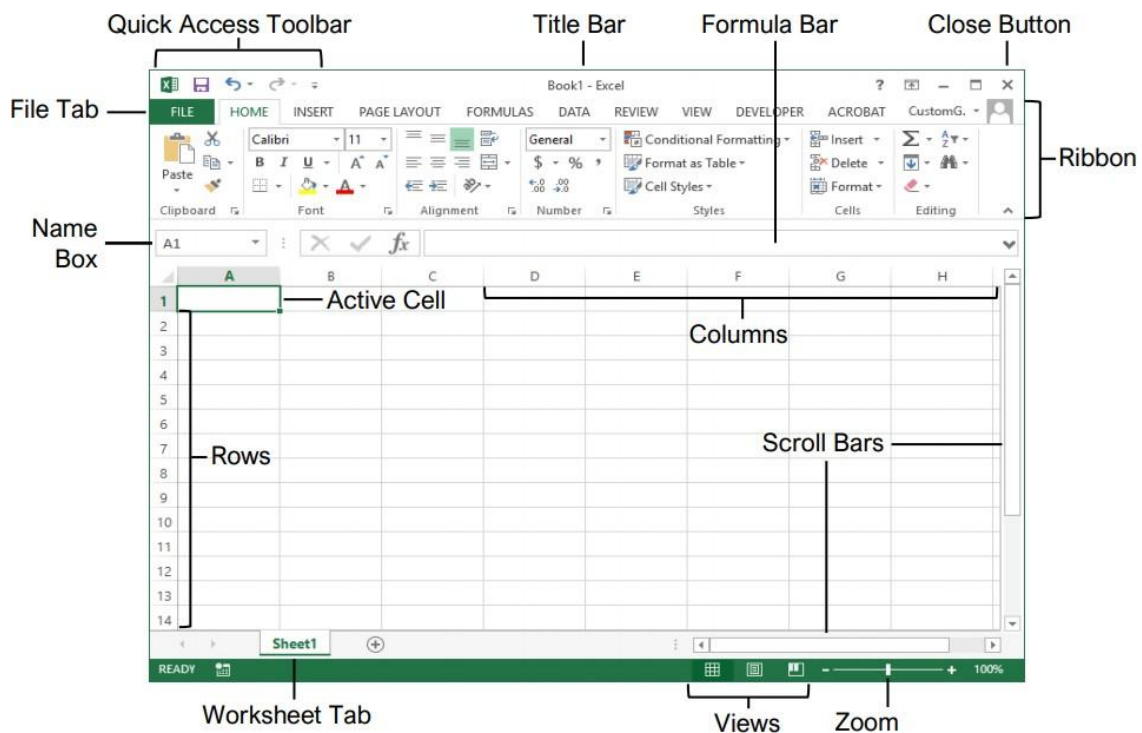
Aim of the Experiment: Study Basic operations of the Electronic Spreadsheet Package (MS EXCEL)

Components Required: MS EXCEL Software installed computer system.

THEORY :

### BASICS OF MICROSOFT EXCEL

The Microsoft Excel 2016 is a spreadsheet package included in the Microsoft Office 2016. The Microsoft Office 2016 suite includes apps that give us the ability to create and manage every type of file we need to work effectively at home, business, or school. The apps include Microsoft Word, Excel, Outlook, PowerPoint, Access, OneNote, and Publisher. They are designed as an integrated package.



In Microsoft Excel the data we enter, whether it consists of numbers, text, or formulas, is stored in a file known as a *workbook*. Workbooks are just like huge electronic books with pages (or *sheets*) that have been organised into columns and rows. Before using Excel it is helpful to know what the various parts and elements that make up a workbook are.

- A worksheet (or page) in a workbook contains 16,384 columns that are labelled using letters of the alphabet. The first column in a worksheet is labelled column A, while the last is labelled XFD
- A worksheet (or page) in a workbook contains 1,048,576 rows that are labelled using numbers from 1 to 1,048,576.
- The area of intersection of rows and columns are called cells. We enter our data into these cells. Each cell in a worksheet can hold up to 32,767 characters – although it would be unrealistic to ever push it this far. Cells are referred to by their column and row labels.

