ICT

Practice Manual for Group C



DIRECTORATE OF TECHNICAL EDUCATION,

UNION TERRITORY, CHANDIGARH

Module No.	Title of the Topic	Duration
A	**Computer Fundamentals** 1. Hardware 2. Software 3. Drivers 4. File Formats (Desktop, Files, Folders) 5. Printer Sharing	Day 1-2 (4 Hours)
B	**Microsoft Office** 1. MS Word 2. MS Excel 3. MS PowerPoint 4. NIC Email (https://email.gov.in/)	Day 3-8 (4 Hours)
C	**Internet and its applications** 1. Features of Browsers with add-ons and plug-in 2. Google Drive 3. Google Docs 4. Google forms 5. Google Hangouts 6. Net Banking 7. UPI 8. Blogs 9. Twitter 10. YouTube Channels 11. Instagram 12. Facebook	Day 9-13 (4 Hours)
D	**e-Governance Portals** 1. eHRMS Portal 2. DigiLocker 3. e-Tendering with use of Digital Signature 4. GeM 5. E-office	Day 14-17 (4 Hours)
E	**Basic concepts of Networking** 1. Internet settings and use of internet using different methods 2. Use of internet by using various modes	Day 18 (4 Hours)
F	**Awareness to Cyber Security concepts** 1. What is Cyber Security Awareness Training and Why is it so Important? 2. Cyber security awareness 3. Current threats 4. Attack red flags 5. Defensive procedures 6. Threat reaction plans	Day 19-20 (4 Hours)

A. COMPUTER FUNDAMENTALS

1. **Hardware**

A computer is an electronic machine that processes data. Information given to the computer is called data. Computer works very fast. It saves your time and energy. It does not make mistakes. It can remember a lot of things. The basic parts of a computer are shown in the picture given here (Fig 1).



Fig. 1

These parts of the Computer and some other devices are connected together with the help of wires and cables.

- **Input Devices**

Input devices are used to provide information to a computer, such as typing a letter or giving instructions to a Computer. Some examples of input devices are as follows:

Mouse: A standard mouse has a left and a right button. You use the left button to select items and provide instructions by clicking an active area on the screen. You use the right button to display commonly used menu items on the screen.

Keyboard: A set of keys that resembles a keyboard on a typewriter. You use the keyboard to type text such as letters or numbers into the computer.

Scanner: A device that is similar to a photocopy machine. You can use this device to transfer an exact copy of a photograph or document into a computer. A scanner reads a page and translates it into a digital format that a computer can read. For example, you can scan photographs of your family using a scanner.



Fig. 2

Internal Computer Hardware

Introduction

Computer Hardware is the physical part of a computer, as distinguished from the computer software that executes or runs on the hardware. The hardware of a computer is infrequently changed, while software and data are modified frequently. The term soft refers to readily created, modified, or erased. These are unlike the physical components within the computer which are hard.

When you think of the term computer hardware you probably think of the guts inside your personal computer at home or the one in your classroom. However, computer hardware does not specifically refer to personal computers. Instead, it is all types of computer systems. Computer hardware is in embedded systems in automobiles, microwave ovens, CD players, DVD players, and many more devices. In 2003, only 0.2% of all microprocessors sold were for personal computers. How many other things in your house or your classroom use computer hardware?

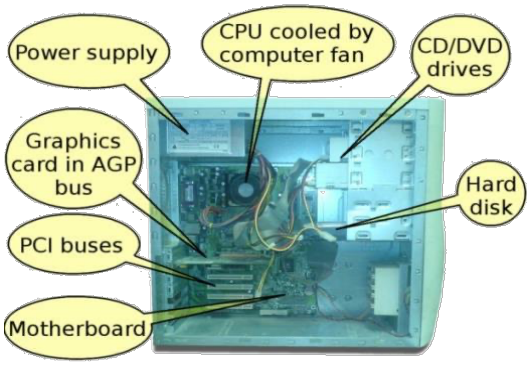


Fig. 3

Motherboard

The motherboard is the body or mainframe of the computer, through which all other components interface. It is the central circuit board making up a complex electronic system. A motherboard provides the electrical connections by which the other components of the system communicate. The mother board includes many components such as: central processing unit (CPU), random access memory (RAM), firmware, and internal and external buses.



Fig. 4

Central Processing Unit

The Central Processing Unit (**CPU**; sometimes just called processor) is a machine that can execute computer programs. It is sometimes referred to as the brain of the computer.

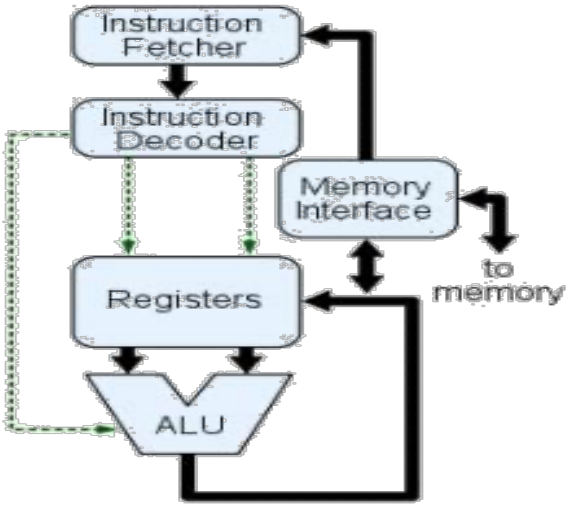


Fig. 5

There are four steps that nearly all CPUs use in their operation: *fetch*, *decode*, *execute*, and *write back*. The first step, fetch, involves retrieving an instruction from program memory. In the decode step, the instruction is broken up into parts that have significance to other portions of the CPU. During the execute step various portions of the CPU, such as the arithmetic logic unit (ALU) and the floating point unit (FPU) are connected so they can perform the desired operation. The final step, write back, simply writes back the results of the execute step to some form of memory.

Random Access Memory

Random access memory (RAM) is fast-access memory that is cleared when the computer is power-down. RAM attaches directly to the motherboard, and is used to store programs that are currently running. RAM is a set of integrated circuits that allow the stored data to be accessed in any order (why it is called random). There are many different types of RAM. Distinctions between these different types include: writable vs. read-only, static vs. dynamic, volatile vs. non-volatile, etc.



Fig. 6

Firmware

Firmware is loaded from the Read only memory (ROM) run from the Basic Input-Output System (BIOS). It is a computer program that is embedded in a hardware device, for example a microcontroller. As it name suggests, firmware is somewhere between hardware and software. Like software, it is a computer program which is executed by a microprocessor or a microcontroller. But it is also tightly linked to a piece of hardware, and has little meaning outside of it. Most devices attached to modern systems are special-purpose computers in their own right, running their own software. Some of these devices store that software ("firmware") in a ROM within the device itself.

Power Supply

The power supply as its name might suggest is the device that supplies power to all the components in the computer. Its case holds a transformer, voltage control, and (usually) a cooling fan. The power supply converts about 100-120 volts of AC power to low-voltage DC power for the internal components to use. The most common computer power supplies are built to conform to the ATX form factor. This enables different power supplies to be interchangeable with different components inside the computer. ATX power supplies also are designed to turn on and off using a signal from the motherboard, and provide support for modern functions such as standby mode.

Removable Media Devices

There are many different removable media devices. The most popular are probably CD and DVD drives which almost every computer these days has at least one of. There are some new disc drives such as Blu-ray which can hold a much larger amount of information than normal CDs or DVDs. One type of removable media which is becoming less popular is floppy disk.

CD

CDs are the most common type of removable media. They are inexpensive but also have short life-span. There are a few different kinds of CDs. CD-ROM which stands for Compact Disc read-only memory are popularly used to distribute computer software although any type of data can be stored on them. CD-R is another variation which can only be written to once but can be read many times. CD-RW (rewritable) can be written to more than once as well as read more than once. Some other types of CDs which are not as popular include Super Audio CD (SACD), Video Compact Discs (VCD), Super Video Compact Discs (SVCD), Photo CD, PictureCD, CD-i, and Enhanced CD.



Fig. 7

DVD

DVDs (digital versatile discs) are another popular optical disc storage media format. The main uses for DVDs are video and data storage. Most DVDs are of the same dimensions as compact discs. Just like CDs there are many different variations. DVD-ROM has data which can only be read and not written. DVD-R and DVD+R can be written once and then function as a DVD-ROM. DVD-RAM, DVD-RW, or DVD+RW hold data that can be erased and re-written multiple times. DVD-Video and DVD-Audio discs respectively refer to properly formatted and structured video and audio content. The devices that use DVDs are very similar to the devices that use CDs. There is a DVD-ROM drive as well as a DVD writer that work the same way as a CD-ROM drive and CD writer. There is also a DVD-RAM drive that reads and writes to the DVD-RAM variation of DVD.



Fig. 8

Blu-ray

Blu-ray is a newer optical disc storage media format. Its main uses are high-definition video and data storage. The disc has the same dimensions as a CD or DVD. The term “Blu-ray” comes from the blue laser used to read and write to the disc. The Blu-ray discs can store much more data then CDs or DVDs. A dual layer Blu-ray disc can store up to 50GB, almost six times the capacity of a dual layer DVD (WOW!). Blu-ray discs have similar devices used to read them and write to them as CDs have. A BD-ROM drive can only read a Blu-ray disc and a BD writer can read and write a Blu-ray disc.

Internal Storage

Internal storage is hardware that keeps data inside the computer for later use and remains persistent even when the computer has no power. There are a few different types of internal storage. Hard disks are the most popular type of internal storage. Solid-state drives have grown in popularity slowly. A disk array controller is popular when you need more storage then a single hard disk can hold.

Hard Disk Drive

A hard disk drive (HDD) is a non-volatile storage device which stores digitally encoded data on rapidly rotating platters with magnetic surfaces. Just about every new computer comes with a hard disk these days unless it comes with a new solid-state drive. Typical desktop hard disk drives store between 120 and 400GB, rotate at 7,200 rpm, and have a media transfer rate of 1 Gbit/s or higher. Hard disk drives are accessed over one of a number of bus types, including parallel ATA (also called IDE), Serial ATA (SATA), SCSI, Serial Attached SCSI, and Fibre Channel.

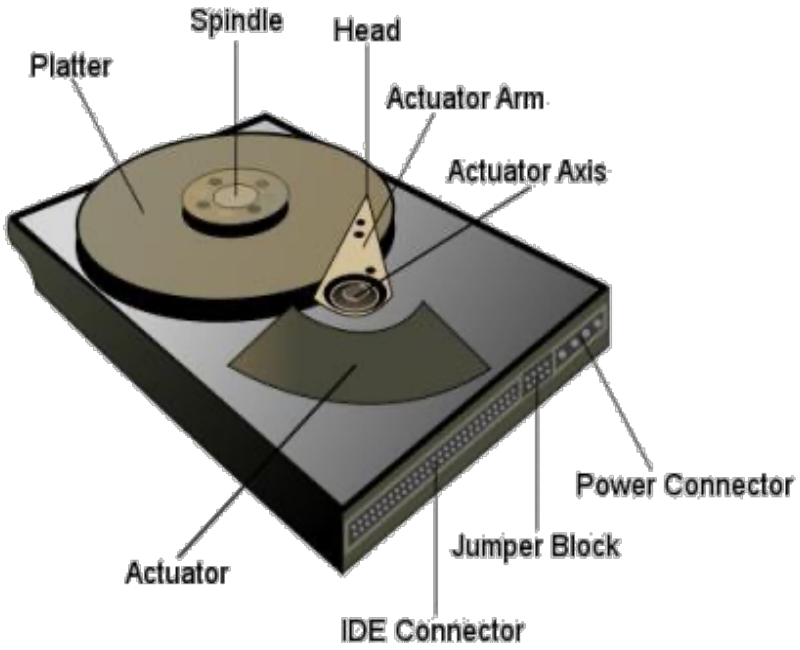


Fig. 9

Solid-State Drive

A solid-state drive (SSD) is a data storage device that uses solid-state memory to store persistent data. An SSD emulates a hard disk drive, thus easily replacing it in any application. SSDs have begun to appear in laptops because they can be smaller than HDDs. SSDs are currently more expensive per unit of capacity than HDDs which is why they have not caught on so quickly.

Disk Array Controller

A disk array controller is a device which manages the physical disk drives and presents them to the computer as logical units. It almost always implements hardware RAID. RAID (Redundant Array of Independent Drives) is a technology that employs the simultaneous use of two or more hard disk drives to achieve greater levels of performance, reliability, and/or larger data volume sizes. A disk array controller also provides additional disk cache.

2. **Software**

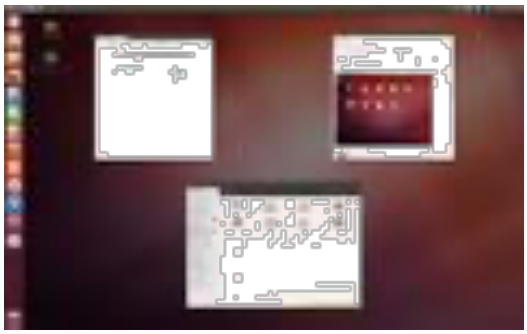


System software can be separated into two different categories, utility programs and operating systems. Operating systems are the foundation of your computer and almost every electronic device. The OS boots up the computer and makes sure everything is operational. The OS is also what runs your cell phone and most of your electronic devices. The OS is, for the most part, the GUI (graphical user interface) that shows you all of your applications, and without the OS you cannot use the computer. There are many different types of OS's which are discussed later. Utility programs perform a very specific task, to either enhance or manage your computer. For example, your virus protection program, like Norton, is an example of a utility program along with the install/uninstall program that comes standard with Windows.

Systems Software

The operating system is a type of system software kernel that sits between computer hardware and end user. Systems Software are applications that are designed specifically for running the hardware on a personal computer and are used to maintain a platform for Application Software to be used. This means that systems software is designed to communicate with the internal parts of your computer such as the hard drive, RAM, ROM, cache, microprocessors, etc. so that the user doesn't have to. It contains all of the drivers necessary for this type of communication and, in the simplest sense; it is the interface between the user and the hardware. The Operating System (OS) is not only one of the most important systems software on a computer, but is also the most frequently used. It is the software that runs in the background and brings the separate physical parts of the computer together in order to provide the seamless stream of activity that a user experience. Some of its responsibilities include the transfer of data between the memory and disks (on the hard drive) as well as providing the information needed to display icons, text, cursors and other visible necessities on the display screen. This display is called the graphical user interface (GUI) and is entirely the result of the OS on the computer. This can be compared by viewing the differences between the Ubuntu OS and the Mac Snow Leopard OS. The icons between the two are positioned differently and they look different too. The Mac OS and GUI tends to have a more three-dimensional aspect to it where Windows tends to appear flatter. It should also be remembered that the operating system conducts itself

independently of both the user and any application software being used. This means that it is not directly dependent on the user or other programs in order to operate. Some other systems software would include BIOS and other device firmware. These help the user interact with other utilities such as diagnostic tools, language translators, data communication programs, as well as data management programs.



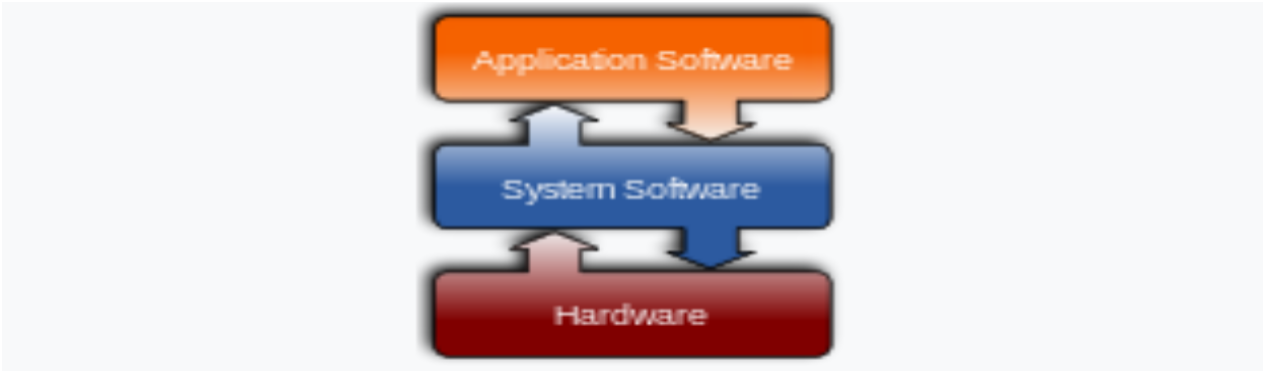
Windows

Windows is a series of operating systems that is designed by Microsoft. The first two versions of the Windows operating system, introduced in 1985 and 1987 respectively, were primitive. Windows 1.0 had only basic functions such as MS Paint and a word processor and Windows 2.0 had very rudimentary versions of Word and Excel. Windows did not become popular until its third release in 1990. Windows 3.0 had enhanced graphics, the ability to “multi-task”, and (for the first time) virtual memory. This version was so popular that it stayed on the market for eleven years. The next big improvement came with Windows 95, which expanded from 16-bit to 32-bit (short for binary digit). Windows 2000 was known for its increase in plug-in devices that were congruent with the operating system. Windows XP, or Windows 2001, included a comprehensive help center to allow users to utilize different types of media and was designed mostly for user ease and convenience. The main feature of Windows Vista is the Instant Search at the bottom of the start menu. Then Windows 7 came out and the improvements were mainly to make it faster and easier to use. The most recent version of Windows is Windows 10. Windows 10 came out late July 2015. The new Windows will allow you do to more than one thing at once. It also allows for a new way to search and there is a way to open the Windows store from your home page. Windows is the most commonly used operating system and is used on about 90% of all personal computers.



Application Software

Application Software is the most common programs that run in the foreground of the computer. They tend to perform useful tasks which are not associated with computer maintenance, system boot-up, or hardware communication. Application software is directly reliant on the Systems Software to communicate to the physical components of the computer and cannot operate without it. If you were to visualize this, the Application Software would operate on top of the Systems Software and would be the most visible to the user while the Systems Software would remain in the background unnoticed. The Systems Software would then communicate to the Hardware on its behalf and deliver any information to it from the Application Software. In turn, any information needed from the Hardware would pass through the Systems Software to the Application Software. Application Software is the most familiar forms of software and come in a variety of types. Most often they can be accessed through the graphical user interface of the operating system being used by double-clicking on an icon. Some of the most popular examples include word processors, spreadsheets, photo-editing programs, database programs, and accounting programs to name a few. This list is by no means the extent to which application software may be used and many more programs are being created constantly to help individuals with daily activities.



Antivirus, Antispyware, Firewalls, and Other Security Programs

Malware consists of viruses, Trojans, worms, spyware and other forms that disrupt computer operation. As mentioned, malware can infect computers in many ways, whereas the affected suffers while the infector gains. To protect against these threats, it is highly recommended to take advantage of the utility programs offered by the operating system as well as software programs. Popular antivirus programs for Windows include AVG, Norton 360, McAfee, Kaspersky and Microsoft Security Essentials. A firewall is used to monitor network ports by controlling inbound and outbound traffic to the network. Its primary purpose is to defend the computer from malware and hackers, but it can also interfere with programs that must access the Internet. It will also not remove malware if it has infected the computer; it only blocks the malware from entering. Spyware is software that tracks personal information unknowingly from the user, which can lead to serious problems. It is important to know the software, one is downloading and to understand its license agreement and privacy statement (to see if unwanted software is included).

3. **Driver**

A *device driver* is a software module that enables communication between a *user process* and a *peripheral device*. It may perform some or all of the following functions:

- Take the device online and offline
- Set parameters in the device
- Transmit data from the kernel to the device
- Receive data from the device and pass it to the kernel
- Handle and report I/O errors
- Handle exclusion and other multiuser, multitasking arbitration

Hardware Devices

Some examples of hardware devices are CD ROMs, disk drives, tape drives, printers, scanners, and terminals.

Hardware devices are categorized as *block devices*, *character devices*, *mapped devices*, or networked *devices*. A block device is a mass storage device (such as a disk) that can accept data, store it, and return data to the processor in fixed-length transfers. A block device driver uses the integrated page cache for all data transfers. Device drivers that support the block interface are complex and are not covered in this manual.

4. **File Formats**

Following are some of the different types of file formats: -

GIF-GIF is most common in the animated form.

PDF-Invented by Adobe with the goal of capturing and reviewing rich information from any application, on any computer, with anyone, anywhere.

MP3- This format of file contains an audio file.

ZIP-This file format contains files which are achieved.

PPTX-These files have a PowerPoint presentation.

MPEG-It is a video file format.

JPEG-JPEGs might be the most common file type your uncross on the web, and more than likely the kind of image that is in your company's MSW versions fits letter head.



Different kinds of file conversion like word to pdf

There are different software available on Internet for conversion of one file format to another. For e.g. Steps for conversion of file to pdf format using Online2pdf has been given.

Steps:-

1. Go to https://online2pdf.com/convert-docx-to-pdf.
2. Click on 'Select files' and browse the file on your computer.
3. Click on 'convert'.

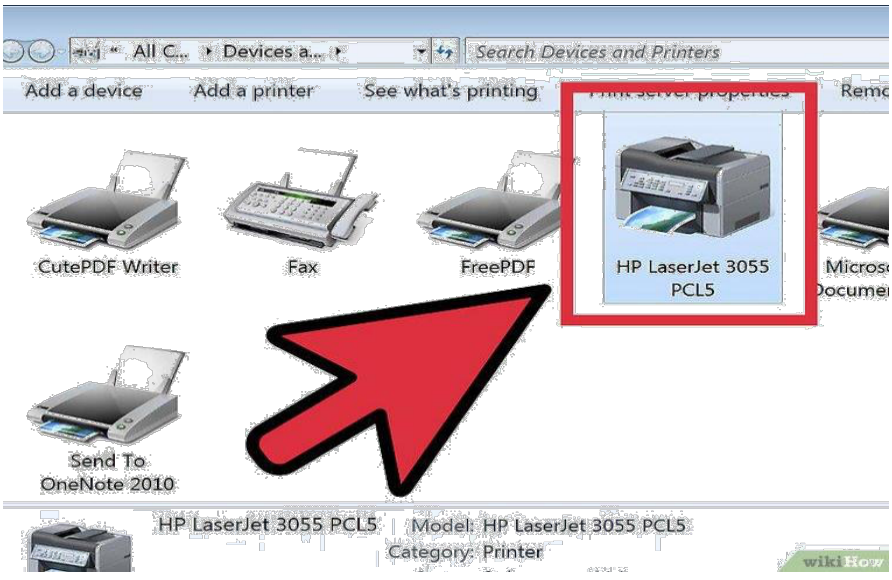




5. **Printer Sharing**

How to Share a Printer

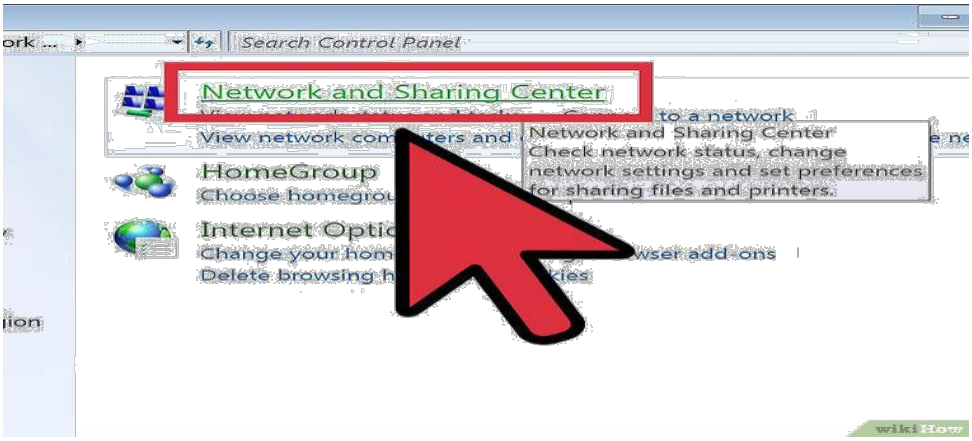
Sharing printers on a network used to be a nightmare, especially if the computers were all running different operating systems. Technology has progressed, however, and sharing a printer now is simpler than it has ever been. This is especially true if you are running Windows 7, 8, or Mac OS X. To learn how to share your printer on the network, and how to connect other computers to that share printer, see Step 1 below.



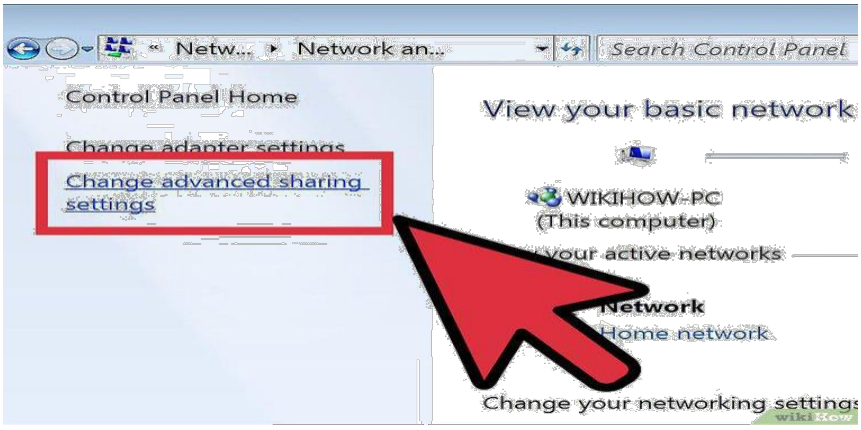
Install the printer drivers. In order to share a printer, it must be installed on the computer it is connected to. Most modern printers connect via USB and will install automatically when they are connected.

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Open the Control Panel. You can access the Control Panel in Windows 7 by clicking the Start menu and selecting Control Panel. In Windows 8, press ⊞ Win + X and select Control Panel from the menu.



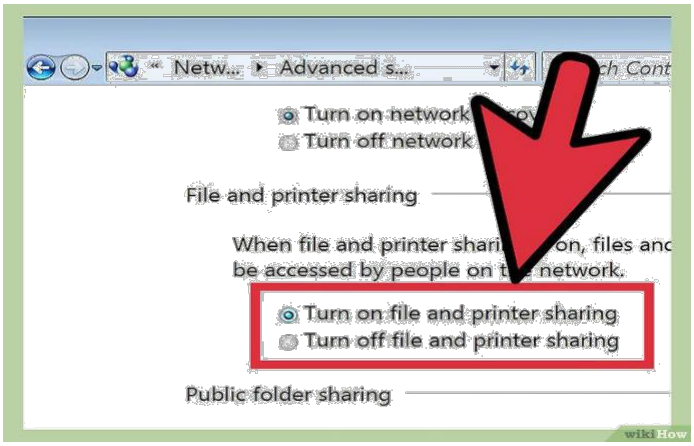
Open the Network and Sharing Center. If your Control Panel is in Category view, click "Network and Internet", and then select "Network and Sharing Center". Click on "Network and Internet". If your Control Panel is in Icon view, click the "Network and Sharing Center" icon.



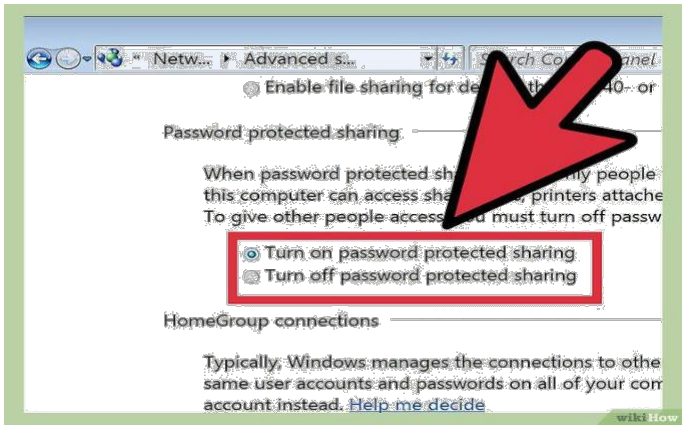
Click the "Change advanced sharing settings" link. This is located in the left navigation pane of the Network and Sharing Center.

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Expand the profile you need to change. You will see three different options when you open the "Advanced share settings": Private, Guest or Public, and All Networks. If you are on a Home network, expand the Private section.

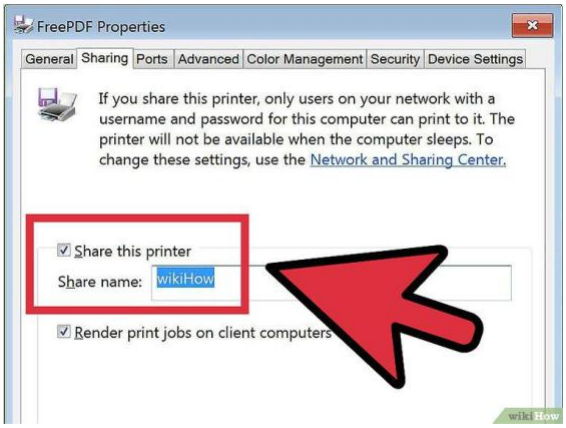


Enable "File and printer sharing". Toggle this on to allow other devices to connect to your printer. This will also allow you to share files and folders with other computers on the network.



Toggle the password protection. You can decide whether or not you want to enable password protection for your printer. If it is turned on, only users who have a user account on your computer will be able to access the printer.

- You can toggle password protection in the "All Networks" section.



Share the printer. Now that file and printer sharing has been turned on, you will need to share the printer itself. To do this, go back to the Control Panel and open the Devices and Printers option. Right-click on the printer you want to share and click "Printer properties". Click the Sharing tab, and then check the "Share this printer" box.

PRACTICE QUESTIONS

1. Convert the doc file into PDF using any online software provided on the Internet.

2. Print any document of your choice by applying various settings of Printer.
3. Install any software from the Internet and write its steps.
4. Install scanner and scan a document.
5. Installation of Antivirus.
6. Installation of Printer Driver.
7. Share A Printer On Network.
8. Install Operating System.
9. Install System (MS office) Software.

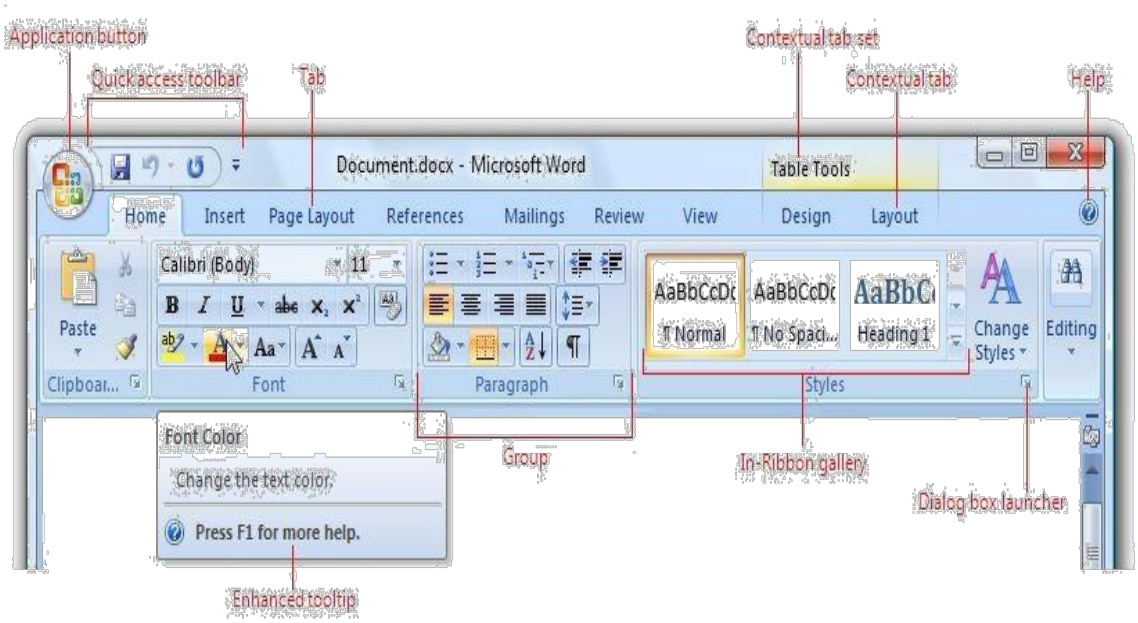
B. MICROSOFT OFFICE

1. MICROSOFT WORD

Familiarization with MSWord

Microsoft Word (or simply **Word**) is a word processor developed by Microsoft. It was first released on October 25, 1983 under the name Multi-Tool Word for Xenix systems. Subsequent versions were later written for several other platforms including IBM PCs running DOS(1983), Apple Macintosh running the Classic Mac OS (1985), AT&T Unix PC (1985), Atari ST (1988), OS/2 (1989), Microsoft Windows (1989), SCOU nix (1994), and OSX (2001).

Microsoft Word (Fig 80) is a word-processing application that can be part of the Microsoft Office suite or a stand-alone program installed on to your computer. The program can be used to write letters and different types of documents that can include graphics and pictures. Microsoft Word allows users to alter the appearance of text easily by changing its color, font style and size. The document is easily saved as a file on a computer or other media device and retrieved whenever needed for editing, sharing or printing.



Creating and Saving of Documents using MS Word

Follow these step-by-step instructions to create a document in Microsoft Word:

Step1: From the desktop or from your 'Start' menu, open Microsoft Word.

Step2: Microsoft Word will open up and present you with an option to select a document template, or a blank document.

Step 3: If you don't want to use any of the templates on display, click on the blank document.

Step 4: A new blank document will open up ready for you to start typing.

Follow these step-by-step instructions to save a document:

Step 1: Start a new document in Word and type your text.

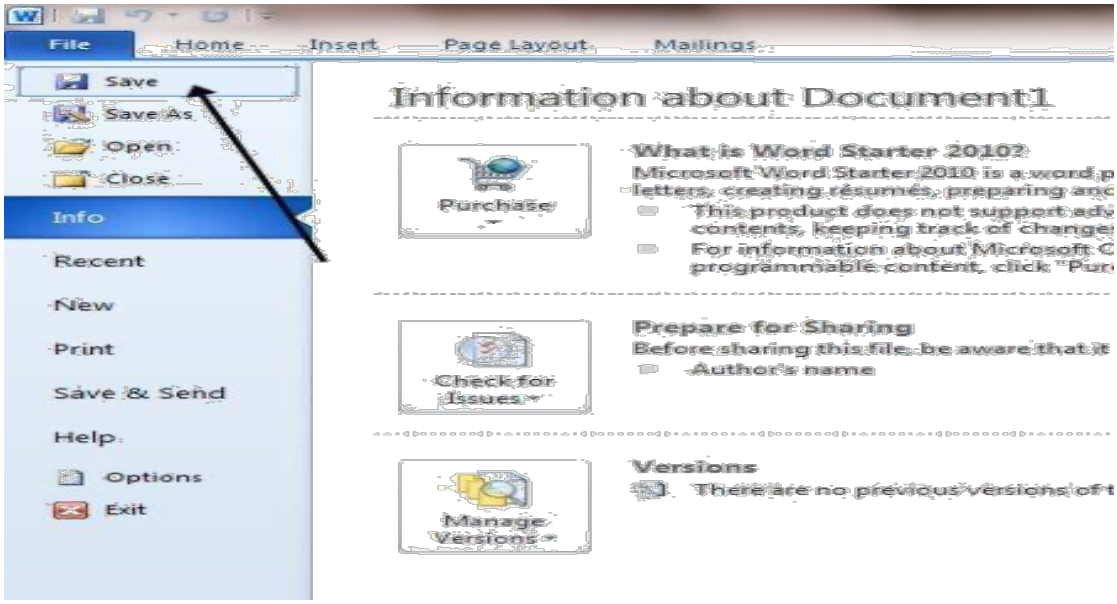
Step 2: Click **File** in the top left-hand corner of the screen. Some versions of Word may have an 'Office' button in the top left-hand corner. Click on this to bring up the menu to continue.

Step 3: From the menu, choose **Save**.

Step 4: A 'Save' dialogue box will come up. At the top and at the left-hand side in the list of folder options, it will show the folder where you'll be saving the document. If you wish to change this folder, navigate through the folders on the left-hand side of the dialogue box to choose the one where you want to save your document.

Step 5: Word will automatically give your document a name, based on the first few words of your text. If you don't like the given one, once you have chosen the destination folder, type a name for your document in the 'Filename' box. Come up with a name that is concise but will allow you to find the document easily again.

Step 6: Once you have typed in the name of your document, click **Save.**



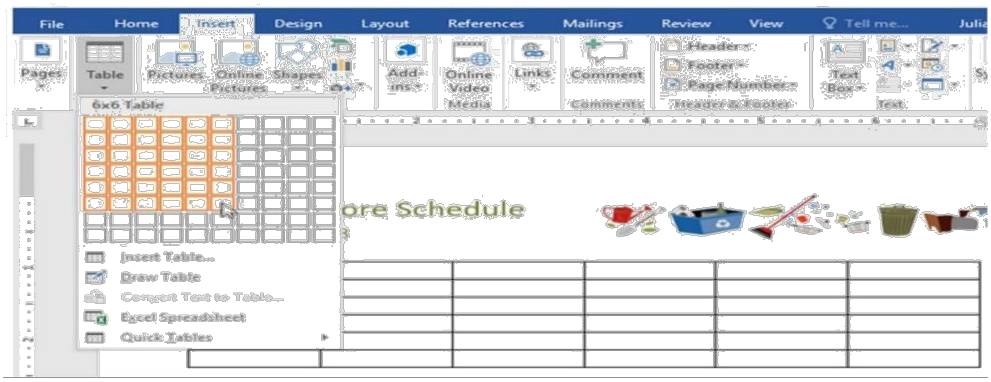
Step 7: Your document will now have a name, which will be shown at the very top of your document screen. If you make changes to your document and then save them after it has been saved originally, the dialogue box will not come up again. It will just save your changes without any visual notification being shown.

Step 8: The 'Save As' menu–the link to which is on the left-hand side of the 'File' dialogue box, beneath 'Save'– is used to save an existing document under another name.

Inserting and formatting Tables and other objects

To insert a blank table:

- Click on insert tab and then click on table.
- This will open a drop-down menu that contains a grid (fig 82). Hover over the grid to select the number of columns and rows you want.
- Select the required grid.
- To **enter text**, place the insertion point in any cell, then begin typing.



Other than Tables, Pictures, ClipArt, Shapes, Header, Footers and Charts can also be inserted into Blank Document.

Inserting a new object

Microsoft Word allows you to embed objects created in other programs into one document. These objects can offer data and other resources to support your document's objectives and create a visually pleasing layout for your recipients' view. Open the Word document and click the "Insert" tab on the command ribbon. Click the "Object" button in the Text group to open the Object dialog box. In the **Object** dialog box, click the **Create New** tab, and then select an option from the **Object type** list.

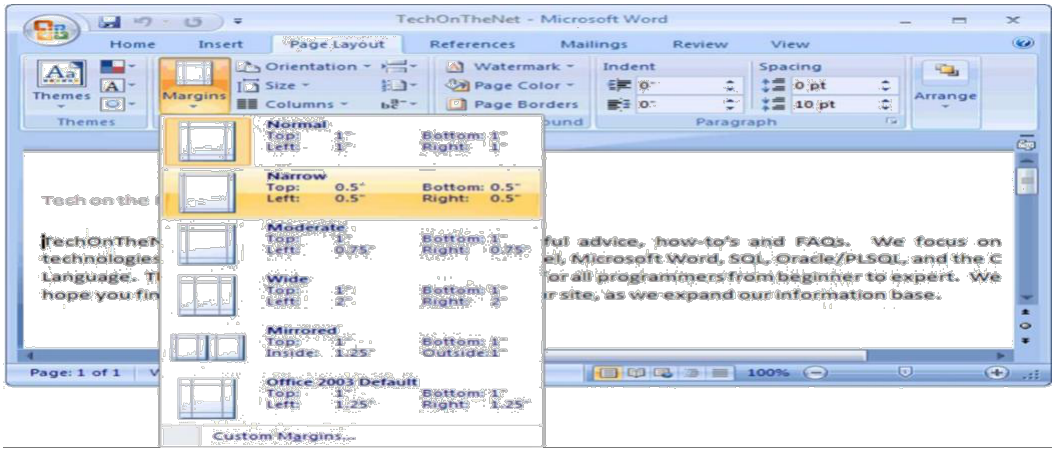
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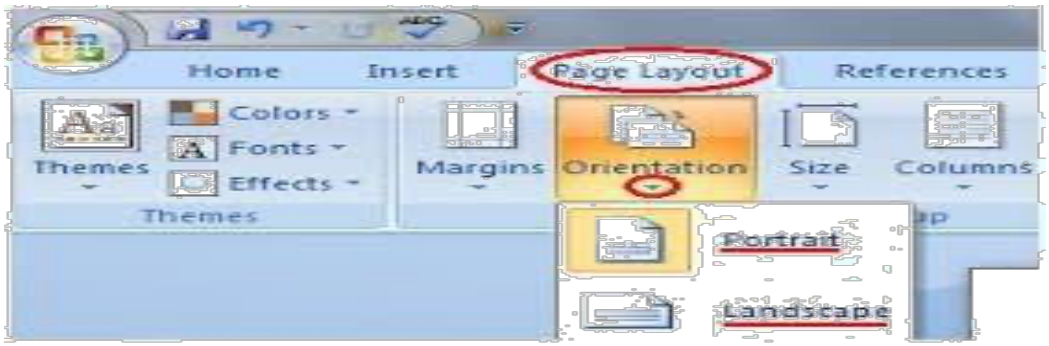
Working with Page Layout setting and Printing documents

Page layout:-

The Page Layout Tab holds all the options that allow you to arrange your document pages just the way you want them. You can set margins, apply themes, control of page orientation and size, add sections and line breaks, display line numbers, and set paragraph indentation and lines.

In the **Page Layout** tab, a drop-down menu will appear. Click the predefined **margin size you** want. The margins of the document can be changed using the Margins **command**. In Page layout Tab, Page Orientation can be set as: **Portrait** or **Landscape** to change the page orientation.





Other Features of Page Layout

- To change the size of the Page, Select the **Page Layout** tab, then click the **Size** command.
- On the Page Layout Tab, in the Paragraph group, use the spacing controls to adjust the line spacing before and after each line. You will see the changes in your document.
- In the Paragraph group, use the Left and Right indent controls to indent the paragraph at the left, right or both margins.

Printing the Documents

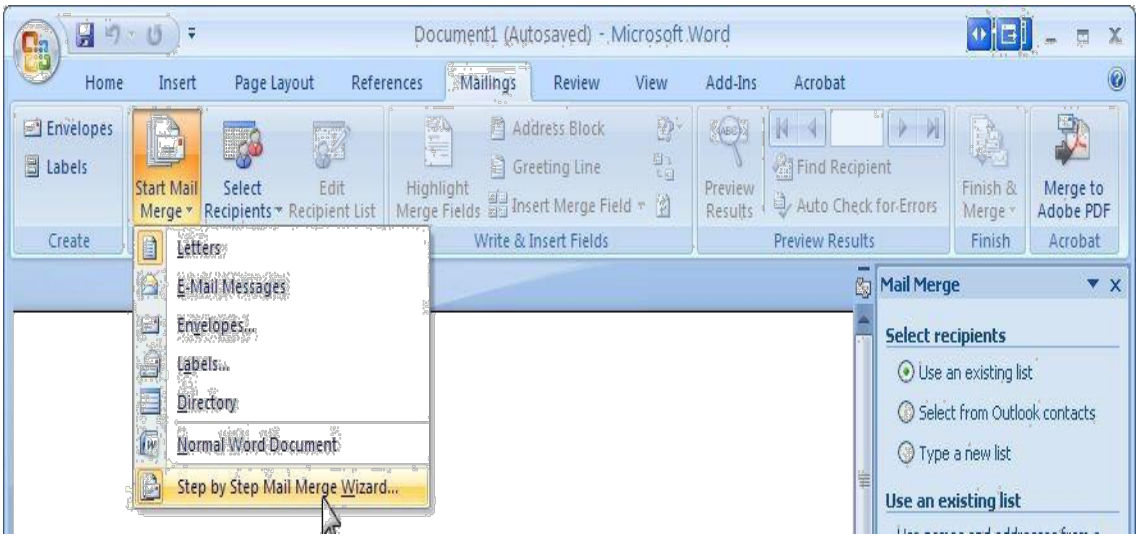
- Open an existing Word document or start a new document and type your text. Once you've completed your document and are ready to print, click File in the top left-hand corner of your document. Alternatively, some versions of Word may have an Office button instead of a 'File' button – it's a round Office icon in the top left-hand corner of the screen. Click on this if you have one.
- Move down and click **Print** in the menu. This will bring up the 'Print' dialogue box. Choose how many copies of your document you need.
- Depending on your printer options, you can choose other printing features such as whether you want to print all pages or only certain pages. You can also change the orientation of the print from portrait to landscape and tell your computer and printer whether you're printing on a certain size of paper.
- You'll also see, on the right, a preview of your printed document will look like. When you're happy with your settings, click **Print**. The document will now start printing on your printer.

Working with Mail Merge

Mail Merge is a useful tool that allows you to produce multiple letters, labels, envelopes, name tags, and more using information stored in a list, database, or spreadsheet.

Step 1: Prepare data in Excel for mail merge.

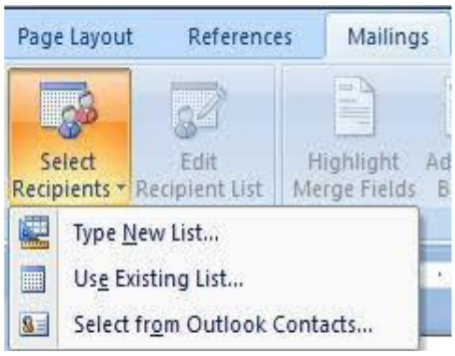
- Column names in your spreadsheet match the field names you want to insert in your mail merge.
- All data to be merge dispersant in the first sheet of your spread sheet.



Step 2: Start the mail merge.

- In Word, choose **Blank Document>Mailings>Start Mail Merge**, and then choose the kind of merge you want to run.