## Perform calculations on data

### Typing simple formulas in a worksheet

The whole idea behind Excel is to get it to perform calculations. In order for it to do this we need to type *formulas* in the worksheet. Usually these formulas reference existing numbers, or even other formulas, already in the worksheet using the cell addresses of these numbers rather than the actual value in them. Formulas must be typed beginning with an equal sign (=).

### Understanding functions

Imagine having to create a formula that calculated the monthly payments on a loan, or the average of over 100 cells – these would require complex or long formulas that would be time consuming to develop. This is the role of hundreds of arithmetic functions that have been pre-programmed in Excel.

#### 1. Functions Overview

Functions are simply pre programmed formulas already provided in Excel which can perform calculations covering a wide range of categories including statistics, date and time arithmetic, financial calculations, lists, engineering, and more.

Just like normal formulas that we create, functions must start with an *equal sign*. The equal sign is then followed by the *name* of the function. Most functions also require additional information known as *arguments* which are supplied to the function in brackets after the function name. Functions are therefore written as follows:

=*name*(*arguments*)

The arguments are quite often cell or range references that contain values that can be used in the function. For example, the commonest function is the *SUM* function which, as its name suggests, is used to sum or add values together. If we wanted to add all of the values in the cells from *B10* to *D15* we would write this function as:


= **SUM (B10:D15)**

As we can see this is much simpler than writing our own referential formula which would look like:

= **B10+B11+B12+B13+B14+B15+D10+D11+D12+D13+D14+D15**

Imagine writing and proofing a formula where we had to add 200 cells!

#### 2. Typing Functions

If we are familiar with the function that we need, we can type it into a cell exactly the same way we type any other formula. If you are not sure if Excel has a function or we can't quite remember how it is written, we can use the Insert Function tool  on the Formula Bar to assist us. When we click on this tool the Insert Function dialog box will be presented to us which lists the most recently used or common functions and also allows us to search for other functions that we might need.

The Insert Function dialog box will also type the function and then provide us with a further dialog box to guide us through the process of specifying the arguments that the function needs to perform its calculation.

#### 3. USING THE SUM FUNCTION TO ADD

One of the most used functions is the SUM function. This function allows us to add the values in a range of cells. The function is written as: =SUM(range or ranges to add). We can type the function, and then use the pointing technique to fill in the arguments. Excel then paints marquees around the cells involved helping us to track our progress.

### To type a sum function for a contiguous range:

- a. Type =sum(Select the range of cells Type )
- b. Press Enter.

### 4. Calculating an average

The AVERAGE function allows us to average the values in a range of cells. It is written in much the same way as the SUM function, for example, =AVERAGE(range of cells to average). The average function can be applied using the Functions Wizard.

#### To insert an average function:

- a. Click in the cell then click on the Insert Function tool
- b. Click on AVERAGE in Select a function
- c. Insert the required ranges then click on -> [OK]

### 5. Finding a minimum/maximum value

The Minimum or MIN function allows us to extract the lowest value from a range of values. It is written in much the same way as the SUM function. For example, =MIN(range of cells). The function can be applied using the Function Wizard, or by typing the function in detail directly into the cell. We can use Max function, in the similar way, to find the maximum from a range of values.

To insert a minimum function:

- a. Click in the cell then click on the Insert Function tool
- b. Click on MIN in Select a function
- c. Insert the required ranges then click on -> [OK]

**6. COUNT Function:** The COUNT function counts the number of cells that contain numbers and counts numbers with in the argument. Click the cell where we want to place a count of the number of cells in a range that contain numbers. Click the Sum button list arrow on the Home tab and select Count Numbers. Enter the cell range we want to reference, and press Enter.

### MORE EXCEL FUNCTIONS:

#### 1. Excel String (Text) Functions

- FIND Function: Returns the starting position of a text string in another text string (case sensitive).
- LEFT Function: Returns the string from another string starting from the left.
- LEN Function: Counts the number of characters from the value supplied.
- LOWER Function: Converts a text into lower case.
- MID Function: Returns a substring from a string using a specific position and number of characters.
- PROPER Function: Convert a text to a proper case text.
- REPT Function: Repeats a value several times.
- RIGHT Function: Returns the string from another string starting from the right.
- SEARCH Function: Returns the starting position of a text string in another text string (case sensitive).
- UPPER Function: Convert a text into an upper case text.