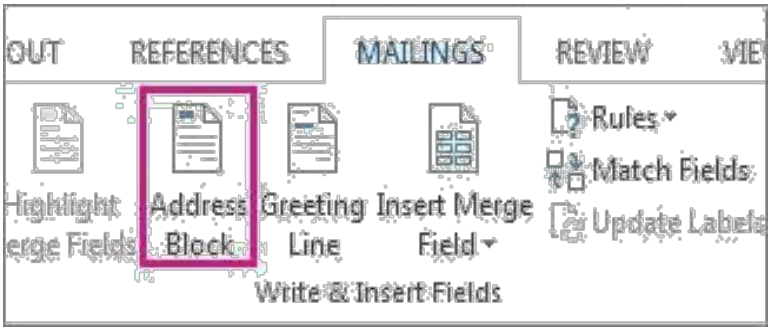
- Choose **Select Recipients** for adding new list or existing list of recipients. In the **Mail Merge Recipients** dialog box, clear the check box next to the name of any person who you don't want to receive your mailing.





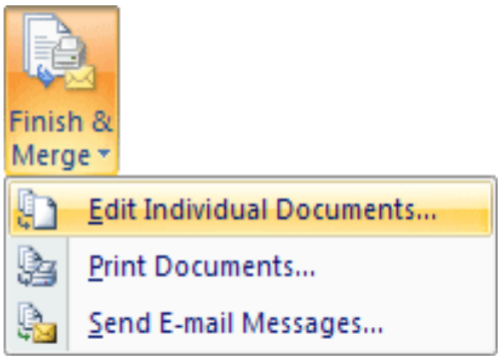
Step 3:-To insert an address block for an envelope, a label, an email message, or a letter.

a) On the Mailings tab, in the Write & Insert Fields group, choose Address Block.



b) in the **Insert Address Block** dialog box, choose a format for the recipient's name as it will appear on the envelope. Finish the mail merge. In the Finish group, choose Finish & Merge and choose Print Documents or Send Email Messages.





Practice of using shortcut keys

Shortcut Keys are combination that causes a specific command to be executed. Typically, shortcut keys combine the Ctrl or Alt keys with some other keys. Some of the examples of shortcut keys are:

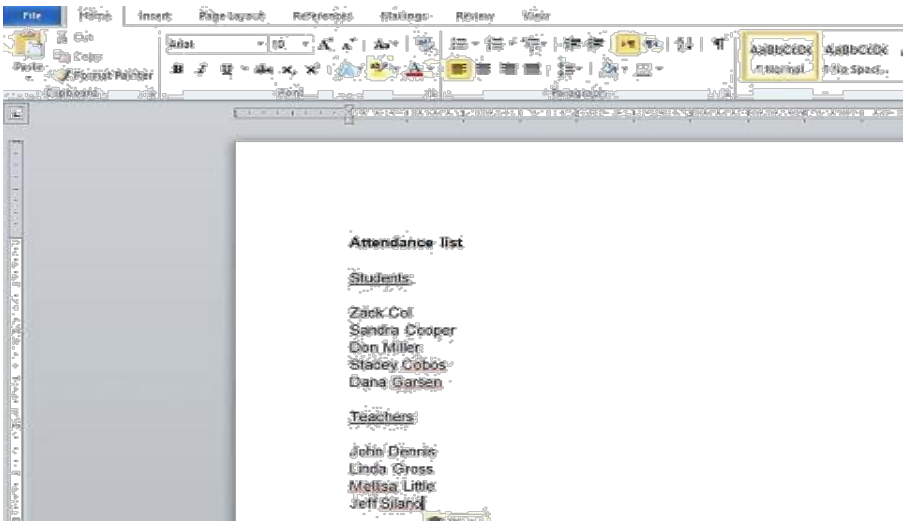
Common Shortcut Keys:-

- Ctrl+C ->COPY ,Ctrl+X ->CUT , Ctrl+V-> PASTE
- Ctrl+A -> SELECT ALL ,Ctrl+F -> FINDWORD

PRACTICE QUESTIONS

Q.1: Start the Mail Merge under Mailings, Select Recipients, Create New List, adding about 5 records to the List, save your document, and then fill in the Template document by adding Merge Fields to the document that reflect the data records that you just created. Also add some text. Save the Template Document.

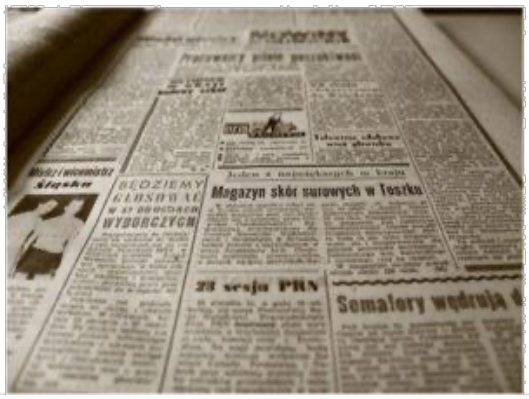
Q.2: In a given following figure, Change the Page Margins to Narrow, Sort the students names alphabetically in ascending order, Add numbering to the "Students" and "Teachers" lists separately, Change the layout of the "Students" list into two columns



Q.3: Copy the logo of Chandigarh Administration from the website, resize and crop picture, change its text wrapping attributes to “In Front of Text” so that you can move the logo around the page at will and place it in front of any text on the page.

Q.4: Get the newspaper and see the text-based advertisement and Design that advertisement in Microsoft Word.

Design and create text or image-based advertisements that you saw in the newspaper. Designing such an advertisement will be a very beneficial role for Microsoft Word students or people learning Advanced Microsoft Word skills. Advertisement designs contain high-quality images, text, and layout. It will make you master in MS word. And I think doing exercise after completing the class topic is the best way to learn MS-Word.





Q.5: Take a double-column book or newspaper and design or create a similar paragraph style in the word document..



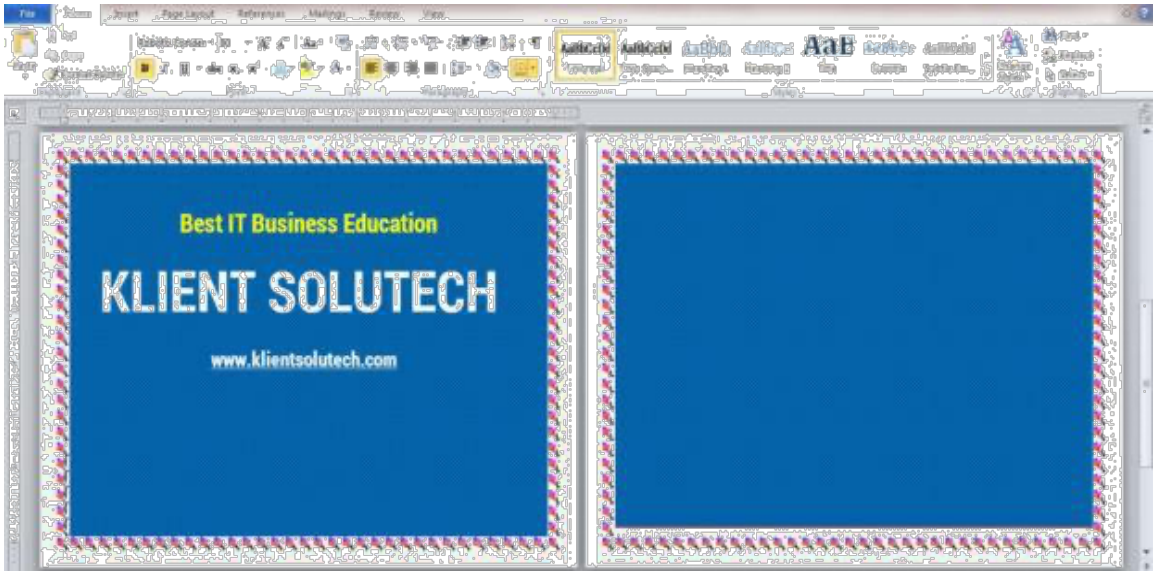
Q.6: Create a letterhead, Identity card of any company or institution that you got and insert the Watermark with that company name in the document.

You can create an identity card, visiting card or birthday cards in MS word. As you're seeing below this is an example of cards and letterheads. But you can find such things. And practice your MS-Word knowledge in creating an identity card, letterhead. This will give you the idea of how to adjust the text in different shapes and areas. Also, this is a good exercise in which you learn after printing, what size you need to adjust on the page. And when you do that, you learn very precious things in MS-Word.

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Q.7: Decorate word document with page border, content border, add pattern, and write beautiful text in it.

This is the easiest page layout option, in which you can learn about page border in MS-Word, text border, color, or shading in the page and pattern. These options are very beautiful when you're creating eBooks, making notes, and doing anything that required the following type of style. See the image below and try to create similar to this one.



Q.8: Insert template or download the new template in Microsoft Word from the Internet and edit those templates with your content.

There are 100+ templates almost for anything in the Microsoft Word Template option. The top benefit of using the template is that if you don't know how to create or design certain thing then you can just download the template and replace the existed text with your text. And it's done. This is a most important option which you should learn because it's tough when you don't know about how to design or create anything, so try to practice on 10+ templates and see how it will look like.

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Q.9: Design E-book cover pages / Magazine front/ books front/back page using cover page option in Insert Menu.

This practice is an advance. But try to find the books, magazine cover pages. And try to make similar in MS-Word. Imagine if you're the designer, how you will design the same content or front page. You will learn while practicing this about the Cover Page option in MS-Word or you can design without using that option.



Q.12: Create Business Cards using Shapes, text, and colors.

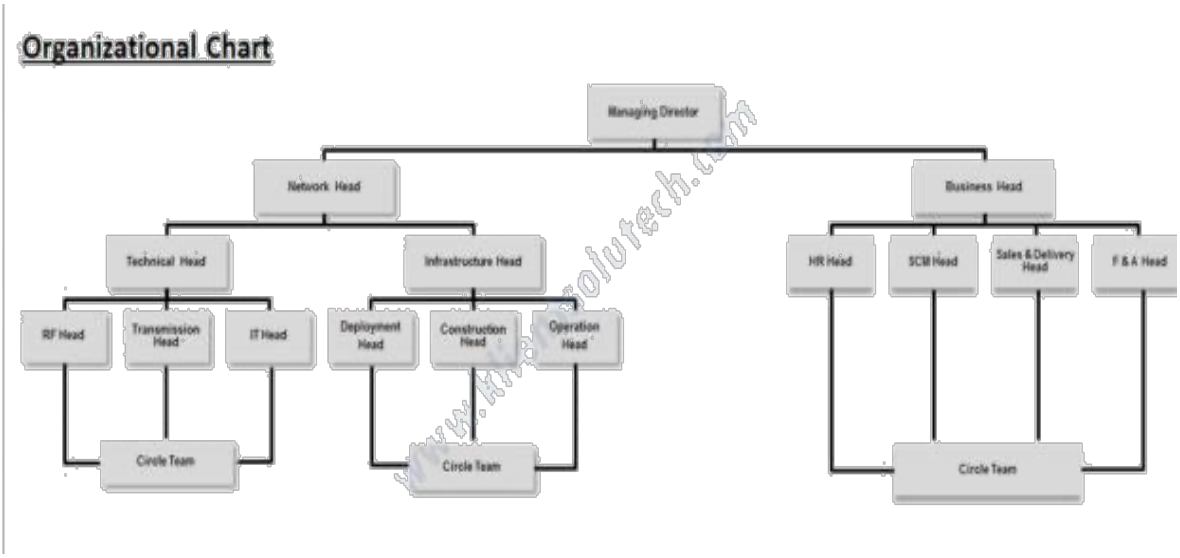
People use Adobe Photoshop, Corel Draw, and websites to create business cards nowadays automatically and manually. You can also use that. But it's about mastering in MS Word options and skills. When you create and design anything in Microsoft word. Your basic computers skills become strong. That helps you in the future when you start working on a Computer or MS-office or MS-Word. Also, basic computer skills are very important before doing any degree course in IT. So, Design the business cards similarly you're seeing in the below sample picture.

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This is an advanced exercise, but if you do it and create cards then options you've learned during your computer courses in MS-Word remain forever in your brain.

Q.13: Use smart art and create organization charts

Smart Art is one of the favorite options in Microsoft Word. Smart art used to draw diagrams that are used to showcase the content visually that will be easy to understand and manage. Such as you're seeing below the smart art image Hierarchy Diagram that is used to create an organizational chart or structure of the Telecom company. This is the best method to understand and teach about certain things to students, teachers, parents, and companies. You will see such organizational charts in the companies office and government head offices.

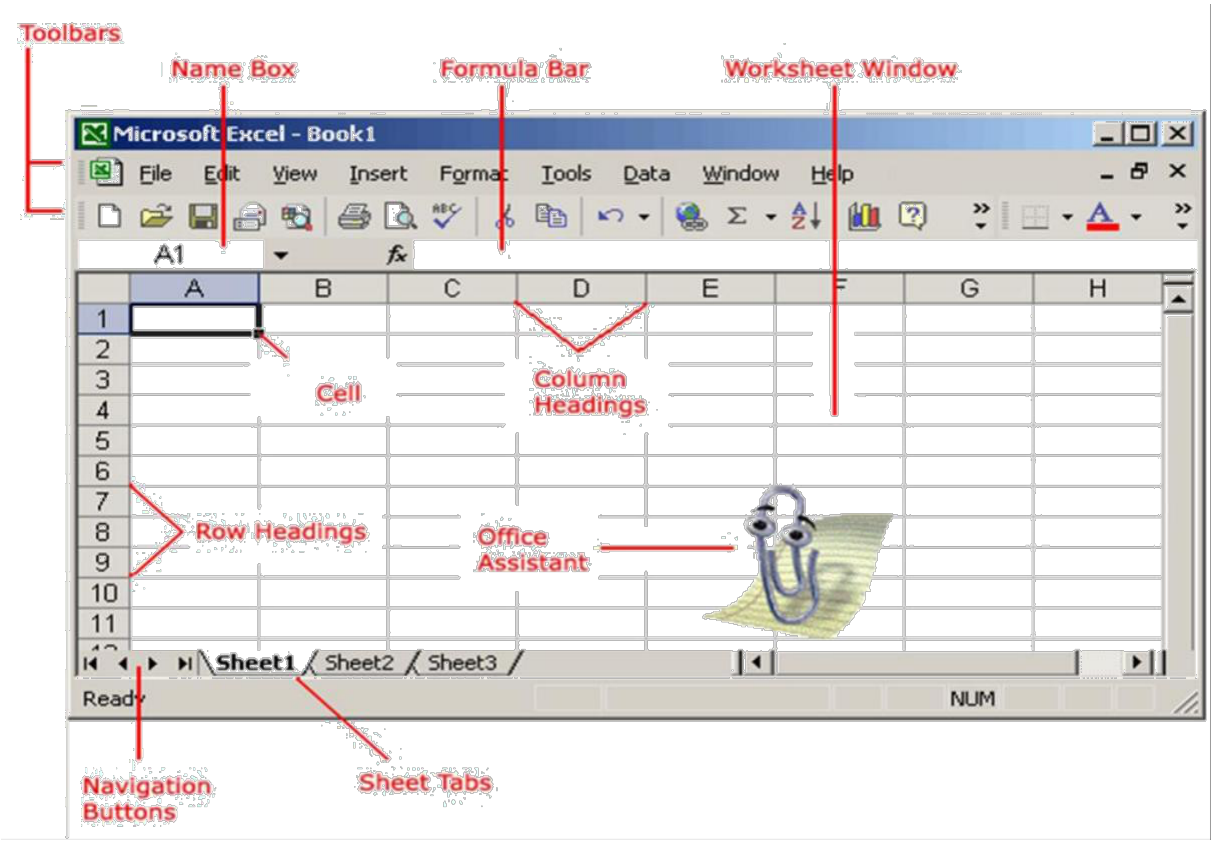


When you practice MS-Word Option to create the following diagram or any other, you got many problems. Those problems are not there while you were learning MS-Word. These are the problem such as font size adjustment, lines adjustment, etc. colors and shape adjustment, etc. So, when you solve these problems by yourself or with the help of your computer course instructor it will be great for your computer knowledge and MS-Office skills. Because when you solve the problem and you learn very important working lessons of MS Word. This is why you're learning.

2. MICROSOFT

EXCEL Spreadsheet

Microsoft Excel has the basic features of all spreadsheets using a grid of cells arranged in numbered rows and letter-named columns to organize data manipulations like arithmetic operations. It has a battery of supplied functions to answer statistical, engineering and financial needs. In addition, it can display data as line graphs, histograms and charts.



Creating and saving document in MS-Excel

To save a workbook:

1. To create a new blank workbook: Select the **File** tab (fig 92). Keyboard shortcut: To quickly create a new, blank workbook, you can also press CTRL+N
2. Select **New**, then click **Blank workbook.** A new blank workbook will appear. Locate and select the **Save** command on the **Quick Access Toolbar**.
3. You'll then need to choose where to save the file and give it a file name. To save the workbook to your computer, select Computer, then click Browse
4. The Save As dialog box will appear. Select the location where you want to save the workbook.
5. Enter a file name for the workbook, then click Save.

Formatting Cells in MS-Excel

About Cell Formats

Each cell in a worksheet can be formatted with many properties. However, we must point out here that **the format of a cell does not affect the actual value in the cell.**

The Number Tab

The **Number tab** contains categories for the type of data that is in the cell. The default category is General. Other categories are number, currency, accounting, date, time, percentage, fraction, scientific, text, special, and custom.

Alignment Formatting Options

The second tab is **Alignment**. There are three "Text Control" options on this tab that are especially useful when formatting a spreadsheet with titles, subtitles, and column headings. They are "Wrap text" and "Merge Cells." The option, "Shrink to fit" will take the cell value and make the font small enough to be completely displayed.

Font Formatting

The third tab is **Font** and the usual options that one sees in most Microsoft Office products are available: font name, font style (regular, italic, bold), color, size, underline style (single, double, etc.), and the special effects of strike-through, superscript, and subscript.

Creating Borders on Worksheet Cells or Group of Cells

The Border tab provides a variety of border styles, and any color may be selected for a border. A border style and border color can be set for each side of an individual cell or a group of cells.

Patterns or Fill

The back ground of a single cell orange of cell scan be filled with any imaginable color, and a variety of pattern styles are available, such horizontal, vertical, or diagonal stripes, dots, and crosshatches of different widths and percentages of gray.

Locking and Hiding Cell Contents

This feature allows the user to define certain cells as Locked and/or Hidden. If a cell is formatted as Hidden, when that cell is selected in the worksheet, its contents will not display in the Formula Bar.

Using Basic Functions of all major categories

Functions are predefined formulas and are already available in Excel. A formula is an expression which calculates the **value** of a **cell**.

Let's look at some of the most commonly used functions in Excel.

S.No.	FUNCTION	CATEGORY	DESCRIPTION
1	SUM	Math & Trig	Adds all the values in a range of cells
2	MIN	Statistical	Finds the minimum value in a range of cells
3	MAX	Statistical	Finds the maximum value in a range of cells
4	AVERAGE	Statistical	Calculates the average value in a range of cells
5	COUNT	Statistical	Counts the number of cells in a range of cells
6	LEN	Text	Returns the number of characters in a string text
7	SUMIF	Math & Trig	Adds all the values in a range of cells that meet a specified criteria
8	AVERAGEIF	Statistical	Calculates the average value in a range of cells that meet the specified criteria
9	DAYS	Date & Time	Returns the number of days between two dates
10	NOW	Date & Time	Returns the current system date and time

Numeric functions

As the name suggests, these functions operate on numeric data. For e.g. IS NUMBER, RAND, ROUND, MEDIAN, PI etc.

String functions

These functions are used to manipulate text data. Some of the common string functions are LEFT, RIGHT, MID, ISTEXT etc.

Date Time Functions

These functions are used to manipulate date values. The following table shows some of the common date functions e.g. DATE, DAYS, MONTH etc.

VLOOKUP function

The VLOOKUP function is used to perform a vertical look up in the left most column and return a value in the same row from a column that you specify.

Relative and Absolute References

There are two types of cell references: **relative** and **absolute**. Relative and absolute references behave differently when copied and filled to other cells. Relative references **change** when a formula is copied to another cell. Absolute references, on the other hand, remain **constant**, no matter where they are copied.

Relative References

By default, all cell references are **relative references**. When copied across multiple cells, they change based on the relative position of rows and columns. For example, if you copy the formula **=A1+B1** from row 1 to row 2, the formula will become **=A2+B2.** Relative references are especially convenient whenever you need to **repeat** the same calculation across multiple rows or columns.

Absolute References

There may be times when you do not want a cell reference to change when filling cells. Unlike relative references, **absolute references** do not change when copied or filled. You can use an absolute reference to keep a row and/or column **constant**. An absolute reference is designated in a formula by the addition of a **dollar sign ($)**. It can precede the column reference, the row reference, or both.

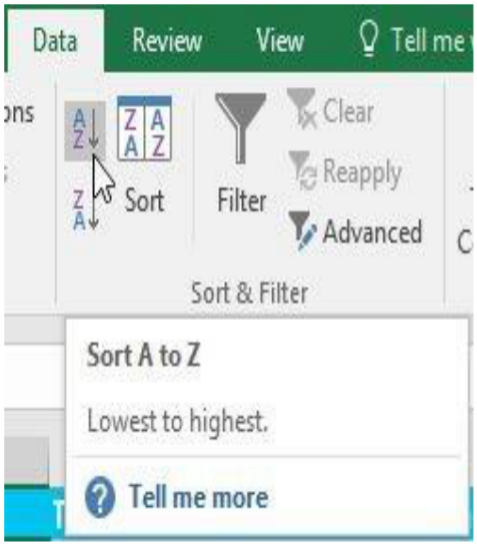
Sorting and filtering data Using Sorting in Excel:

- Select a cell in the column you want to sort by.
- Select the Data tab on the Ribbon and then click A-Z command to sort A to Z, or the Z-A command to sort Z to A.
- The worksheet will be sorted by the selected column

To filter data in Excel:

- Begin with a worksheet that identifies each column using a header row.
- Select the **Data** tab, then locate the **Sort & Filter** group.
- Click the **Filter** command. Drop-down arrows will appear in the header of each column. Click the **drop-down arrow** for the column you want to filter. In this example, we'll filter the Type column to view only certainty pes of equipment.
- The **Filter** menu appears.

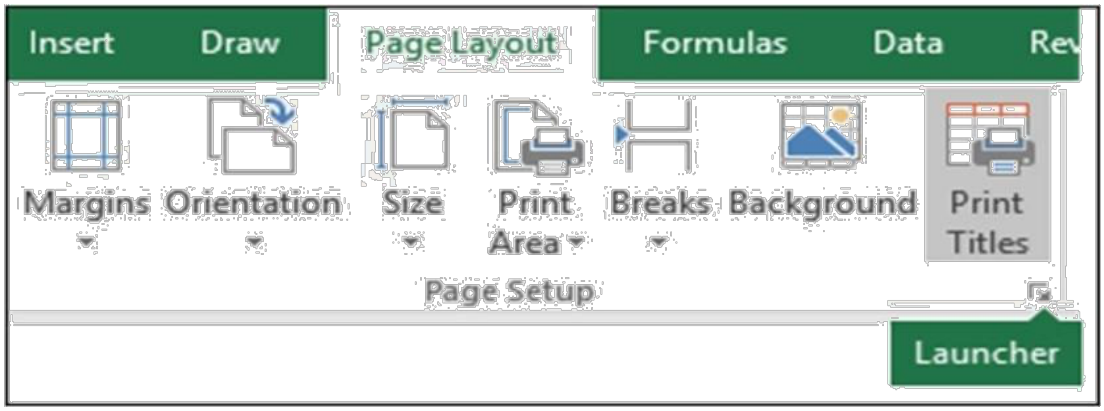
Uncheck the boxes next to the data you don't want to view, or uncheck the box next to **Select All** to quick lyun check all. **Check** the boxes next to the data you do want to view. In this example, we'll check Laptop and Projector to view only these types of equipment. Click **OK**. All other data will be filtered, or temporarily hidden. Only laptops and projectors will be visible.





Setting Page layout and Printing

Page Setup: Click on the **Page Layout** tab, then in the **Page Setup** group, clickthe Dialog Box Launcher.



Orientation: Choose between landscape and portrait.

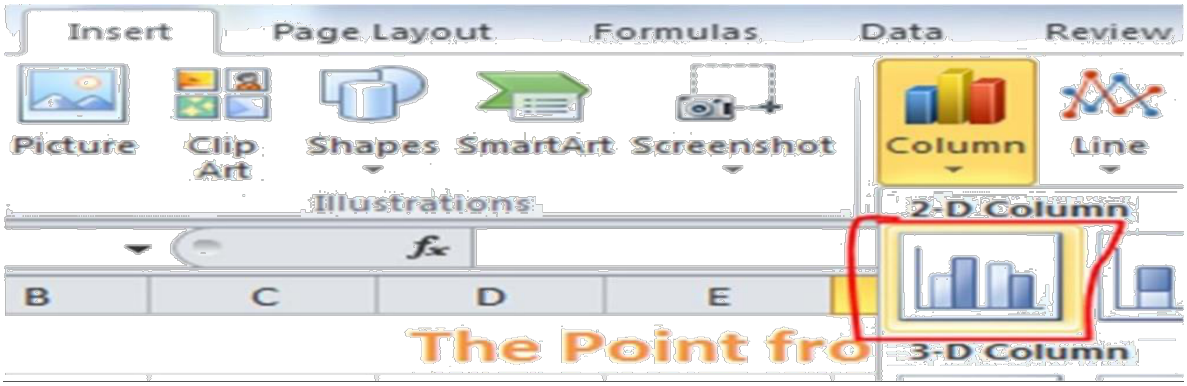
Scaling: Enlarges or reduces the worksheet or selection when you print so that it fits on the specified number of pages.

- **Adjust to** when you select **Adjust to**, you can enter a percentage in the **% normal size** box.
- **Fit to** when you select **Fit to**, you can enter a number in the **page(s) wide** box and the **tall** box.

Insertion and Designing of charts

Creating Charts

Step 1- Select the **Insert** tab on the top of Excel.



Step 2:- From the **Charts** grouping; choose the type of chart you wish to create

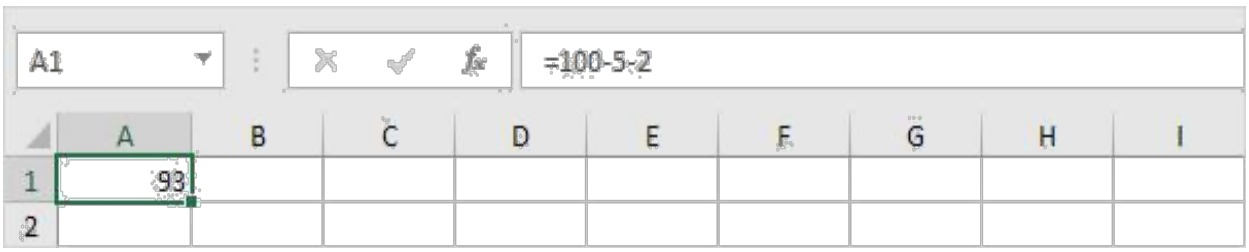
Step3:-A blank chart will appear, from the **Data** grouping, choose **Select Data**

Step 4:-Click inside the box labeled **Chart data range**, then click and drag to select those cells in Excel that contain your chart data.

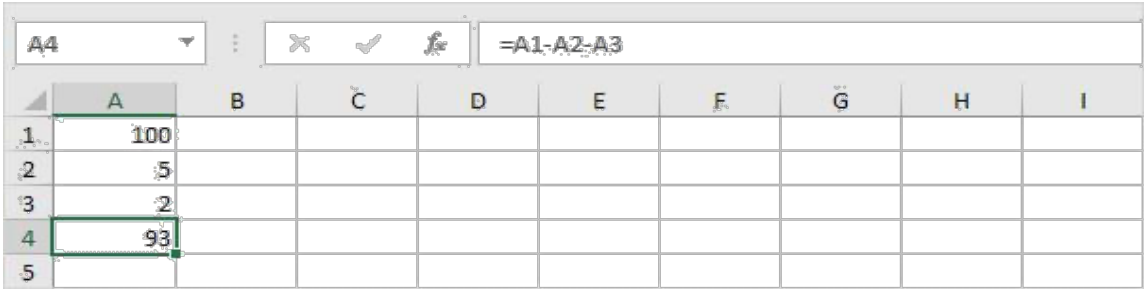
PRACTICE QUESTIONS

There's no SUBTRACT function in Excel. However, there are several ways to subtract numbers in Excel. Are you ready to improve your Excel skills?

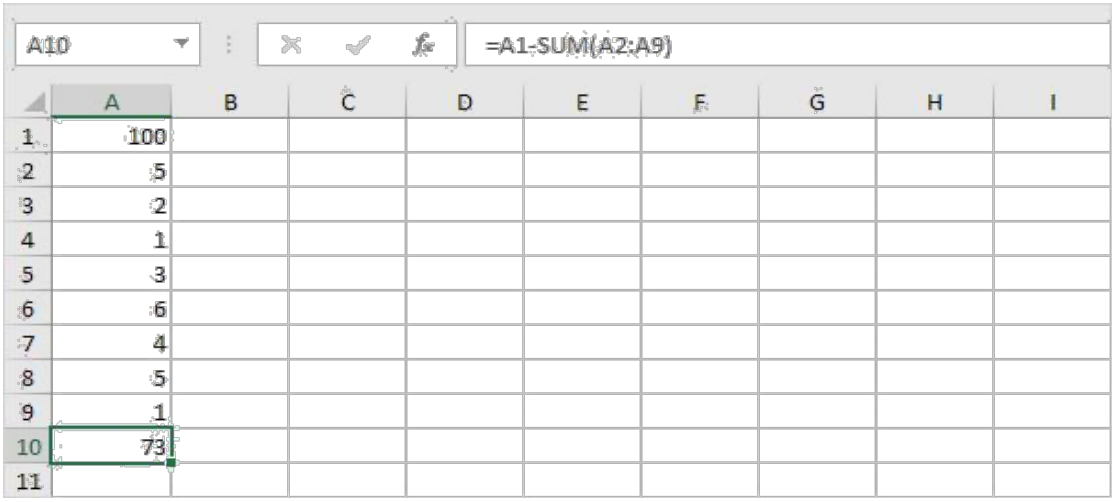
1. For example, the formula below subtracts numbers in a cell. Simply use the minus sign (-). Don't forget, always start a formula with an equal sign (=).



2. The formula below subtracts the value in cell A2 and the value in cell A3 from the value in cell A1.

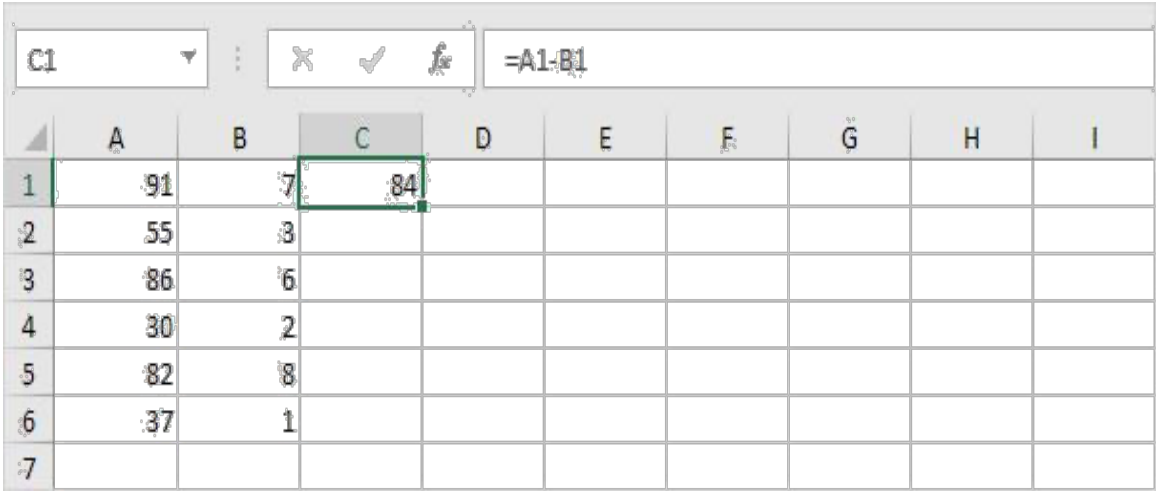


3. As you can imagine, this formula can get quite long. Simply use the SUM function to shorten your formula. For example, the formula below subtracts the values in the range A2:A9 from the value in cell A1.

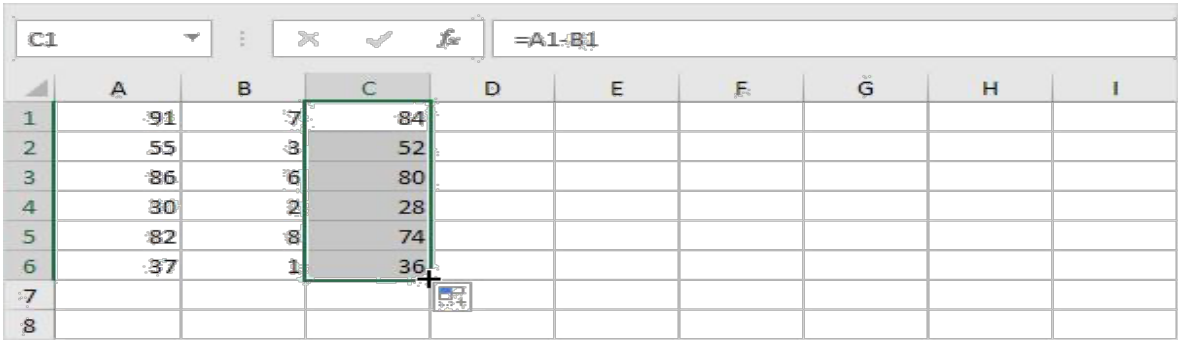


Take a look at the screenshot below. To subtract the numbers in column B from the numbers in column A, execute the following steps.

4a. First, subtract the value in cell B1 from the value in cell A1.

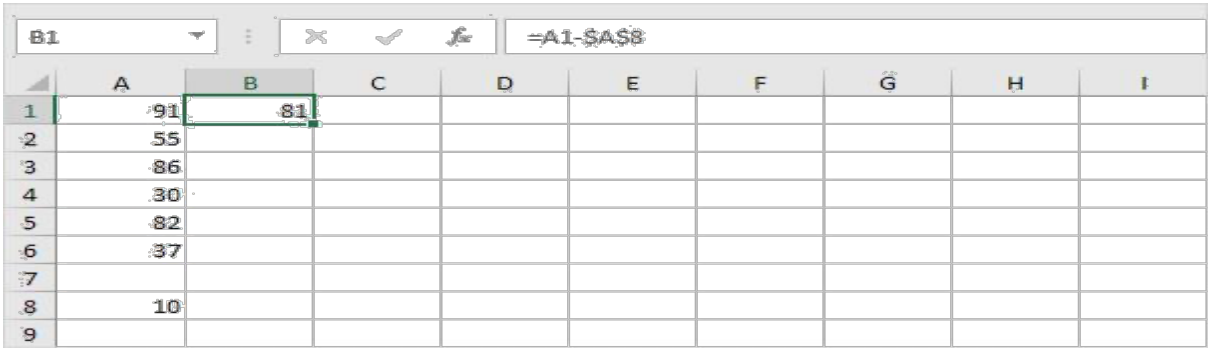


4b. Next, select cell C1, click on the lower right corner of cell C1 and drag it down to cell C6.

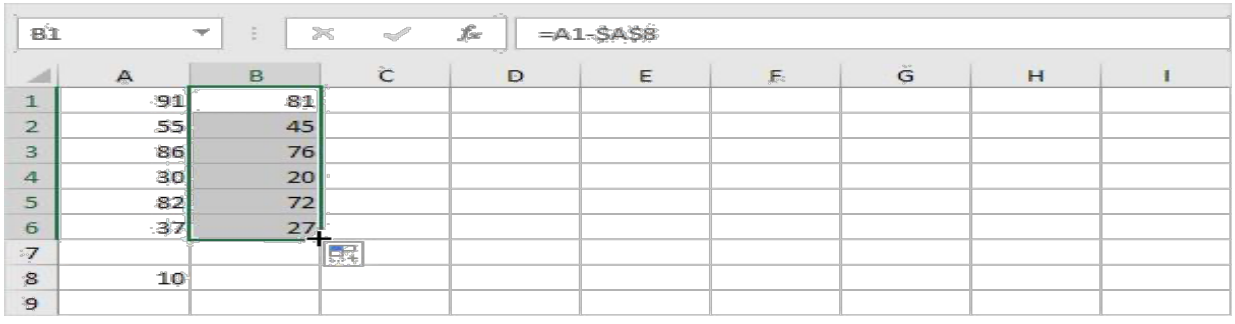


Take a look at the screenshot below. To subtract a number from a range of cells, execute the following steps.

5a. First, subtract the value in cell A8 from the value in cell A1. Fix the reference to cell A8 by placing a $ symbol in front of the column letter and row number (A8).

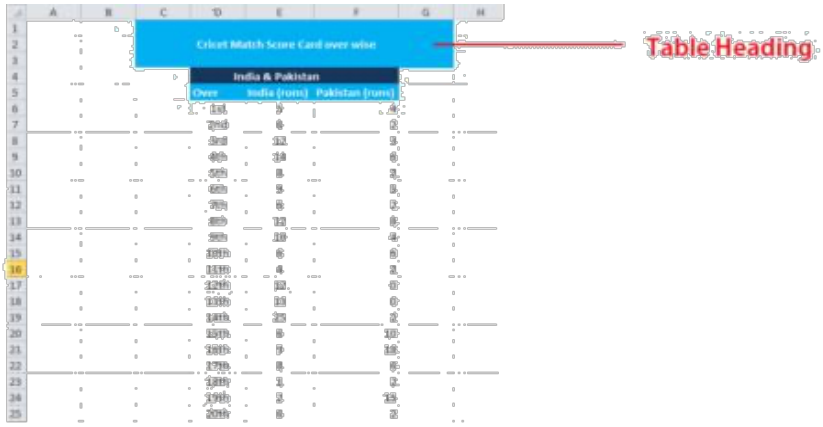


5b.Next, select cell B1, click on the lower right corner of cell B1 and drag it down to cell B6.

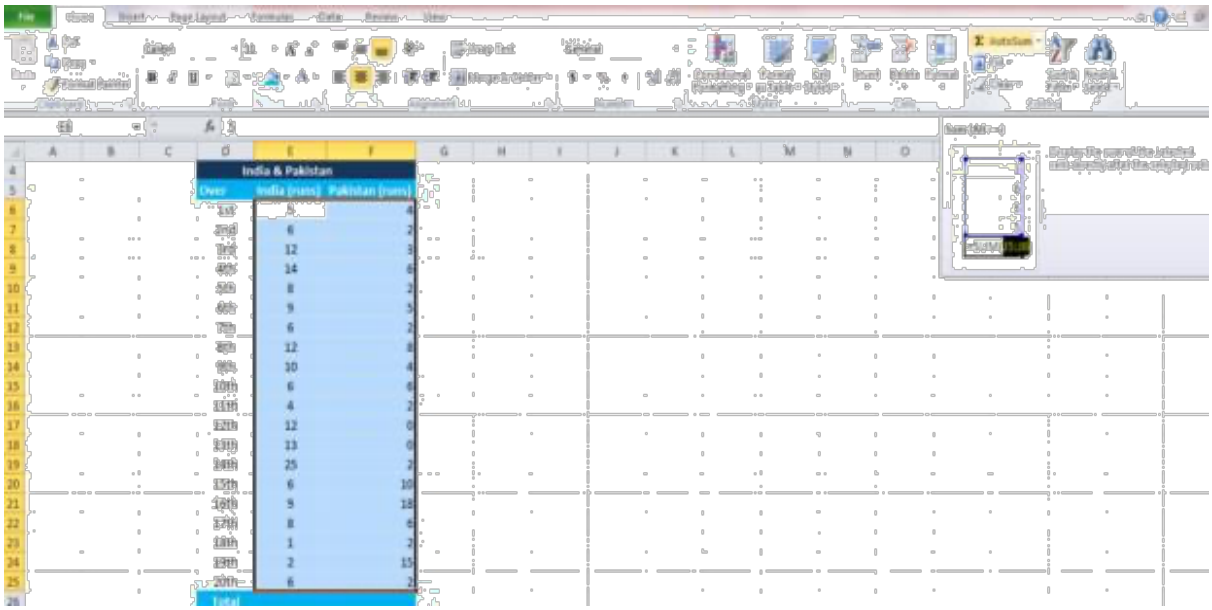


Explanation: when we drag the formula down, the absolute reference (A8) stays the same, while the relative reference (A1) changes to A2, A3, A4, etc. Maybe this is one step too far for you at this stage, but it shows you one of the many other powerful features Excel has to offer.

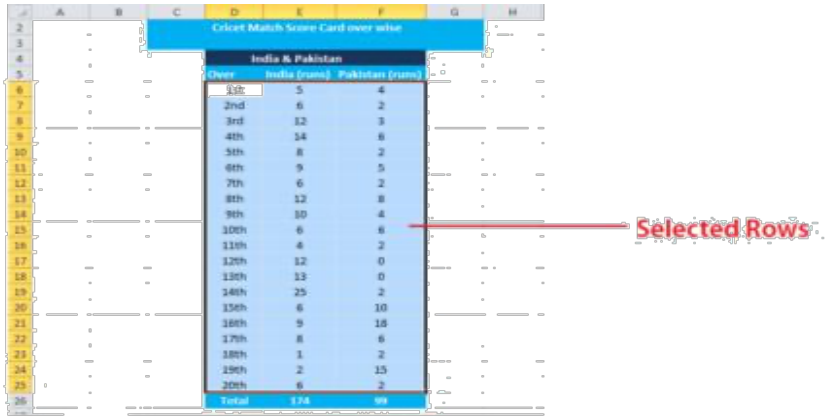
6. Create a table, see a picture below. Enter the appropriate data that you want to show in the chart. In this example, we are using the India-Pakistan T20 cricket match, in which we are highlighting scored run per over.



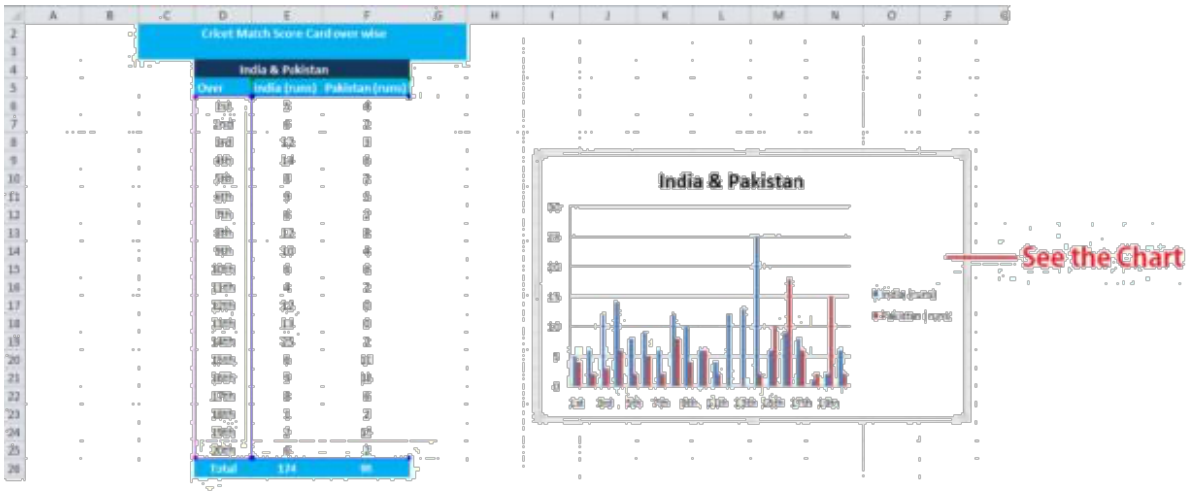
7. Calculate the total runs of each team. By using Auto Sum (please see in the picture below)



8. Now select all three rows and columns, as you can see in the picture below.



9. After this go to insert and select column chart.
10. Now stretch the chart form edges as looking in the image below. Add heading of the chart, OX axis, and OY axis Values; please see in the image below.



It's because we can use it as a column chart to visualize a comparison between 2-3 columns data such as in the final image above, you can see that on the OX axis you can see overs. And on OY Axis, there are runs and in two different column bars in colors highlighting team runs. You often see this kind of chart in a cricket match on TV.

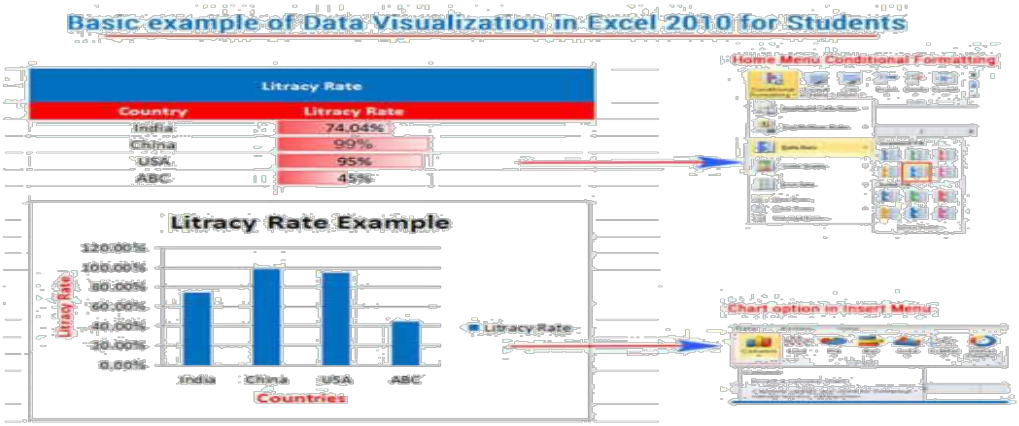
While this is a basic exercise, but practicing it means a lot to beginners in Excel.

Exercise 1-

Uses of Microsoft Excel in Education: –

One can use table styles, shapes, charts, data tools, and formulas to teach students in the classrooms. Students can learn and solve basic and logical-mathematical problems and statistics in excel.One can educate by creating a table in an Excel sheet. They can highlight more interesting cells in colors, emphasize important values and visualize data using bars and charts.

Below is the basic example 1.0 of data visualization in Microsoft Excel 2010 (Note: data used in this example is not correct it's just for educational example.)