#### 2. Excel Date Functions

- DATE Function: Returns a valid date using the day, month, and year supplied.
- DATEDIF Function: Calculates the difference between two dates.
- DATEVALUE Function: Converts a date that is formatted as text into an actual date.
- DAY Function: Returns the day from the date supplied.
- DAYS Function: Returns the count of days between two dates.

- EDATE Function: Returns a date after adding/subtracting months from the supplied date.
- EOMONTH Function: Returns the end of the month date from a future month or a past month.
- MONTH Function: Returns the month from the date supplied.
- NETWORKDAYS Function: Count of days between the start date and end date, excluding weekends and holidays.
- NETWORKDAYS.INTL Function: Count of days between the start date and end date, excluding weekends (Custom), and holidays.

### 3. Excel Time Functions

- HOUR Function: Returns the hours from the time supplied.
- MINUTE Function: Returns the minutes from the time supplied.
- NOW Function: Returns the current date and time.
- SECOND Function: Returns the seconds from the time supplied.
- TIME Function: Returns a valid time using the hours, minutes, and seconds supplied.
- TIMEVALUE Function: Convert a time value that is stored as text into actual time.

### 4. Excel Logical Functions

- AND Function: Test multiple conditions and return TRUE if all the conditions are TRUE.
- FALSE Function: Returns the boolean value FALSE.
- IF Function: Tests a condition and returns a value if that condition is TRUE else some other value.
- IFERROR Function: Tests a value for an error and returns the specified value if an error occurred, else returns the original value.
- IFNA Function: Tests a value for #N/A error and returns the specified value if the error occurred, else returns the original value.
- NOT Function: Reverse a logical result/value.
- OR Function: Test multiple conditions and return TRUE if any of the conditions are TRUE.
- TRUE Function: Returns the boolean value TRUE.

### 5. Excel Math Functions

- ABS Function: Converts a number into an absolute number.
- EVEN Function: Rounds a number to the nearest even number.
- INT Function: Returns the integer part from the value supplied.
- MOD Function: Returns the remainder value after dividing a number with a divisor.
- MROUND Function: Rounds a number to a given multiple.
- RAND Function: Returns a random number ranging from 0 to 1.
- SUM Function: Sum the value supplied.
- SUMIF Function: Sum the value supplied using the condition specified.
- SUMIFS Function: Sum the value supplied using the multiple conditions specified.
- SUMPRODUCT Function: Multiply and sum the array values.
- TRUNC Function: Returns a number after truncating the original number.

### 6. Excel Statistical Functions

- AVERAGE Function: Calculates the average of the supplied numeric values.
- COUNT Function: Counts the supplied numeric values.
- COUNTA Function: Counts the supplied values except for blanks.
- COUNTBLANK Function: Counts the blank values.
- COUNTIF Function: Counts the values supplied using the condition specified.
- COUNTIFS Function: Counts the values supplied using the multiple conditions specified.
- MAX Function: Returns the maximum value from a list of values.
- MIN Function: Returns the minimum value from a list of values.

### Experiment No 5.3:

**Name of the Experiment: Study Basic operations of the Presentation Package (MS POWER POINT)**

**Aim of the Experiment : Study Basic operations of the Presentation Package (MS POWER POINT)**

**Components Required: MS POWER POINT Software installed computer system.**

**THEORY :**

#### **BASICS OF MICROSOFT POWER POINT**

- PowerPoint presentations can be an effective way of providing information in small segments. Individual slides can include bullet points, pictures, charts, tables, and business diagrams. Professionally designed themes visually enhance our message and provide a professional, coordinated appearance. PowerPoint is used to develop professional presentations for electronic delivery as on-screen slide shows. The elements that control the appearance of PowerPoint and the way we interact with it while we create presentations are collectively referred to as the user interface. Some user interface elements, such as the colour scheme are cosmetic. Others, such as toolbars, menus, and buttons, are functional. We can modify cosmetic and functional user interface elements to suit our preferences and working style. The default PowerPoint configuration and functionality is based on the way that most people work with the app.
- PowerPoint 2016 is part of the Microsoft Office 2016 suite of apps, which also includes Microsoft Access, Excel, Outlook, and Word. The apps in the Office suite are designed to work together to provide highly efficient methods of getting things done. We can install one or more Office apps on our computer.