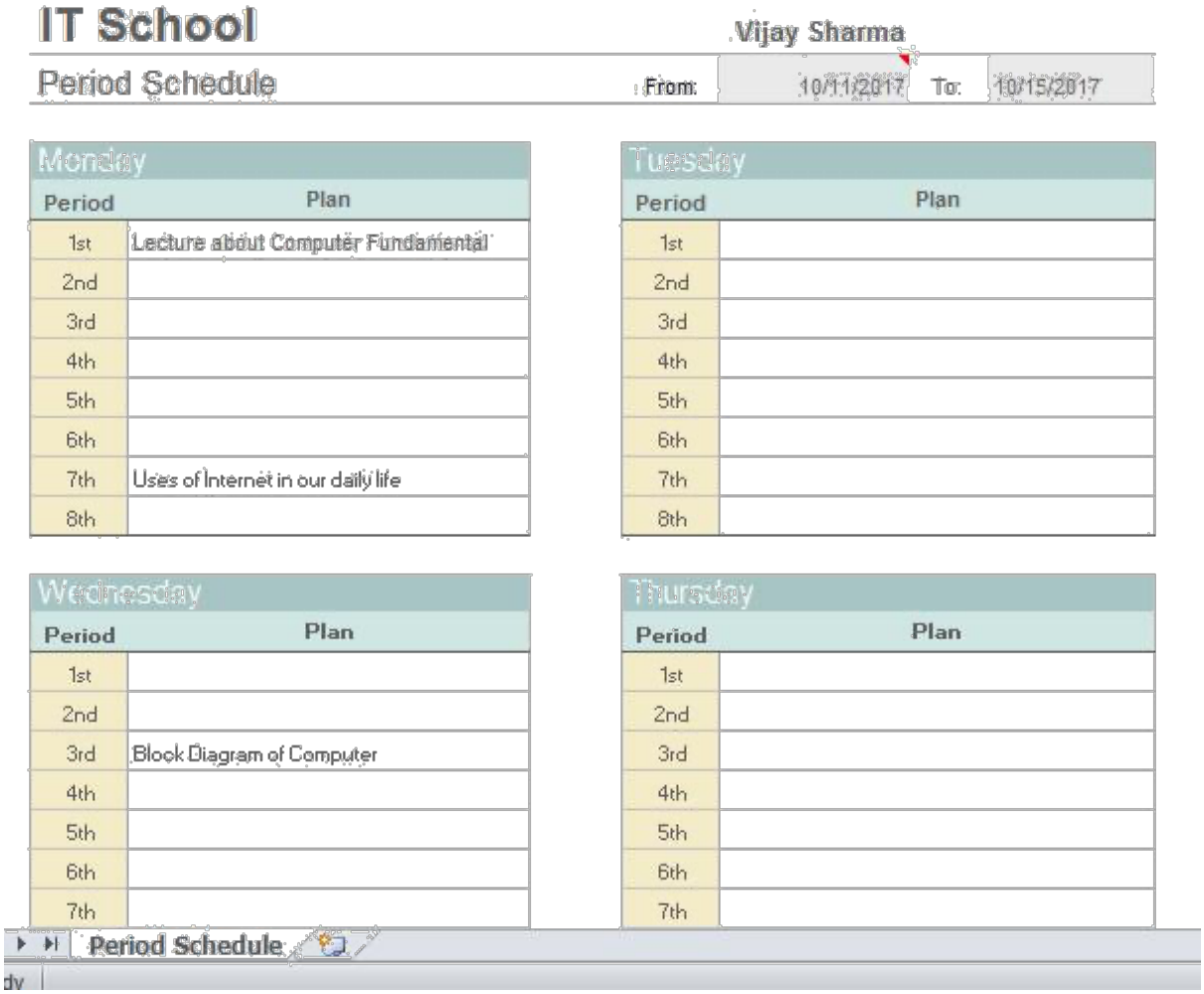


Hint: The above data visualization example is easy to understand which is created by the use of two excel functions conditional formatting and chart. You can see in the first picture that the literacy rate of countries is highlighted in red color by the use of conditional formatting. Conditional formatting is used to decorate, design, visually appeal of data by using data bars, color scales, and icons based on figures. Such as you can see 99% literacy rate cell is filled more than others and 45% cell is filled with less color than others.

In charts, you can see China data bar is bigger than others. Charts are used to compare values visually written inside the cell. You can access this option in the Insert menu.

Exercise 2-

How to use Excel for teachers to schedule periods?



IT School — Vijay Sharma

Period Schedule — From: 10/11/2017 To: 10/15/2017

Monday	
Period	Plan
1st	Lecture about Computer Fundamental
2nd	
3rd	
4th	
5th	
6th	
7th	Uses of Internet in our daily life
8th	

Tuesday	
Period	Plan
1st	
2nd	
3rd	
4th	
5th	
6th	
7th	
8th	

Wednesday	
Period	Plan
1st	
2nd	
3rd	Block Diagram of Computer
4th	
5th	
6th	
7th	

Thursday	
Period	Plan
1st	
2nd	
3rd	
4th	
5th	
6th	
7th	

Period Schedule

You can insert the above period planner by using the template function in Excel, visit the Template menu and select the Education category and you will find out some outstanding pre-defined template with formulas for various educational purposes.

The above example can be used in Business similar, only need to change the values. The options of Microsoft Excel are the same for all users but it depends on us, how we use a particular option.

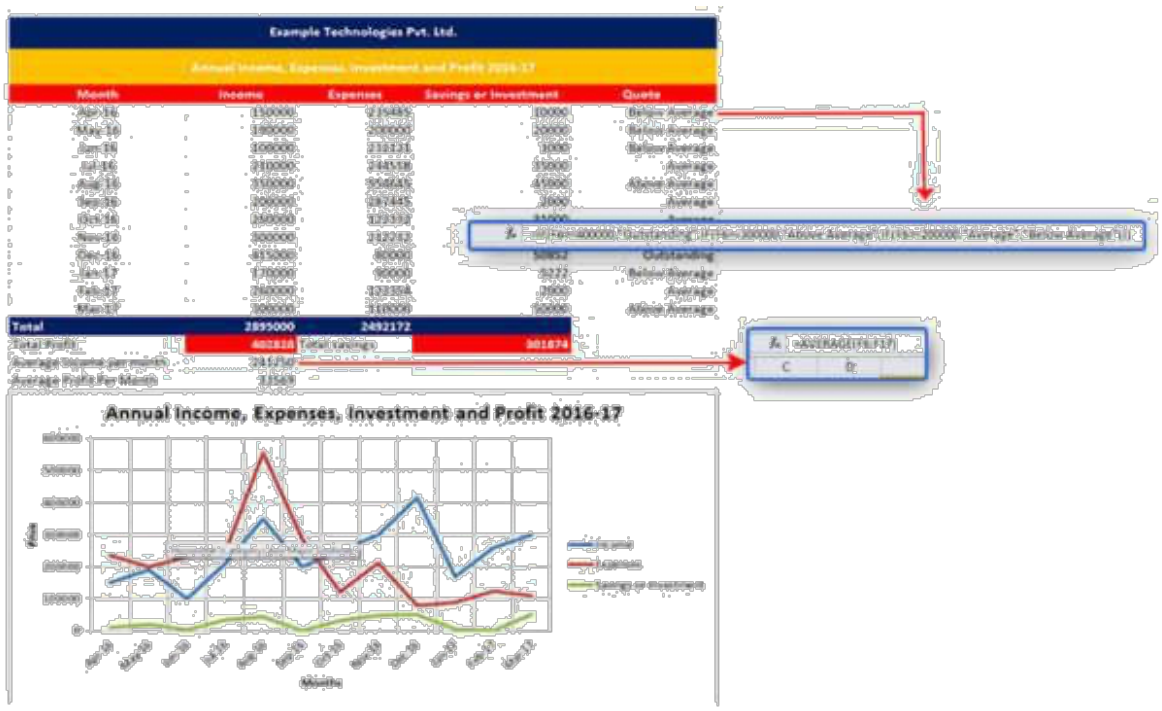
Exercise -3

How Uses of Microsoft Excel in Business?

Microsoft Excel application can be used in various business operations. Such as goal setting, budgeting process, and planning, team management, account management, income, and expenses calculation, product and service valuation, and management of client's data, etc. in business.

The uses of Microsoft Excel in business make such daily official operations faster, accurate and predictable. Because Excel provides great features such as filters, charts, conditional formatting and pivot table, logical and financial formulas.

Let's see below the basic account management example 2.0 in Microsoft Excel (Note: This is just for example)

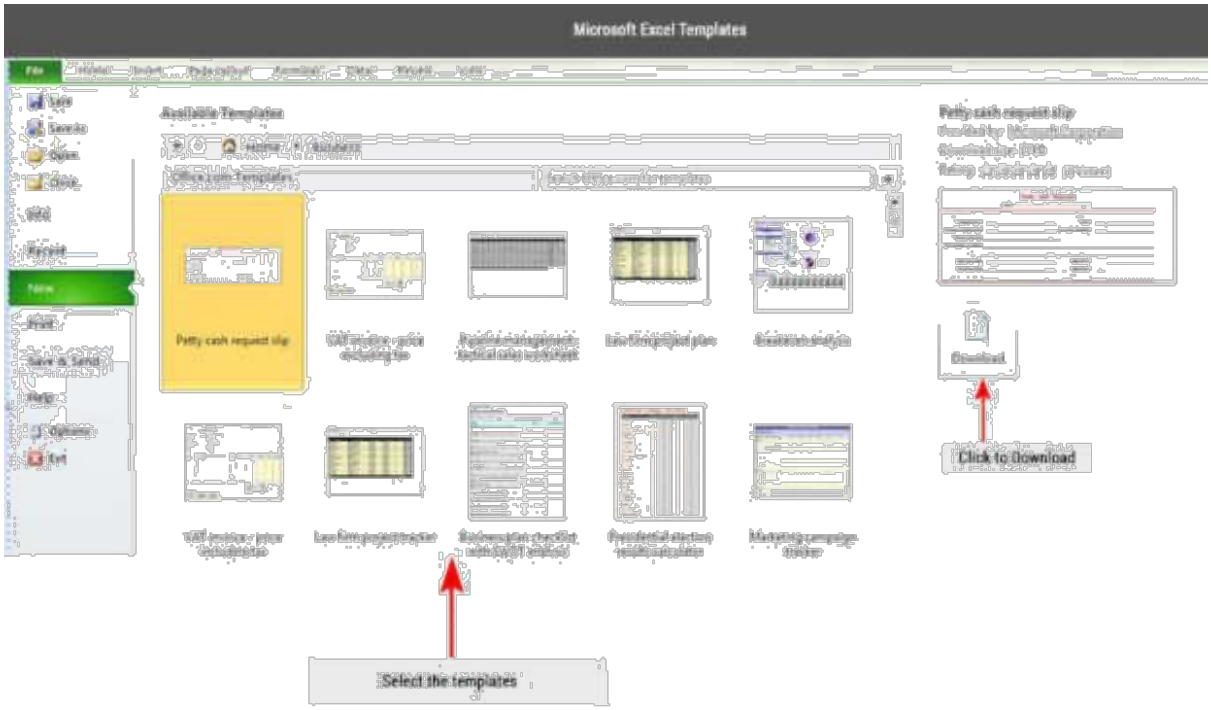


Hint: In the above example 2.0 you can see the basic income and expenses report month wise with a quote of the month in the end. In quote formula: column I used this **=IF(F6>=400000," Outstanding", IF(F6>=300000," Above Average", IF(F6>=200000," Average", "Below Average")))**

This is just but you can understand that only with IF formula you can create thousands of types of logic in your business calculation. The above exercise is just created manually not a big deal. But if you want to access the real power of Microsoft Excel in Business operations then visit the template menu.

As you can see template picture that there are various high-quality templates that business users can use in their business calculation. Such as VAT Invoice, Marketing Campaign tracker, break-even analysis are very beneficial. The benefit of using the template in Excel

that you don't need to create everything from scratch, you only need to select or search and then download. After then you can edit the downloaded template according to your choice. This is that simple!

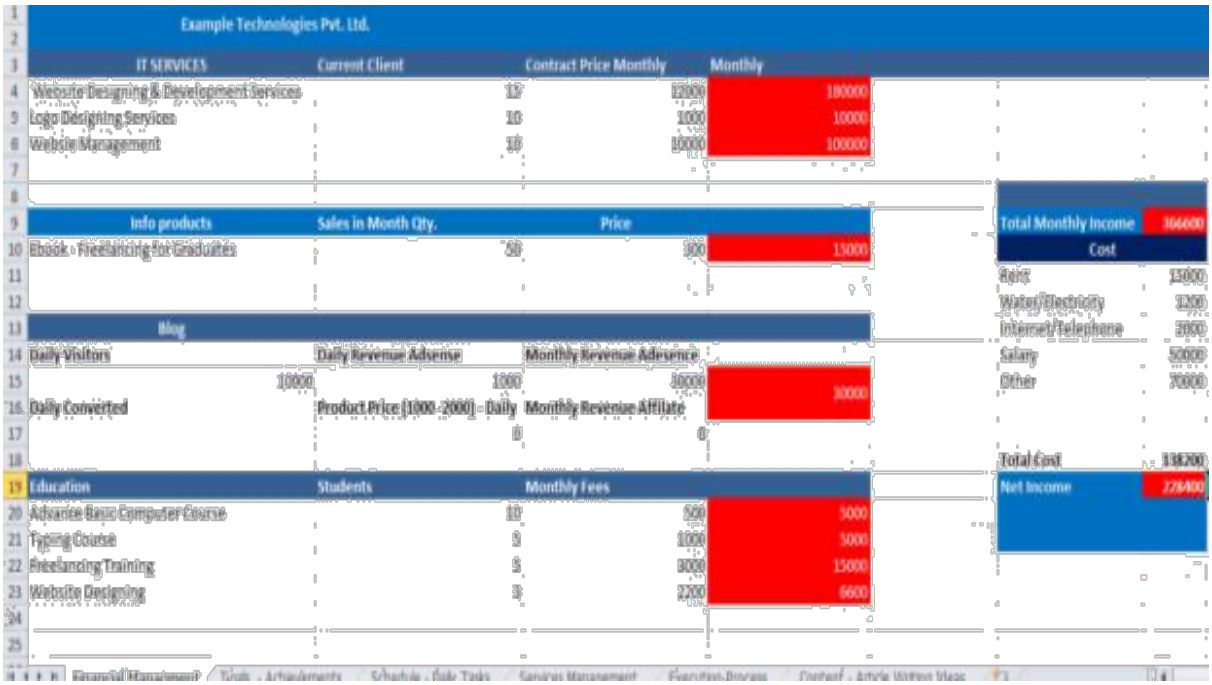


Exercise 4-

How to Uses of Microsoft Excel in Goal Setting and Planning?

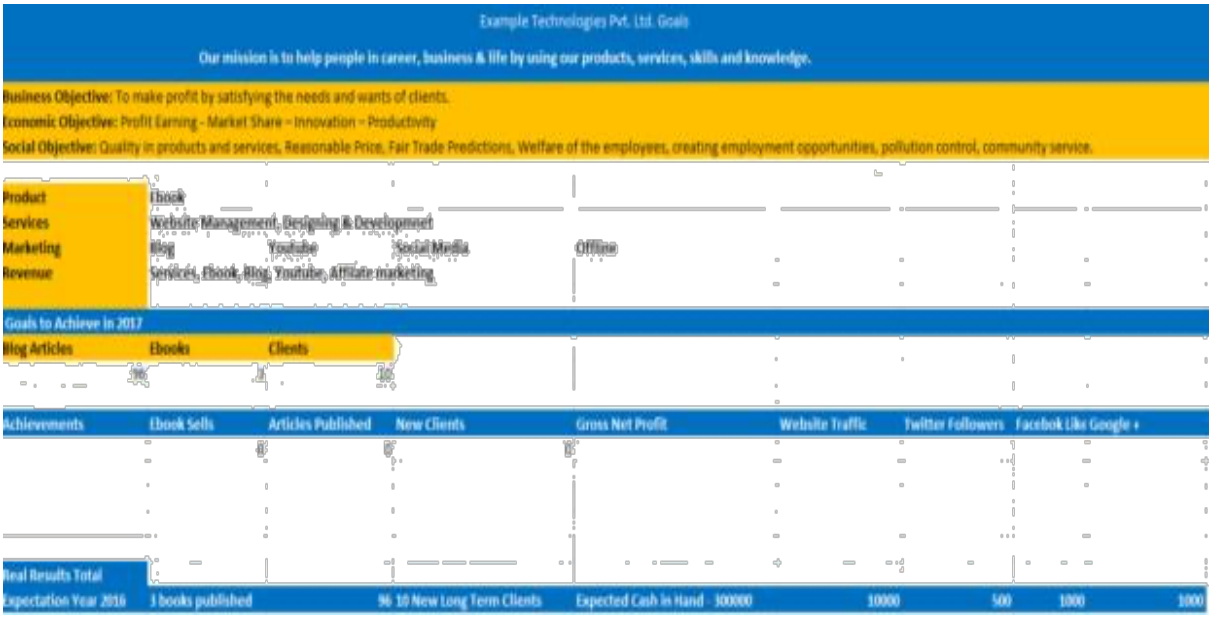
Goal setting and planning is a task that all we do repeatedly each day. Goal setting and planning are very important for everyone from students to business owners. But goal setting and planning take white paper, time and lots of calculation but if you use Excel then it becomes very easy and environmentally friendly.

Example 5



Hint: In this example, you can see that it's very easy to design the complete financial plan and goals by using formulas, raw and columns.

Example 6



Hint: You can see in example 6 that it's easy to track goals and planning each day on excel.

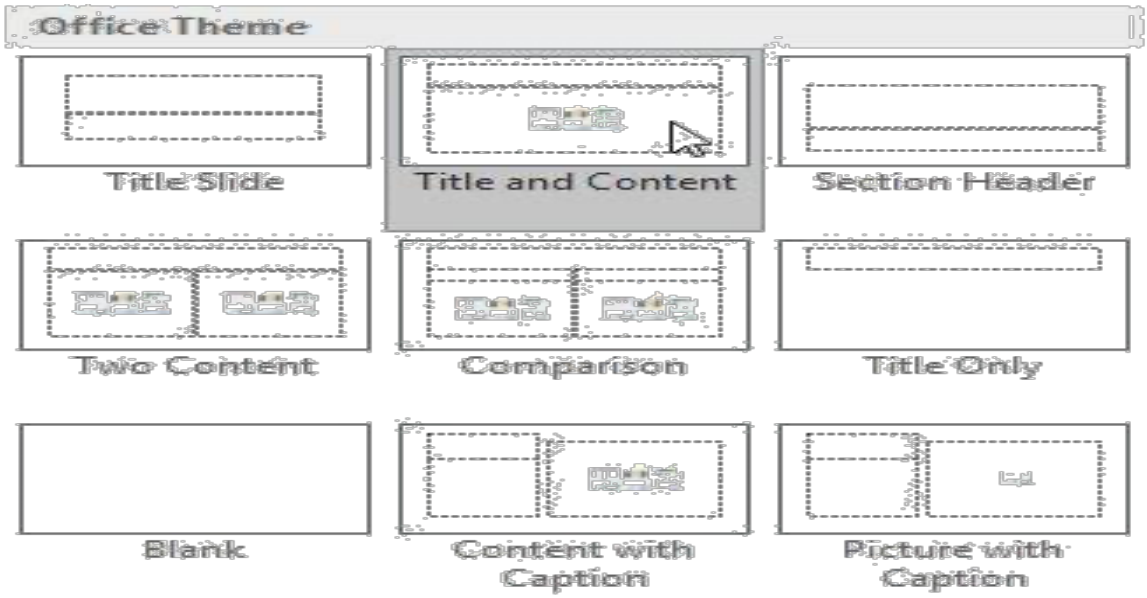
3. MICROSOFT POWERPOINT Creating

Presentation Using PowerPoint

PowerPoint is a software package designed to create electronic presentations consisting of a series of separate pages or slides. PowerPoint is a slides how presentation program that's part of the Microsoft office suite of tools. PowerPoint makes it easy to create, collaborate, and present your ideas in dynamic, visually compelling ways.

Design layout

Open power point presentation and create a new file. Then select the appropriate layout as per your desire. Following are different layout mainly used (Fig104).



Inserting different objects into slide

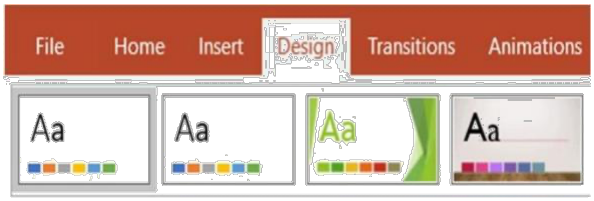
Open power point presentation and create a new file. Then go to the 'Insert Menu' and select the object which you want to insert.



Different design of slide

To apply a slide design only to the currently selected slide in PowerPoint, follow these steps: In the Design Tab, browse to the slide design that you want.

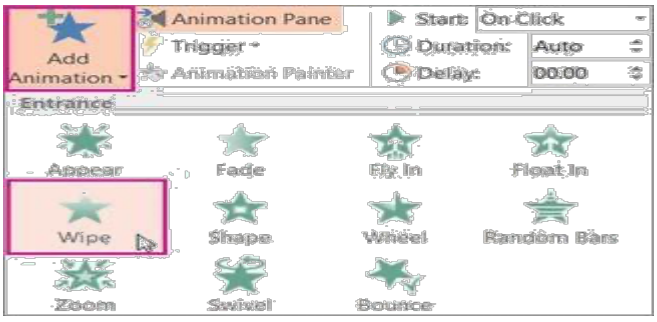
1. When you rest the mouse pointer over your selected design in the Slide Design task pane, a gray options button with an arrow appears. Click this button.
2. Double Click on the theme which you want to apply tithe current slides.



Animation and Slide Transition

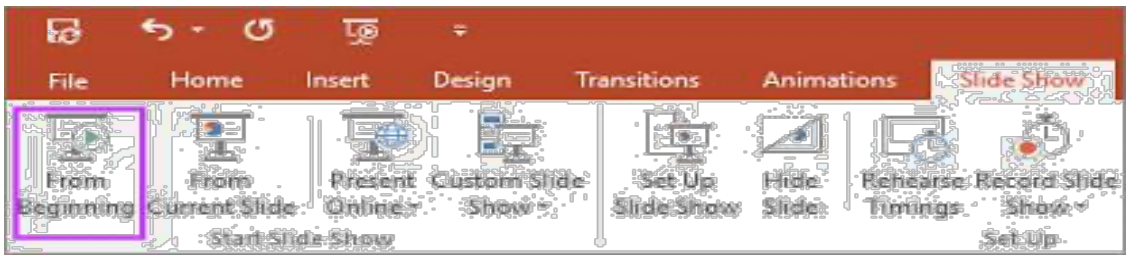
Step 1- Select the object or text on the slide that you want to animate.

Step 2- On the **Animations** tab of the ribbon, click **Add Animation**, and pick an animation effect.



Setup a slideshow

Once you have all your slides completed and in the order you want, view your slide show. Click the 'Slide Show' tab at the top of the page and select 'From Beginning'. You can go through your entire slideshow, and change slides by clicking or pressing the right arrow. A shortcut to this is pressingF5.



PRACTICE QUESTIONS

Q1: Create a power point presentation of 3 slides on “Uses of Internet” that contain header with images, apply animation on the images.