#### **Start PowerPoint:**

- The way that we start PowerPoint is dependent on the operating system we're running on our computer. For example:
  - I. In Windows 10, we can start PowerPoint from the Start menu, the All Apps menu, the Start screen, or the taskbar search box.
  - II. In Windows 8, we can start PowerPoint from the Apps screen or Start screen search results.
  - III. In Windows 7, we can start PowerPoint from the Start menu, All Programs menu, or Start menu search results.
- We might also have a shortcut to PowerPoint on our desktop or on the Windows taskbar.
- When we start PowerPoint without opening a specific presentation, the PowerPoint Start screen appears.



## Experiment No 6.1:

**Name of the Experiment:** Getting acquainted with Internet connection, Browser, website, URL, http, WWW etc.

**Aim of the Experiment:** Getting acquainted with Internet connection, Browser, website, URL, http, WWW, net browsing etc.

**Components Required:** Computer system with internet connection.

### THEORY:

#### Working with Internet

Internet is an indifferent part of human being in day-to-day life. We use internet through computer system, mobile phone or such device which is capable of accessing internet.



Representation of internet

#### Getting acquainted with Internet Connection

Internet is the global system of interconnected computer network that use some sort of protocol suit for data communication. Internet can be accessed from computer system or a mobile phone or such devices which is capable of accessing internet. Internet can be accessed by using a MODEM (Modulator Demodulator), Wi-Fi, Cellular phone etc.

#### Browser

Browser is the software by means of which the user can access and execute a web page. There are different types of browsers available such as Google Chrome, Internet Explorer, Mozilla Firefox, Opera etc.





## Website

Website is the combination of multiple web pages and related content that is identified by a domain name and it must be published on at least one web server. There are millions of web sites available in the internet such as, [\\_https://www.google.com/](https://www.google.com/)'.

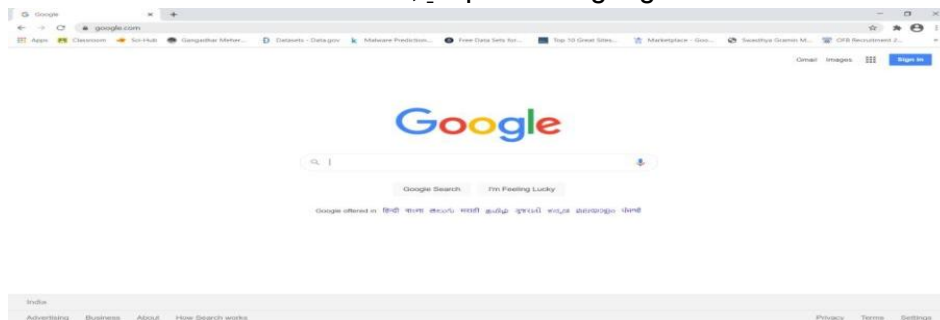


Figure 1: Example of Website

## URL (Uniform Resource Locator)

A URL (Uniform Resource Locator) is the address of a web page, which is located on the address bar of the browser. Browser interprets the information in the URL and connects to the appropriate server to access the information.

Example: <https://docs.google.com/document/u/0/>

Here the URL can be analyzed as,

<a href="https://">https://</a>	<a href="https://docs.google.com">docs.google.com</a>	<a href="https://docs.google.com/document/u/0/">/document/u/0/</a>
Protocol	Server address	Resource address

## Webpage

Web page is a document which is able to load and execute in a web browser. This is a single page from a website. Generally, web pages are created by using HTML (Hyper Text Mark-up Language) and can be accessed by using a URL. A web page may contain text, graphics, and hyperlinks (link to other document or websites).

## Http (Hyper Text Transfer Protocol)

'Http' is the prototype used to transfer the hypertext documents over the internet. In other words, a web page is generally created using 'html' (Hyper Text Mark-up Language). Now the secured version of 'http' is used, which abbreviates 'https'.

## WWW (World Wide Web)

The World Wide Web (or the Web) is an information space where documents and other web resources are identified by Uniform Resource Locators (URLs), interlinked by hypertext links, and can be accessed via the Internet.

## Net browsing

To access internet, we must have at least one browser available in our system. Similarly internet connection must be available.