Q2: Make Power Point presentation on "Disadvantages of Internet" and then apply transition effects (such that while going from one slide to another there is a transition).

Q3: Prepare the presentation about advantage and disadvantage of Television of at least 3 slides and when the slideshow starts from beginning, second slide will display after 30 seconds without clicking mouse and using keyboard.

Q4: Create a Power point presentation of 3 slides on your “department.

Q5: Make a Power point Presentation of 3 Slides on the topic "Indian Army", apply the animation on the texts and use WordArt for Heading "Indian Army".

Slides Exercise!

1. Create a new PowerPoint presentation, or open our practice presentation.
2. Insert a new slide with the Title and Content layout.
3. Try adding some text to the title placeholder.
4. Change the layout of a slide. If you are using the example, change the layout of slide 3 to Section Header.
5. Copy and paste a slide, then move it to a new location.
6. Apply a theme to your presentation. If you're using the example, apply the Integral theme.
7. Insert a blank slide, then insert a text box on the slide.
8. Change the slide size from Widescreen to Standard.

Text Exercise!

1. Open an existing PowerPoint presentation. If you want, you can use our practice presentation.
2. Select some text, and try the Copy, Cut, and Paste commands.
3. Try applying different formatting to the text.
4. Experiment with horizontal and vertical alignment.
5. Try using the Find and Replace commands. If you are using the example, change the word Likes to Enjoys.

Themes Exercise!

1. Open an existing PowerPoint presentation. If you want, you can use our practice presentation.
2. Try applying several different themes. If you are using the example, try the Organic theme.
3. Try selecting a theme variant.

Transitions Exercise!

1. Open an existing PowerPoint presentation. If you want, you can use our practice presentation.
2. Select a slide, and apply a transition.
3. Change the transition duration.
4. Add a sound effect to the transition.
5. Apply a dynamic slide transition. If you are using the example, apply a dynamic transition to slide 5.

Managing Slides Exercise!

1. Open an existing PowerPoint presentation. If you want, you can use our practice presentation.
2. Try switching between various slide views.
3. View an outline of your presentation.
4. Try adding speaker notes to your presentation using the Notes pane and the Notes Page view.
5. Divide your presentation into at least two sections, then try collapsing and expanding them. If you are using the example, create one section for Dogs and another for Cats and Other Pets.

Presenting your Slideshow Exercise!

1. Open an existing PowerPoint presentation. If you want, you can use our practice presentation.
2. Practice playing a slide show and navigating through the slides.
3. Change your mouse pointer to a pen or highlighter, and try marking a slide. If you are using the example, add markings to the chart on slide 8.
4. Try using Presenter view.
5. Open the Set Up Show dialog box, and try modifying the options.

Animating Text and Objects Exercise!

1. Open an existing PowerPoint presentation.
2. Add an entrance effect to an object. If you are using the example, use one of the objects on slide 3.
3. Use the Animation Painter to copy the effect to another object.
4. Use the Animation Pane to reorder the effects.
5. Experiment with different start options and timings.
6. Add two additional effects to one of the objects.
7. Several animation effects have been applied to the objects on slide 3. Use the Animation Pane to explore and experiment with the effects.

PowerPoint Practice Exercise!

1. Create a new PowerPoint presentation on a topic of your choice.
2. Insert a new slide with the Title and Content layout. Try adding some text to the title placeholder.
3. Insert a blank slide, then insert a text box on the slide.
4. Insert new slide this time add a picture and also text.
5. Insert new slide this time add a video and also text.
6. Try applying different formatting to the text of all your slides.
7. Choose a theme for you slides and apply to all.
8. Add a transition to your slides and also add sound effects.
9. Finally start and play your PowerPoint Presentation

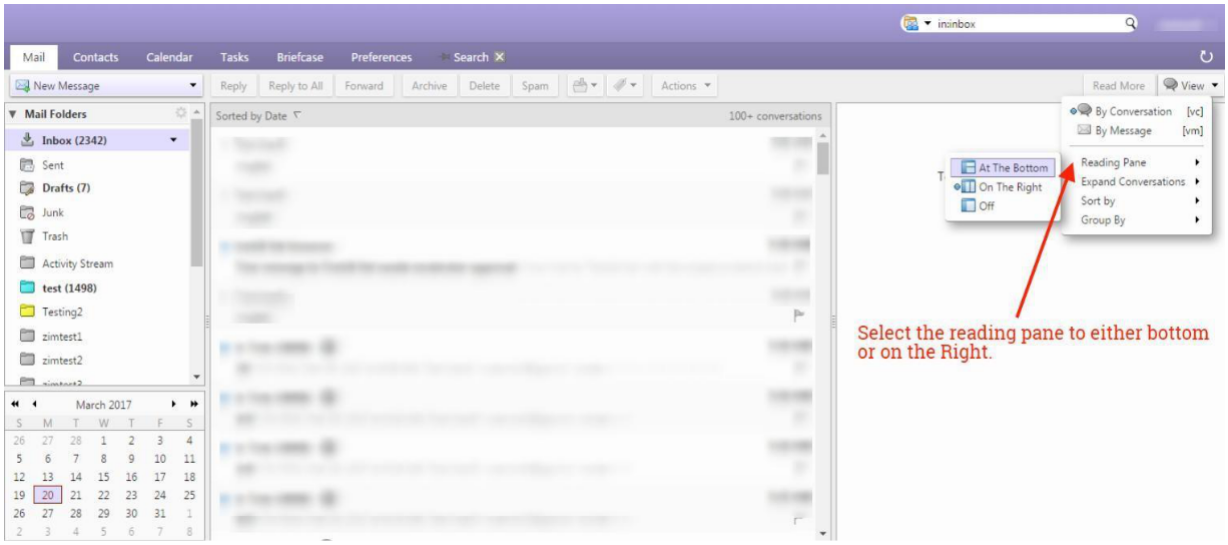
4. NIC Email (https://email.gov.in/)

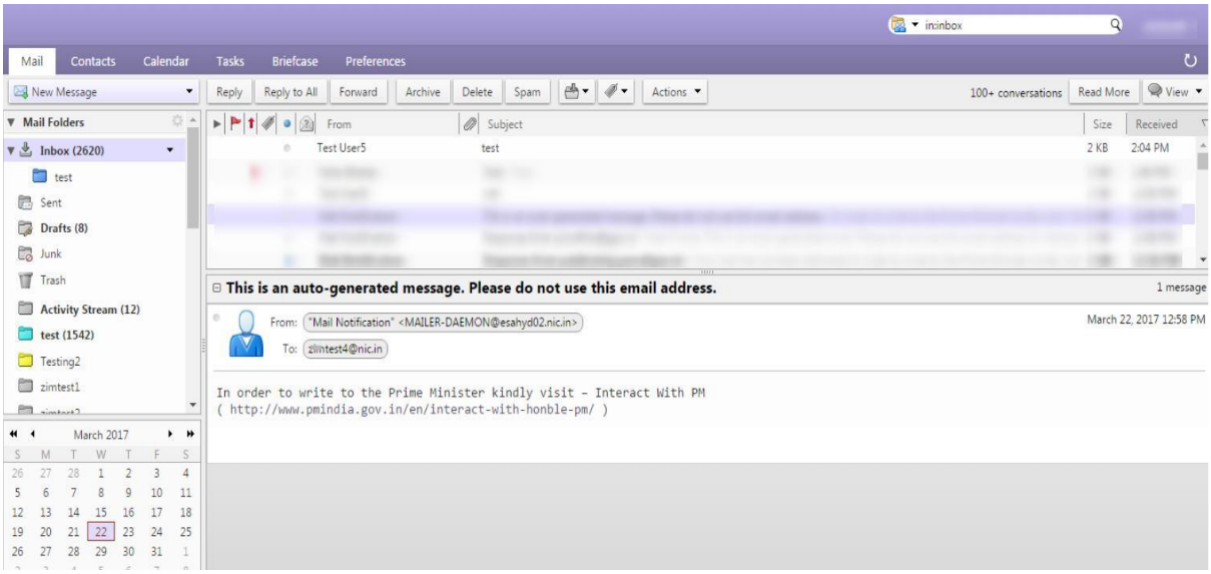
1. Managing Your Email

a. View

i. You can view your email messages as single messages or as conversations and you can view messages with the Reading Pane off, displayed at the bottom, or displayed on the right.

ii. To change how messages are grouped in your mailbox, on the toolbar click View and select whether to view by conversation or by message and where you want the Reading Pane to display.





I. **View Email Messages by Conversation**

In the Conversation view your messages are grouped to make it easier to follow the thread of an email exchange. A conversation thread begins when you send or receive an email and then send or receive subsequent replies and forwards based on the original email. The subject displays only once in your Inbox and the number of email messages in the conversation is shown. **Conversations containing unread messages are shown in bold.**

Conversations can be in your Inbox another in your sent folder, and others in another folder. If you move a conversation from one folder to another, all messages within that conversation are also moved to that folder. Messages in the Sent folder and in the Trash folder are not moved.

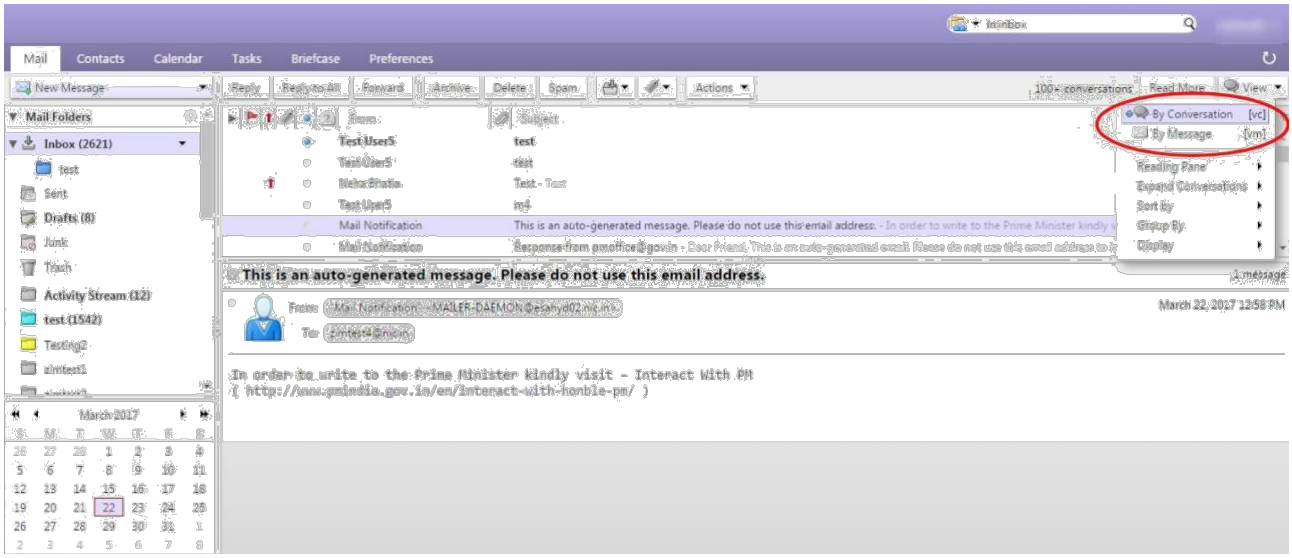
To create a new conversation thread, you must create a new message, not reply to or forward an existing message.

II. **View Email Messages by Message**

Email messages in your mailbox can be organized by selecting the date a message is received and by Conversation.

i. On the Mail tab toolbar, click the View drop-down menu.

ii. Select either By Conversation or By Message.



b. Attachments

Add Attachments using drag and drop

You can easily add an attachment to an email message by dragging the file from a folder into your email.

i. Select one or more files from your desktop and hold down the cursor on the file(s) to be attached.

ii. Drag the files to the message header area and release the cursor. The file names are displayed in the header.

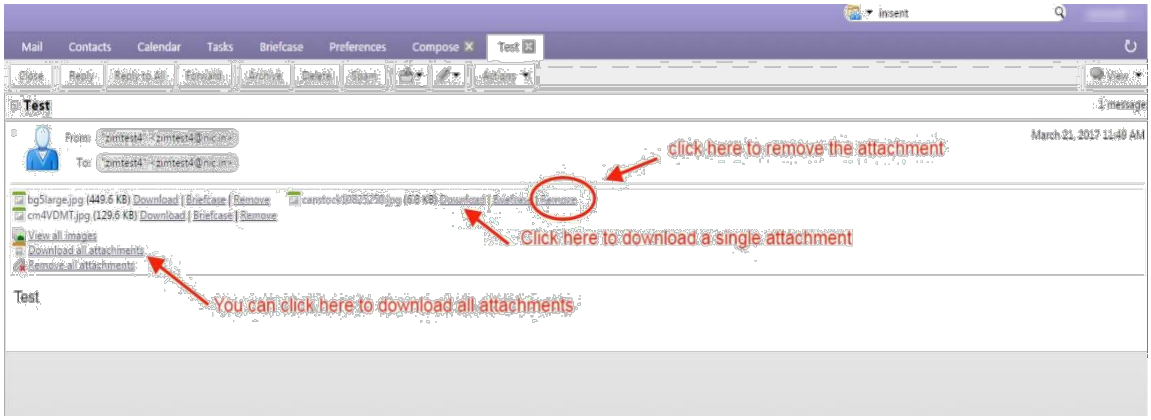
a. Removing an Attachment

i. To remove an attachment, click the **x (cross)** in the attachment bubble.

User can download/remove all attachments

You can download or remove all attachments individually as the per user's choice by clicking on the file or you can also download all the attachments as a zip file by

Clicking on "**Download all attachment**" and remove all attachment by clicking on "**remove all attachments**".

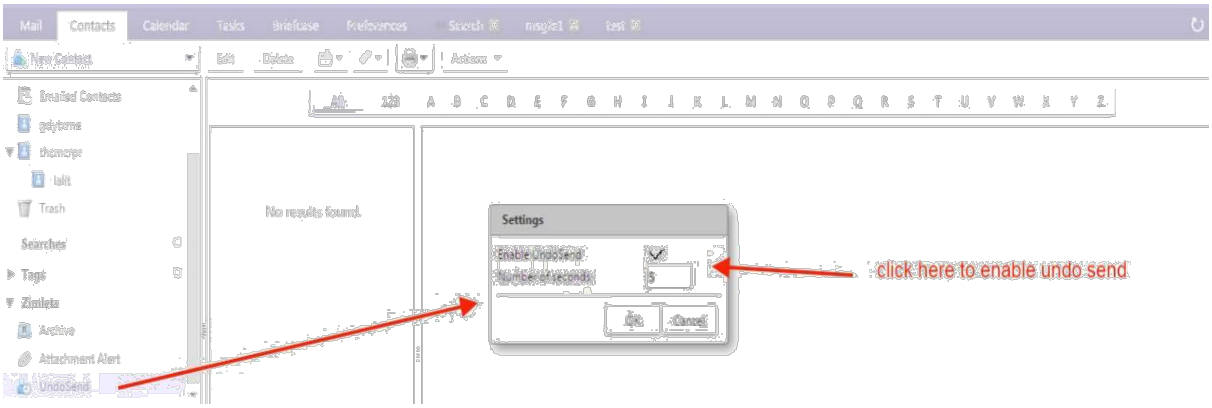


a. Set priority Mail

When you compose a new message you can set the priority of the new email. Click on options in the window and set the priority of the message to high, normal or low. If you want your message to be seen quickly and the reply should be given immediately you can set the priority to "HIGH". The sent message will have a high priority sign before the subject.

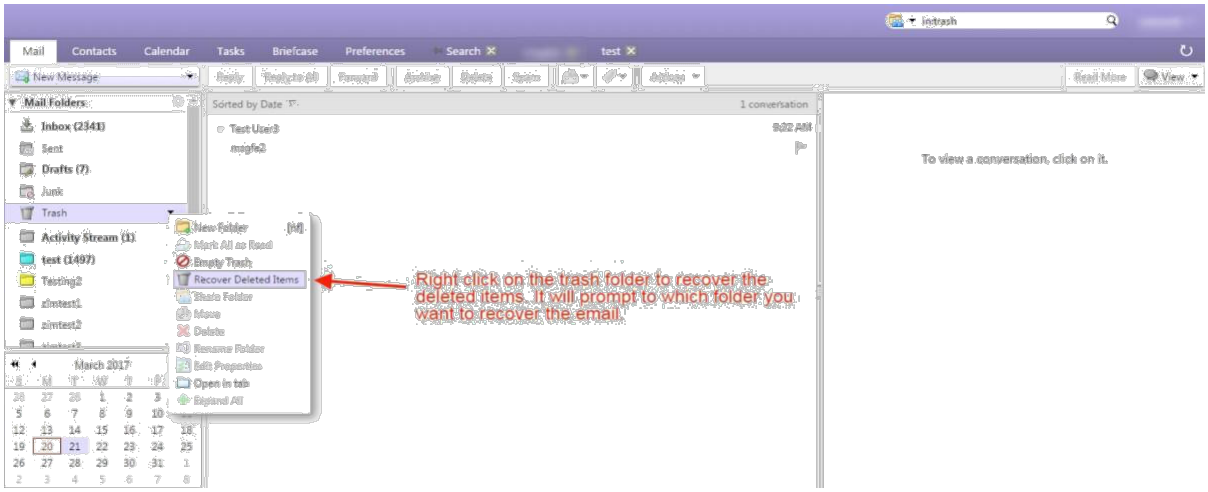
b. Undo Send

In the mail folders go to the last folder named as Undo send (Inside Zimlets). Click on "undo send". You can enable and set the number of seconds after which your mail will be sent. Compose an email and it will show a timer i.e. the number of seconds after which the mail will be sent. You can click on OK to proceed further or Cancel the sending process. Please enable undo send before proceeding.



c. Dumpster

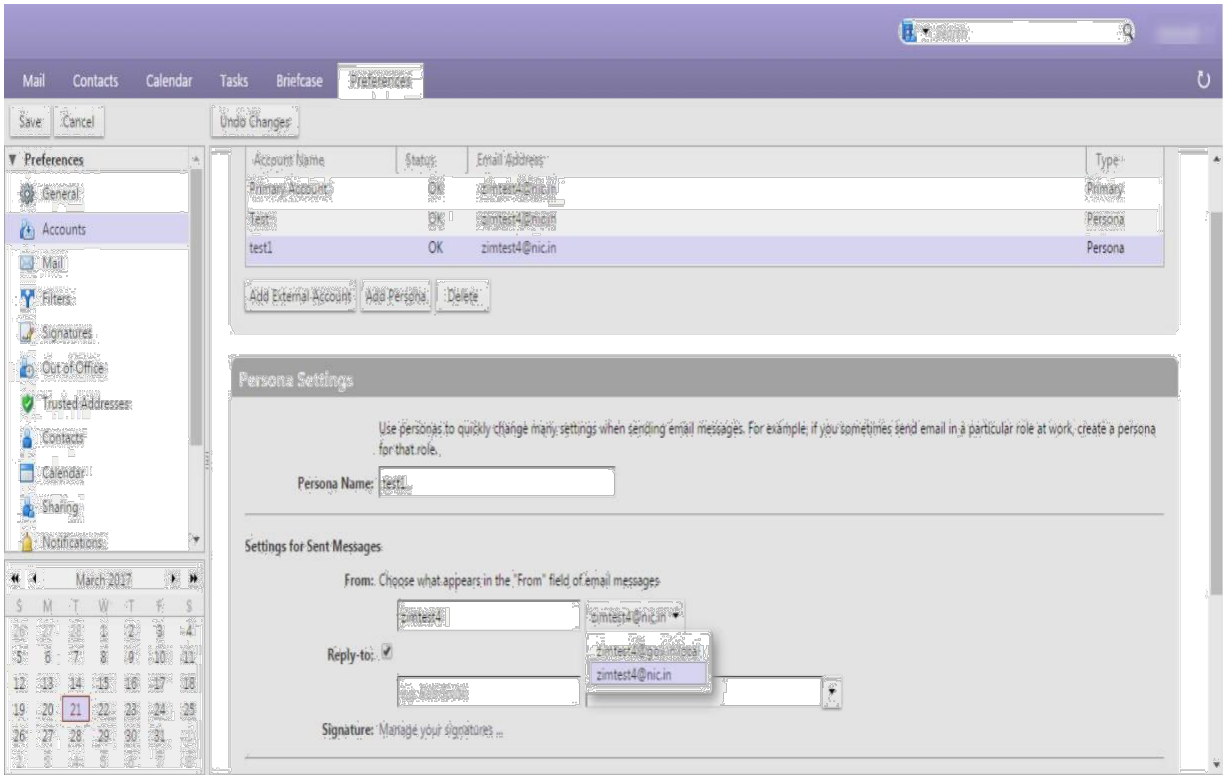
User can restore all the deleted mails from the trash folder within the defined number of days (i.e. within the timestamp of 90 days).



d. Add Personas (A role granted to the user)

Creating different personas allows you to use multiple email addresses from your mailbox.

For example, you could use your primary account persona test<xyz@nic.in>for your business email correspondence, and create a new persona for your personal email correspondencetest1<xyz@gov.in>



??????

i. Go to the Preferences>>Accounts page.

   Your default account and personal information is shown as the primary account.

ii. Click on **Add Persona**. The account name New Persona1 displays in the Account Name column. Now, in the Persona Settings>Persona Name text box(you can change the name of the persona accordingly)

iii. In the Persona Name text box enter a descriptive word to identify the persona in the "From" list when you are composing an email. For eg: ABC (This is the from name of the persona). This name does not appear in the email message.

iv. In the Settings for Sent Messages section, specify the "From" information for this persona.

   In the "From" text box type the name that appears in the "From" field of your outgoing email messages. This is the name that is shown before your email address.

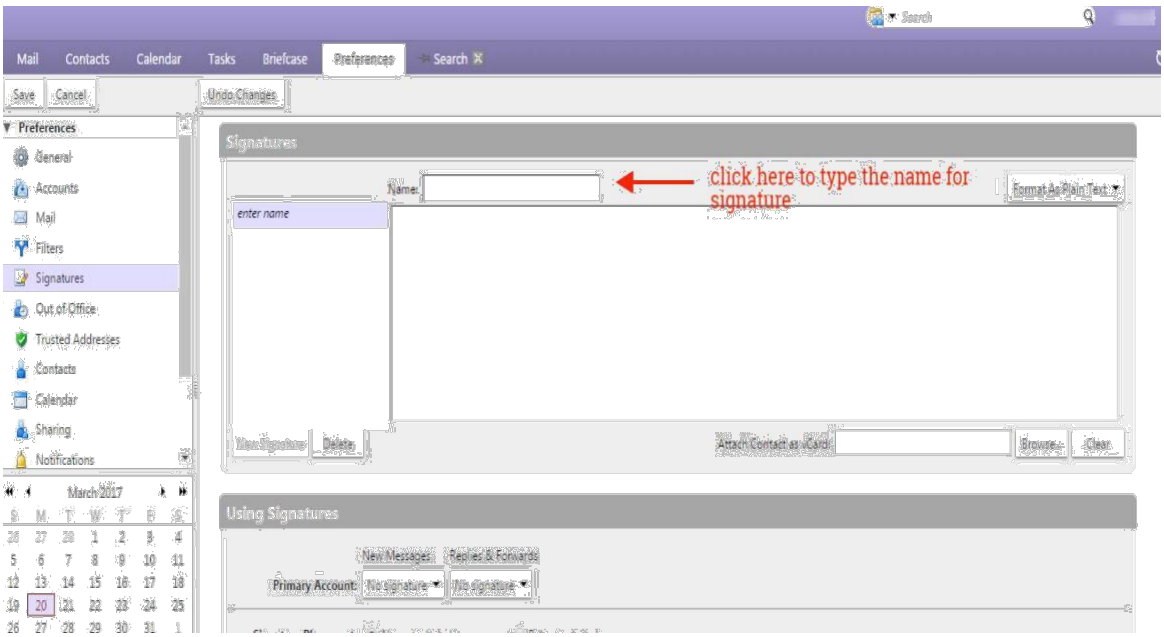
   In the drop-down menu next to the text box, select the email address from which to send messages.

   **If this field is not editable, you do not have additional external accounts identified.

v. To direct replies to email messages from this persona to a name and address different from that which you configured in From, check Reply-to>**Set the "Reply-to" field of email messages to**, and enter the name to use in the textbox.

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vi. **(Optional)** To associate a signature with the persona, click Signature: Manage your signatures...



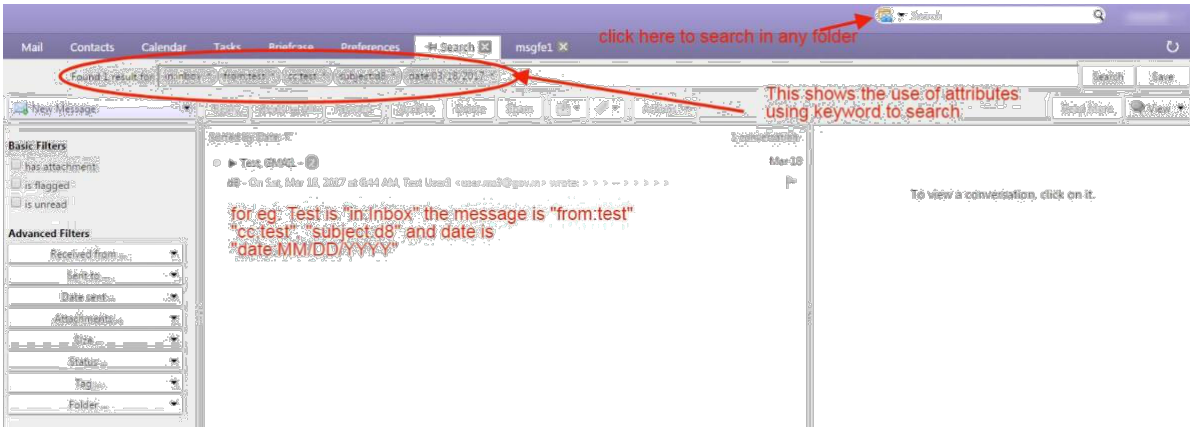
vii. To automatically **Use this persona** when replying to messages sent to a specific email address or when forwarding messages from that address, select when replying or forwarding messages sent to, and type the email address in the text box. If you are entering more than one email address, separate the addresses with either a comma or a semi-colon.

viii. To automatically **Use this persona** when replying to messages in a specific folder or when forwarding messages from this folder, select **when composing**, replying to or forwarding messages in folder(s). Click the folder icon to select one or more folders or to create a new folder. **If you are selecting more than one folder, separate the folder names with either a comma or a semi-colon.

ix. Click Save.

2. Search

User can search in respective folder by clicking on search tab on the top right corner of the page. Search can be performed using various attributes with a colon (:) symbol.



a) You can use these attributes to search in all the folders or they can be combined with other attributes to search in a specific folder.

b) In the search box type **in: inbox from: test subject: Hello to: support cc:test**, this will search in respective folder **"Inbox"** with from, subject, to and cc specified and if you search using **from: test** in the search box, without specifying any folder, this will **search** in **all the folders** for the user **"test"** from which the mail is received.)

Few examples are listed below:-

i. **from:** Specifies a **sender name** or **email address** that is in the From header. This can be a text, as in "**Aruna**", an email address such as**xyz@gov.in**or a **domain** such as**"@gov.in".**



ii. **to:**It specifies one of the people **to whom the email was addressed** in the **To:header.**



iii. **cc:**It specifies a recipient in the **cc**: header of the message.



iv. **subject:**It specifies text that must **appear in the subject** header of the message. An **example** might be **subject: new vacation policy.**

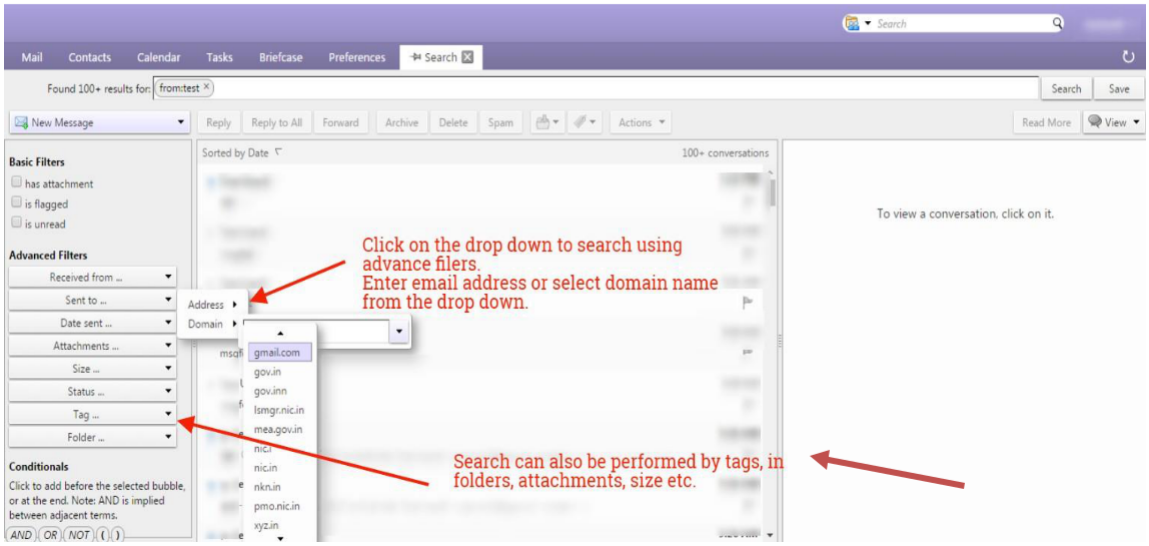
v. **in:**It specifies a folder in which search is to be performed. For example, **in: sent**would

show all items in your **'Sent' folder**. Similarly **in: Inbox**, **in: Draft**, **in: Trash** etc. will search in the respective folders.



vi. **date:** Use this keyword search messages for a specific date, using the format that is default for your browser's locale (format is **MM/DD/YYYY**). For example, **date: 2/1/2007** would find messages dated February 1, 2007. The **greater than (>)** or **less than (<)** symbols can be used instead of after or before.





Please click here to view advance search keywords:-

https://email.gov.in/public/docs/Advance-Search.pdf

3. Configuring POP3/IMAP Client

Please find the steps to configure the IMAP or POP3 account -

i. Go to settings>>Mail>>Accounts>>Add Account

ii. Enter valid Email ID

iii. Incoming mail serve :**imap.mail.gov.in**

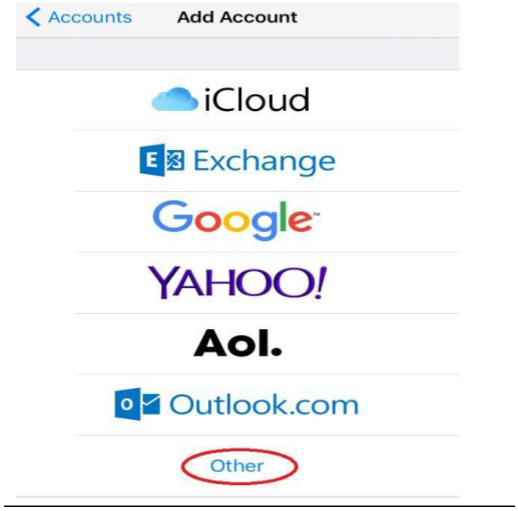
iv. Outgoing mail server/ SMTP :**smtp.mail.gov.in**

v. IMAP Port:**993**

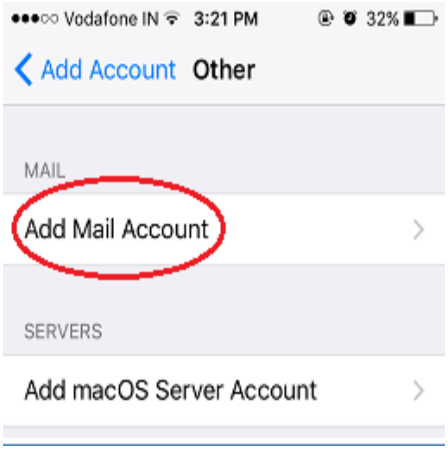
vi. SMTP Port:**465**

I. Screenshots for mobile client IMAP(Iphone-IOS)

i. Click on settings>>Mail>>Accounts>>AddAccounts>>Others



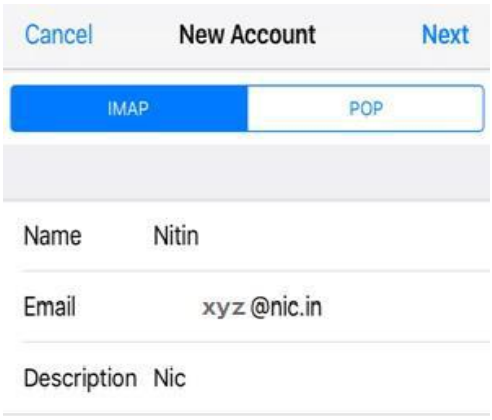
(Step-1)



(Step-2)

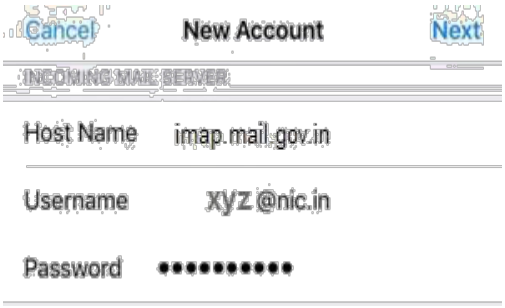


(Step-3)



(Step-4)

Incoming Servers

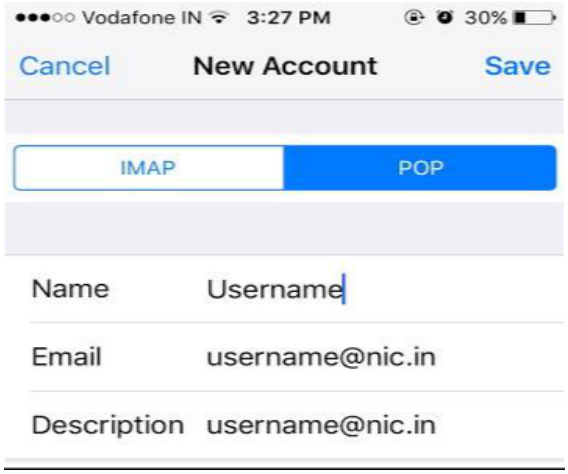


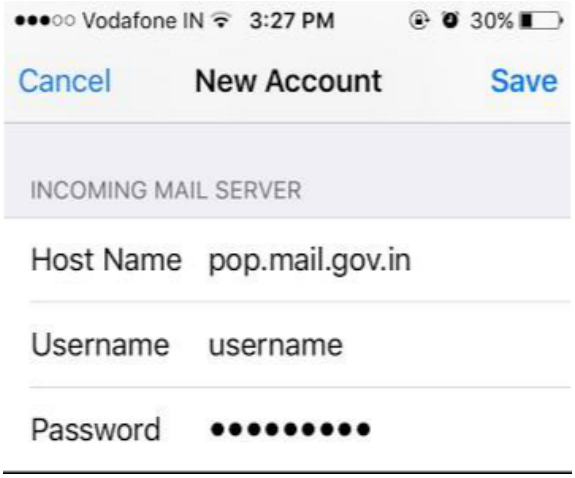
(Step-5)

Outgoing Server

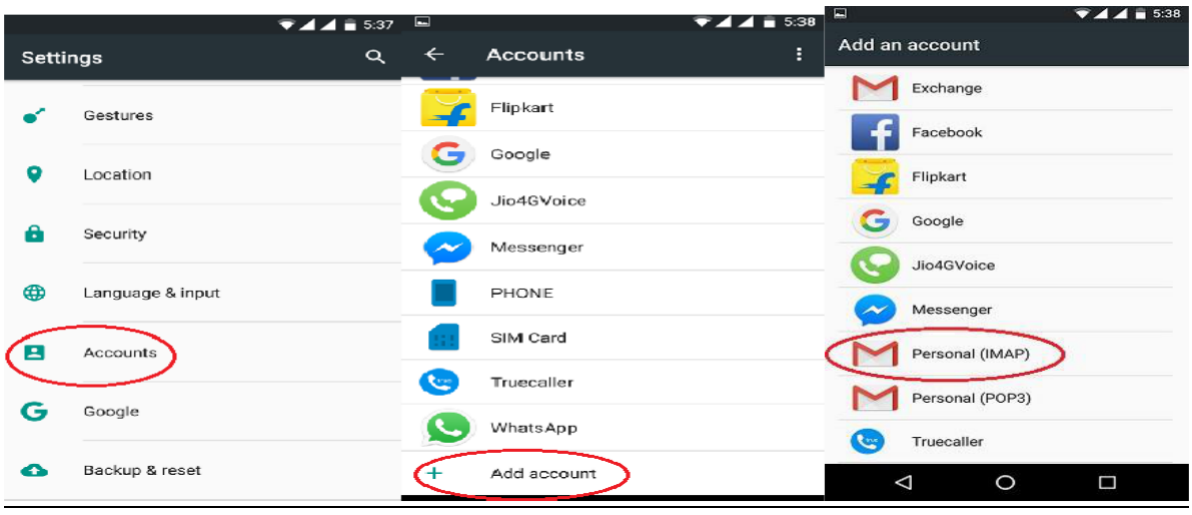


II. Screenshots for mobile client POP(Iphone-IOS)

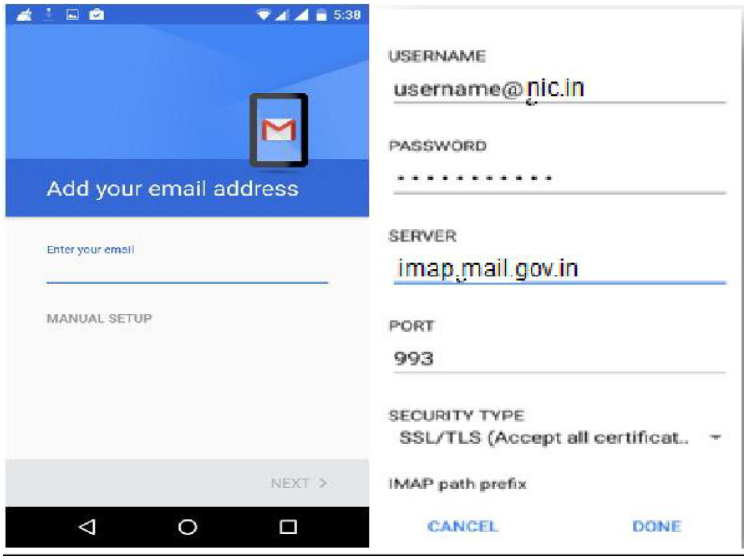




III. Screenshots for mobile client IMAP(Android)



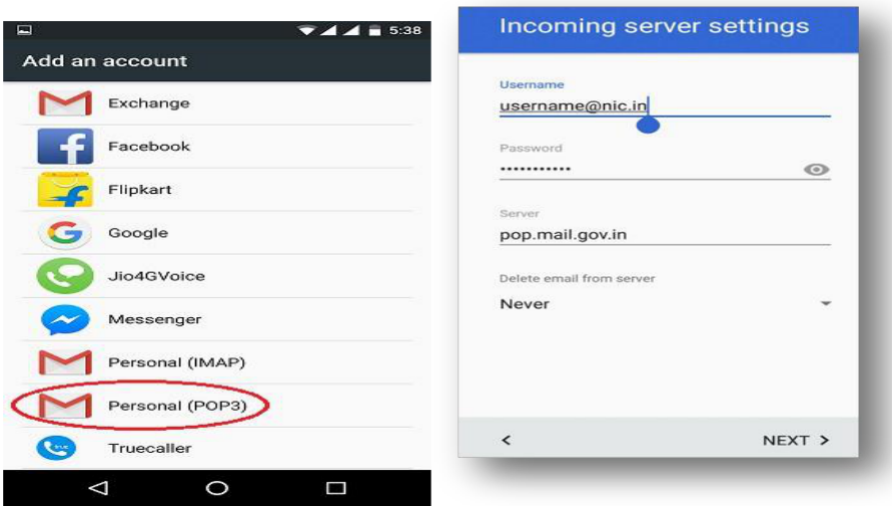
Incoming Server



Outgoing Server

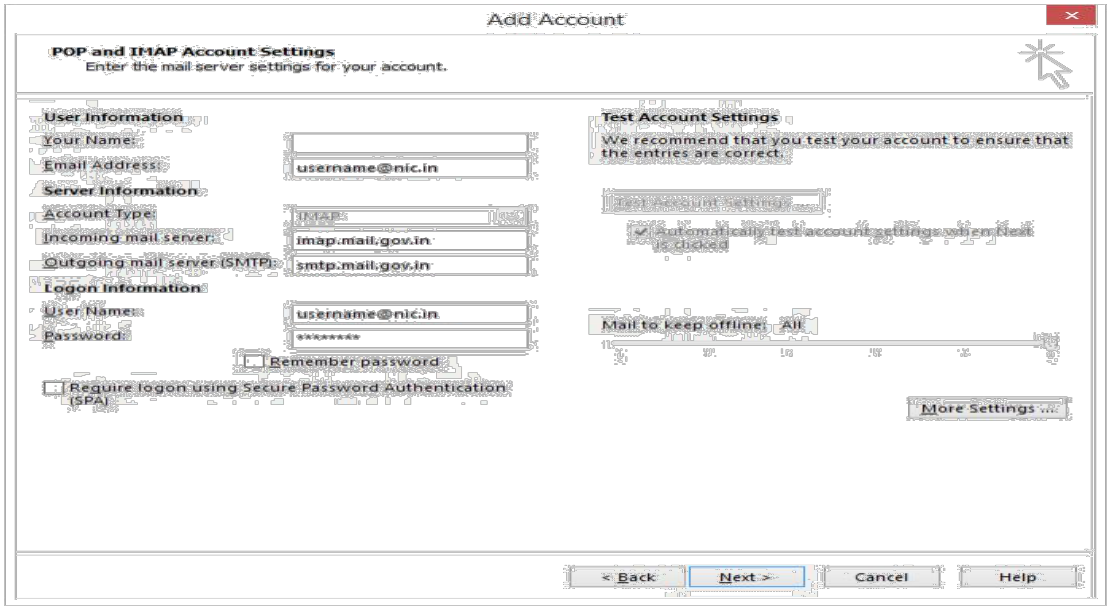


IV. Screenshots for mobile clientPOP3(Android)

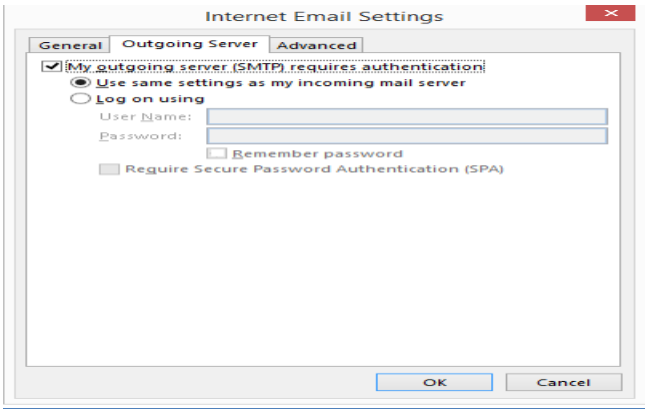


(Step-1)

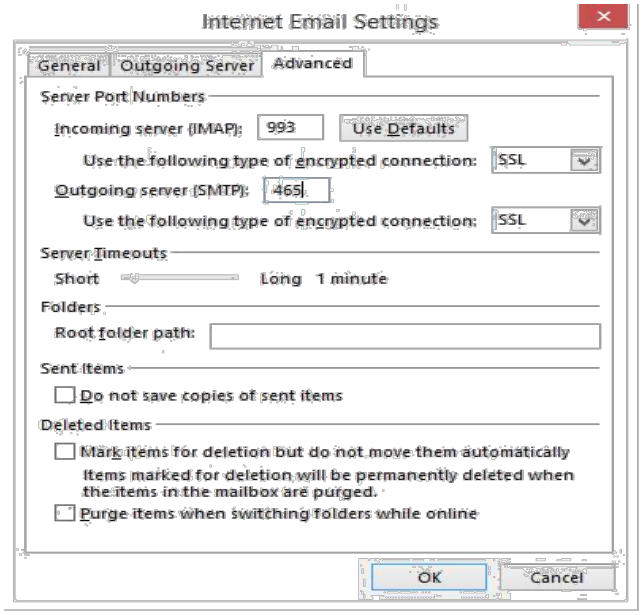
V. Screenshots for IMAP Configuration in MicrosoftOutlook



(Step-1)

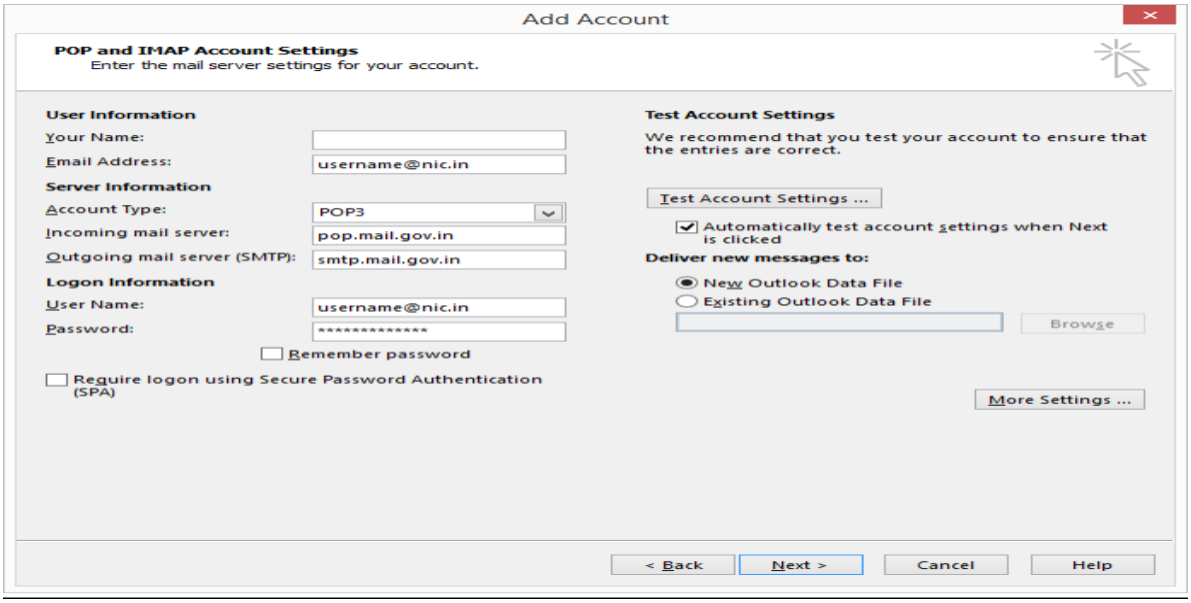


(Step-2)