Open the web browser.

Type the URL on the address bar.

Normally a search engine is first opened in the web browser, because it is hard to remember all the web addresses (URLs). Search engine is a website, which helps the user to search any web page from the internet. Some of the examples of search engine are, Google, yahoo, bing etc.

## Experiment No 6.2:

**Name of The Experiment: Creating E-mail id, sending and receiving E-mail, chatting.**

**Aim of The Experiment : Creating E-mail id, sending and receiving, E-mail, chatting.**

**Components Required: Computer system with internet connection.**

### THEORY :

#### Creating E-Mail Id

There are several websites, which provide e-mail facility to the user such as gmail (from Google), yahoo, rediffmail etc. Here we will consider gmail for the explanation. Other mail services are similar in nature.

To create a Gmail account,

Type <https://www.gmail.com/> on the address bar of the browser. Or, access google search engine, and click on the gmail link provided on the page.

Click on the Create account link on the left side lower corner, provided inside the rectangular box.

Choose the appropriate option from the given list. Here we choose for myself, since the students will create e-mail id for themselves.

Fill the given form.

Type the first name and last name.

Type a desired email id. The length of user name in the email id must be 6 to 30 characters. `_@gmail.com`'is automatically added to the user name to provide you a complete e-mail id. Your e-mail id will look like, `_abc123@gmail.com`'.

Type your desired password. Type same password in the Password box and confirm password box. You must provide a strong password, which should be hard to guess. You must use 8 or more characters with a mix of letters, numbers and symbols. This will enhance the security against cyber crime. Then click on next to continue.

Again enter the details in the given form. Enter your phone number (mobile number).

Type a recovery e-mail id. This is optional, so you can skip.

Select your date of birth and gender. Then click on next.

Read the Google's Terms of Service and Privacy Policy which will appear on the screen and click on I agree.

Your e-mail id is ready to be operated.

#### Sending and receiving E-mail Chatting

To send and receive e-mails, you must login to the email. The step-by-step approach is as follows.

Type <https://www.gmail.com/> on the address bar of the browser. Or, access Google search engine, and click on the Gmail link provided on the page.

#### Steps for login in Gmail :

Type your e-mail id or phone number in the box, and then click on next.

Type your password in the box, and then click on next.

Now you entered to your mail-box. You can send or receive e-mail from this place.

All the received e-mail will be displayed in the mail box. Click on the e-mail, and you can see the content.

## C Programming

### Basic C-Programming Concepts

#### Tokens in C :

The smallest individual units of a C Program are known as Token and these are 6 types.

- a. Keywords
- b. Identifiers
- c. Constants
- d. Strings
- e. Operators
- f. Special Symbols

#### Data Types in C :

Data type specifies the type of data that a variable can store and accordingly what amount of memory space is reserved in memory for that variable.

Basically C support 5 fundamental data types such as

- a. Character (char)
- b. Integer (int)
- c. Floating point (float)
- d. Double (double)
- e. Void

#### Input & Outputs in C :

**For input we normally used Scanf();**

Syntax:

if we want to input a Char type data, then we can write.

Scanf("%c",&a); where a is a char type variable.

if we want to input a Integer type data, then we can write.

Scanf("%d",&a); where a is a Integer type variable.

if we want to input a Float type data, then we can write.

Scanf("%f",&a); where a is a Float type variable.

**For Output we normally used printf();**

Syntax to display a message : printf("Message");

Syntax to display a Result of Char type : printf("Message=%c",var);

Syntax to display a Result of Int type : printf("Message=%d",var);

Syntax to display a Result of Float type : printf("Message=%f",var);

**Example-1:**

**Write a C Program to Display Your Name, Age, Branch & College Name.**

// Program to Display Your Name, Age, Branch & College Name.

```
#include <stdio.h>
```

```
Void main()
```

```
{
```

```
    clrscr();
```

```
    printf("\n Name : Abhaya Kumar Singh ");
```

```
    printf("\n Age : 19 ");
```

```
    printf("\n Branch : Mechanical Engineering ");
```

```
    printf("\n College Name : Govt. Polytechnic Gajapati ");
```

```
    getch();
```

```
}
```

**OutPut:**

**Name : Abhaya Kumar Singh**

**Age : 19**

**Branch : Mechanical Engineering**

**College Name: Govt. Polytechnic Gajapati**

**Example-2:**

**Write a C Program to find out the Area and Perimeter of a Rectangle whose length and width given.**

// Program to find out the Area and Perimeter of a Rectangle.

```
#include <stdio.h>
```

```
Void main()
```

```
{  
  
    Int l,w,Area,Peri;  
  
    clrscr();  
  
    Printf("\n ** Program to find out the Area and Perimeter of a Rectangle **");  
  
    Printf("\n Enter the Length of the Rectangle");  
  
    scanf("%d",&l);  
  
    Printf("\n Enter the Width of the Rectangle");  
  
    scanf("%d",&w);  
  
    Area=l*w;  
  
    Peri=2*(l+w);  
  
    Printf("\n Area of the given Rectangle = %d",Area);  
  
    Printf("\n Perimeter of the given Rectangle = %d",Peri);  
  
    Getch();  
  
}
```

**OutPut:**

**\*\* Program to find out the Area and Perimeter of a Rectangle \*\***

**Enter the Length of the Rectangle 10**

**Enter the Width of the Rectangle 20**

**Area of the given Rectangle = 200**

**Perimeter of the given Rectangle = 60**

**1. Program-1 : Write a C Program to find the greatest among three numbers.**

```
#include<stdio.h>
void main()
{
    int num1,num2,num3;
    printf("Enter three numbers");
    scanf("%d %d %d",&num1,&num2,&num3);
    if(num1>num2)
    {
        if(num1>num3)
            printf("%d is largest",num1);
        else
            printf("%d is largest",num3);
    }
    else if(num2>num3)
        printf("%d is largest",num2);
    else
        printf("%d is largest",num3);
    getch();
}
```

```
/*alternate way*/
void main()
{
    int num1,num2,num3;
    clrscr();
    printf("Enter three numbers");
    scanf("%d %d %d",&num1,&num2,&num3);
    if(num1>num2 && num1>num3)
        printf("%d is largest",num1);
    if(num2>num1 && num2>num3)
        printf("%d is largest",num2);
    if(num3>num1 && num3>num2)
        printf("%d is largest",num3);
    getch();
}
```

**Output: Enter three numbers 7 9 8  
9 is largest**

**2. Program-2 : Write a C Program to find average of n numbers by using loop.**

```
#include<stdio.h>
void main()
{
    int n,var,i;
    float avg,sum;
    printf("Enter how many numbers do you want enter");
    scanf("%d",&n);
    printf("Enter the numbers:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&var);
        sum=sum+var;
    }
    avg=sum/n;
    printf("average=%f",avg);
    getch();
}
```

**Output: Enter how many numbers do you want enter 5**  
**Enter the numbers: 1 2 3 4 5**  
**average=3**

**3. Program-3 : Write a C Program to find whether a number is prime or not.**

```
#include<stdio.h>
void main()
{
    int num,i,count=0;
    printf("Enter a number:");
    scanf("%d",&num);
    for(i=1;i<=num;i++)
    {
        if(num%i==0)
            count++;
    }
    if(count==2)
        printf("%d is a prime number",num);
    else
        printf("%d is a composite number",num);
    getch();
}
```

**Output: Enter a number: 5**  
**5 is a prime number**



**4. Program-4 : Write a C Program to find whether a number is palindrome or not.**

```
#include<stdio.h>
void main()
{
    int num,i,rem,rev=0,num1;
    printf("Enter a number:");
    scanf("%d",&num);
    num1=num;
    while(num!=0)
    {
        rem=num%10;
        rev=rev*10+rem;
        num=num/10;
    }
    if(num1==rev)
        printf("%d is a palindrome number",num1);
    else
        printf("%d is a not a palindrome number",num1);
    getch();
}
```

**Output:        Enter a number: 121  
                 121 is a palindrome number**

**5. Program-5 : Write a C Program to find the sine series.**

```
#include<stdio.h>
#include<math.h> //sine and M_PI is defined in math.h
void main()
{
    float angle,value;
    printf("Enter an angle:");
    scanf("%f",&angle);
    value=sin(angle*M_PI/180); //M_PI is a constant used to represent pi
    printf("sin(%.0f)=%.4f",angle,value);
    getch();
}
```

**Output:        Enter an angle: 30  
                 sin(30)=0.5**

**6. Program-6 : Write a C Program to accept row wise and column wise element in a 2-D array and print them.**

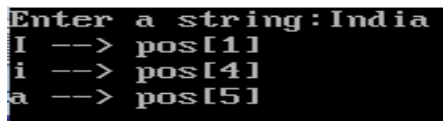
```
#include<stdio.h>
void main()
{
    int mat[3][3],i,j;
    printf("Enter nine elements, row wise:");
    for(i=0;i<3;i++)
        for(j=0;j<3;j++)
            scanf("%d",&mat[i][j]);
    //print the elements
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
            printf("%d ",mat[i][j]);
        printf("\n");
    }
    printf("Enter nine elements, column wise:");
    for(i=0;i<3;i++)
        for(j=0;j<3;j++)
            scanf("%d",&mat[j][i]);
    //print the elements
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
            printf("%d ",mat[i][j]);
        printf("\n");
    }
    getch();
}
```

**Output:**            **Enter nine elements, row wise: 1 2 3 4 5 6 7 8 9**  
                      **1 2 3**  
                      **4 5 6**  
                      **7 8 9**

**Enter nine elements, column wise: 1 2 3 4 5 6 7 8 9**  
                      **1 4 7**  
                      **2 5 8**  
                      **3 6 9**

**7. Program-7 : Write a C Program to find the vowels in a given string.**

```
#include<stdio.h>
#include<string.h>
void main()
{
    char str[10],i;
    printf("Enter a string:");
    gets(str);
    //find the vowels
    for(i=0;i<10;i++)
    { if(str[i]=='A'||str[i]=='a'||str[i]=='E'||str[i]=='e'||str[i]=='I'||str[i]=='i'||str[i]=='O'||str[i]=='o'||str[i]=='
        'U'||str[i]=='u')
        {
            printf("%c --> pos[%d]",str[i],i+1);
            printf("\n");
        }
    }
    getch();
}
```



```
Enter a string:India
I --> pos[1]
i --> pos[4]
a --> pos[5]
```

**Output:**

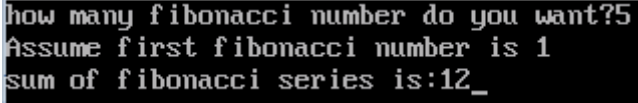
**8. Program-8 : Write a C Program to find the factorial of a number using recursion.**

```
#include<stdio.h>
int fact(int);
void main()
{
    int num,res;
    printf("Enter a number:");
    scanf("%d",&num);
    //find the factorial using recursion
    res=fact(num);
    printf("factorial=%d",res);
    getch();
}
int fact(num)
{
    if(num==0)
        return 1;
    else
        return num*fact(num-1);
}
```

**Output: Enter a number:5  
factorial=120**

**9. Program-9 : Write a C Program to find the sum of Fibonacci series by using function.**

```
#include<stdio.h>
int sumcalc(int*, int);
void main()
{
    int fib[40],num,sum;
    printf("how many fibonacci number do you want?");
    scanf("%d",&num);
    sum=sumcalc(fib,num);
    printf("Assume first fibonacci number is 1");
    printf("\nsum of fibonacci series is:%d",sum);
    getch();
}
int sumcalc(int *fibo, int num)
{
    int sum,i;
    if(num<=0)
        return 0;
    fibo[0]=0;
    fibo[1]=1;
    sum=fibo[0]+fibo[1];
    for(i=2;i<=num;i++)
    {
        fibo[i]=fibo[i-1]+fibo[i-2];
        sum=sum+fibo[i];
    }
    return sum;
}
```

**Output:** 

**10. Program-10 : Write a C Program to accept a number from KB, and print it in reverse using function.**

```
#include<stdio.h>
void reverse(int no)
{
    int rem,rev=0;
    while(no>0)
    {
        rem=no%10;
        rev=rev*10+rem;
        no=no/10;
    }
    printf("rev=%d",rev);
}
void main()
{
    int no;
    printf("Enter a number:");
    scanf("%d",&no);
    reverse(no);
    getch();
}
```

**Output: Enter a number:123  
rev= 321**