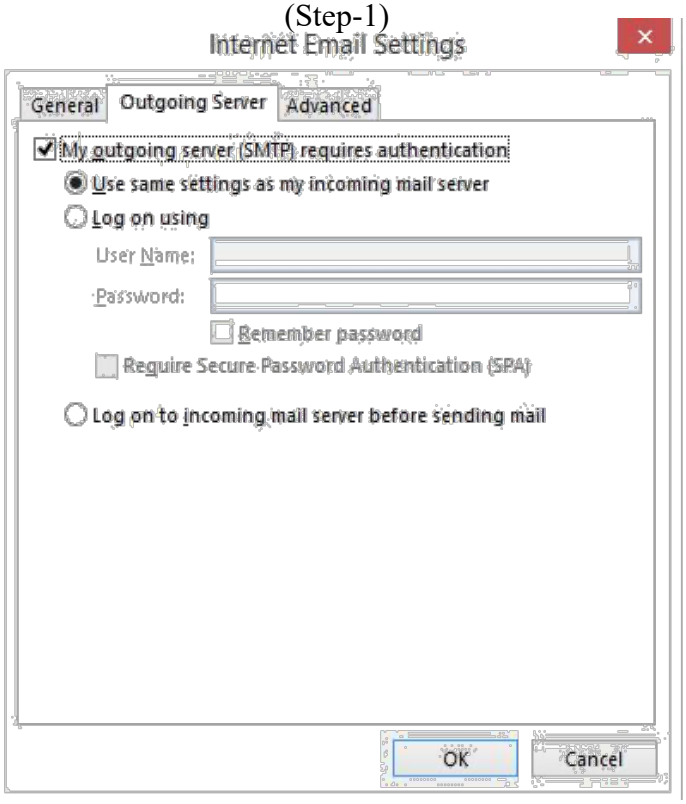


(Step-3)

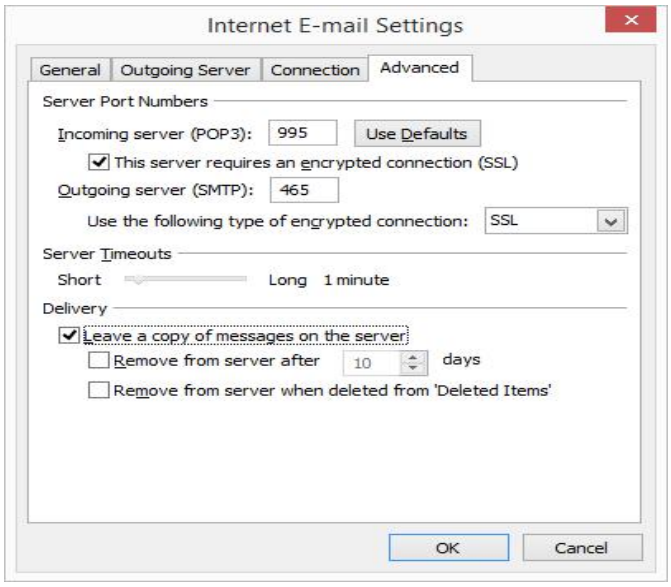
VI. Screenshots for POP3 Configuration in Microsoft Outlook



(Step-1)



(Step-2)



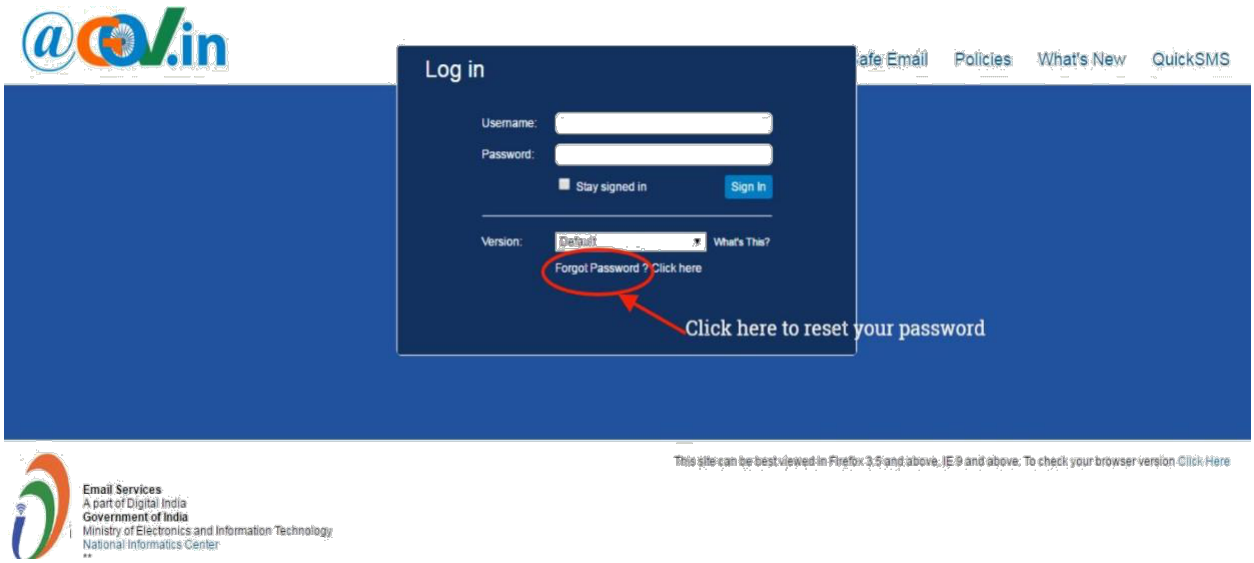
(Step-3)

Note: - Please fill all the required fields as directed and if you require any help contact support on **1800-111-555 (Toll Free)** for help.

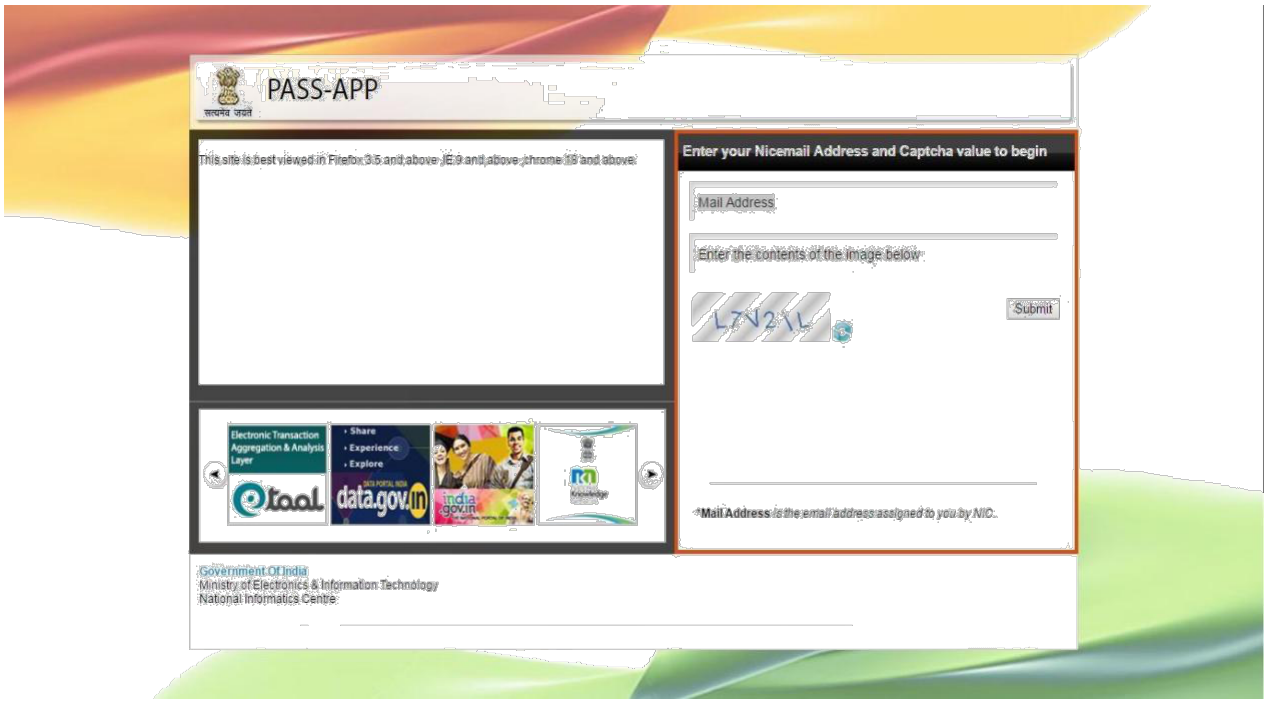
4. Reset your password

a. How to reset password

Please ensure that you mobile number is updated. If you have forgotten your password, click on forgot password on the login page of email.gov.in. You will be redirected to **PASS-APP** or follow the URL https://passapp.emailgov.in/. Using this application you can reset your password.



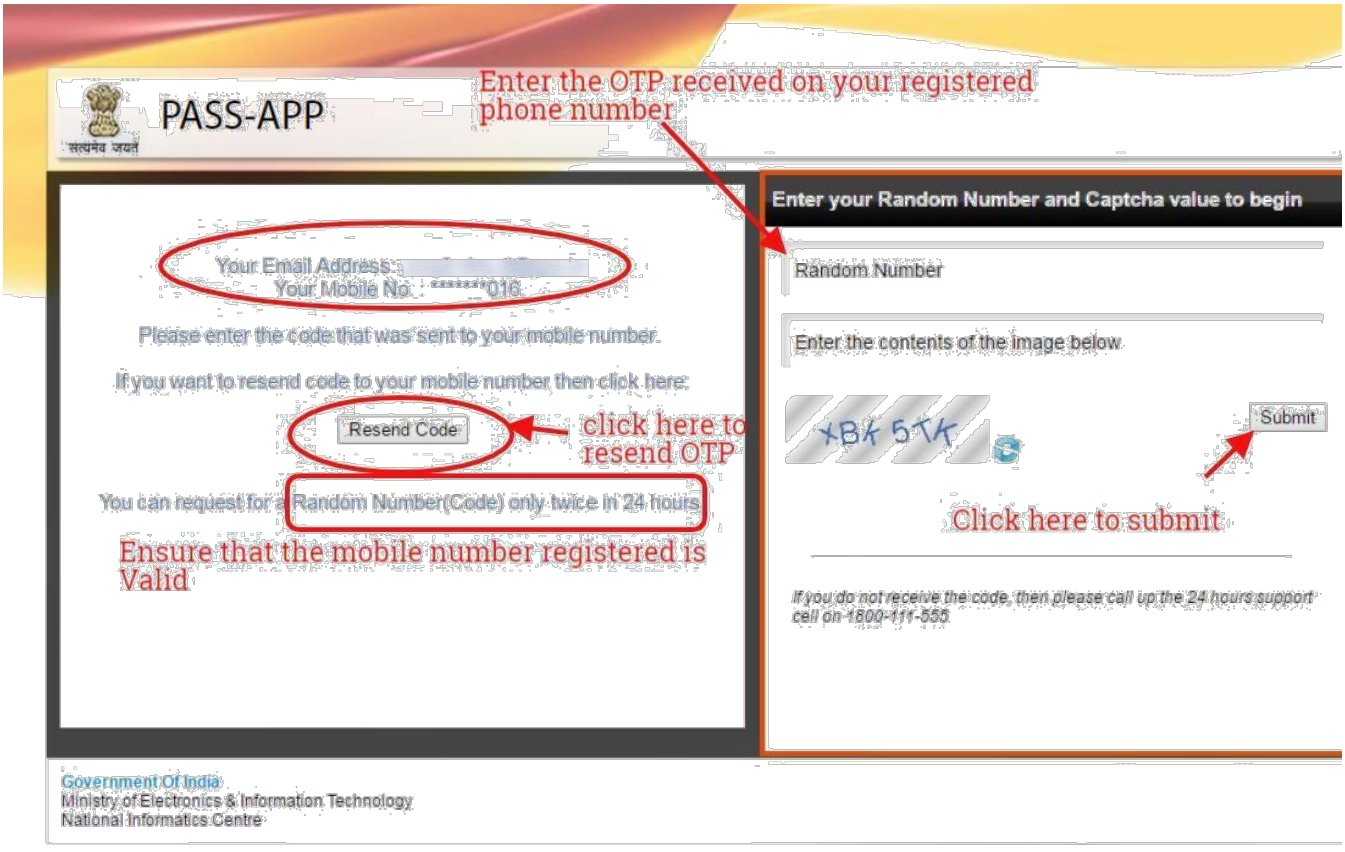
You will be redirected to PASS-APP to reset your password.



i. Enter the email address for which you wish to reset your password.

ii. Also, enter the Captcha value as displayed in the box.

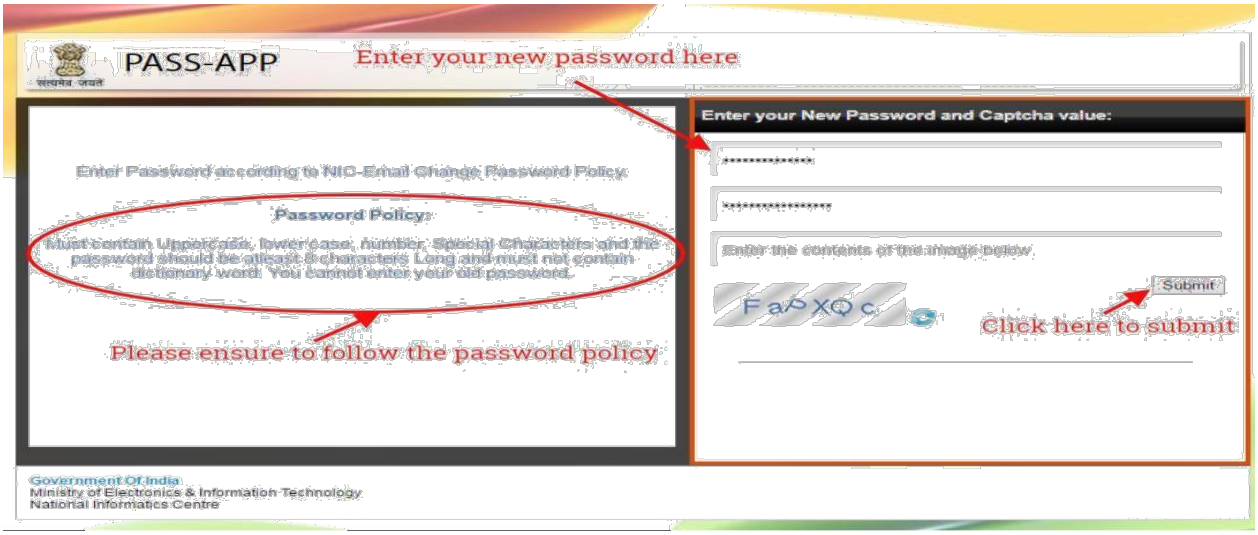
iii. Click on submit button to proceed further.



Enter the random number which is sent to your mobile number. You can also resend OTP if not received at once (** Random number will be generated twice in 24 hours)

Now, enter the Captcha value and confirm your submission.

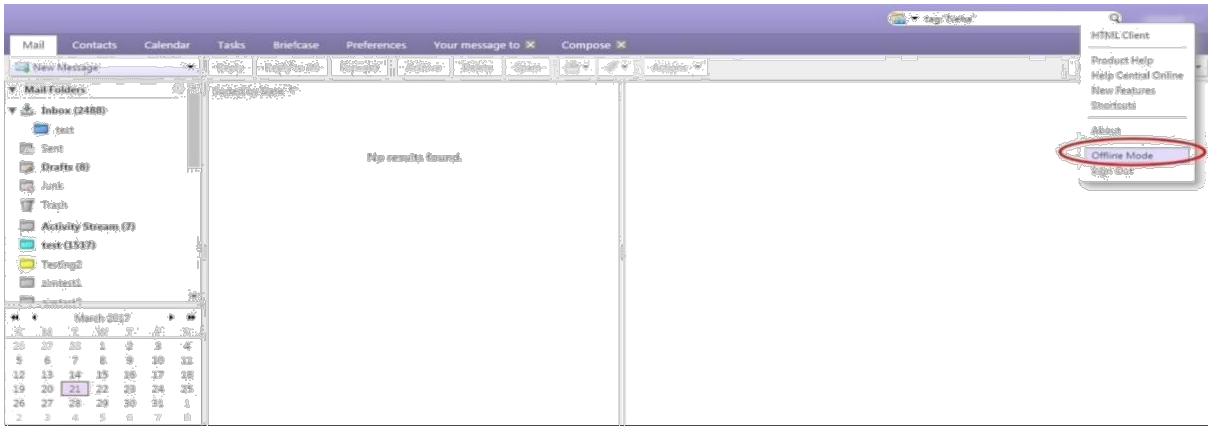
Now you will be redirected to a page which will prompt you to enter your new password twice. Enter the Captcha value to confirm.



You must follow the password policy as prompted to reset your password.

5. Offline Mode

- This feature allows you to access the data without network connectivity.
- The web client will be automatically restored to online mode when network connectivity is in transition.
- The work performed in offline mode is stored in cache and synched with the server when restored to online mode.



Note: -For any issues please contact support at **1800-111-555(toll free)** or email at: support@gov.in

C. Internet and its Applications

1. Features of Browsers with add-ons and plug-in

Browser plug-in

A browser extension is a small software module for customizing a web browser. Browsers typically allow a variety of extensions, including user interface modifications, ad blocking, and cookie management.

Browser extensions extend your web browser with additional features, modify web pages, and integrate your browser with the other services you use. This guide will introduce you to the world of browser extensions and help you get started.

Browser plug-ins are a separate type of module. The main difference is that extensions are usually just source code, but plug-ins are always executables (i.e. object code). As of 2020, plug-ins have been deprecated by most browsers, while extensions are widely used.[citation needed] The most popular browser, Google Chrome, has thousands of extensions available but only one plug-in: the Adobe Flash Player that is disabled by default.

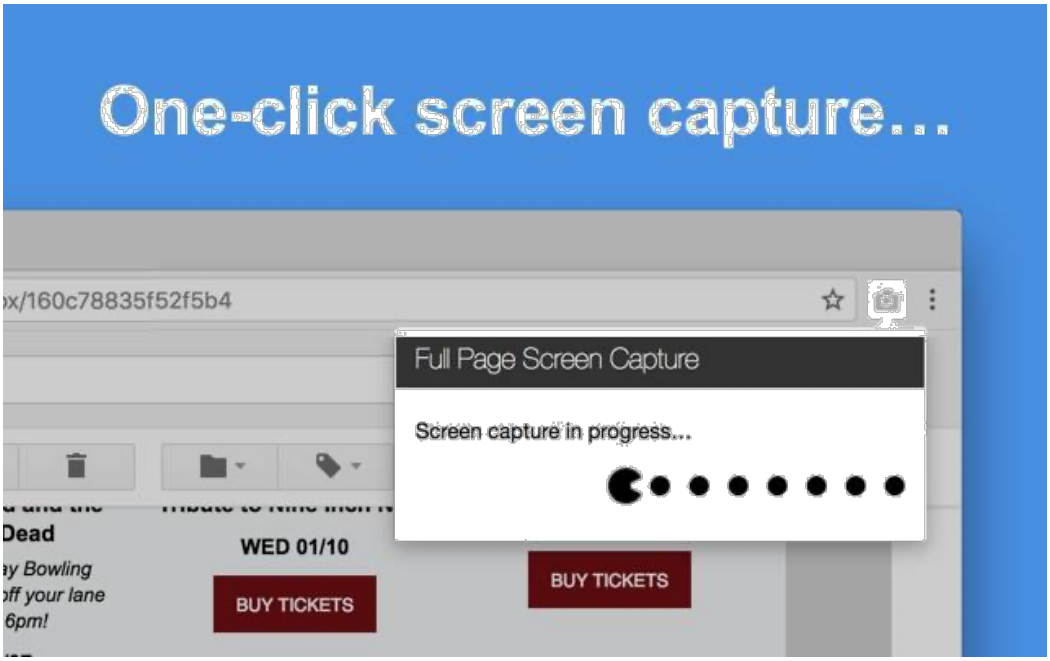
Why Would You Want to Use Browser Extensions or plug-in?

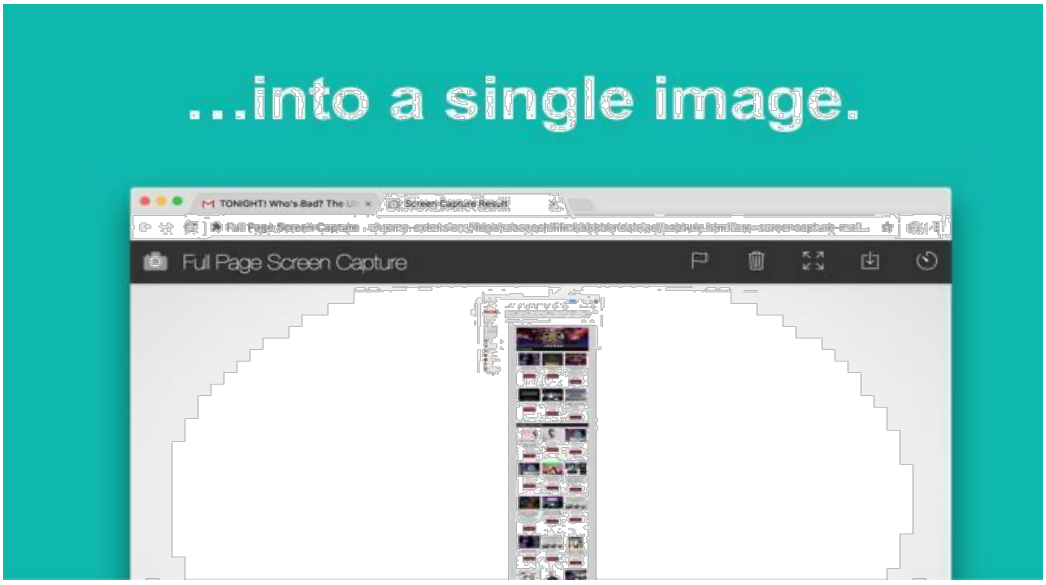
You might want to use a browser extension for a few different reasons:

- To integrate with other services, you use. For example, Ever note offers an extension that allows you to easily clip websites and save them to your Ever note account.
- To add additional features to your browser. For example, the Join Tabs extension for Chrome gives you a button you can click to combine all your Chrome tabs from multiple windows into a single window.
- To modify websites as they appear on your computer — adding, removing, or modifying content. For example, the Invisible Hand extension adds information to shopping websites, informing you if there's a cheaper price available on a competing retailer's website.

Extensions can do many other things. They're like any other piece of software, although browsers place some limits on what they can do. If you want to integrate your browser with a service or get an additional feature, there's a good chance you can do it with a browser extension that already exists.

For example Full Page Screen Capture Chrome Extensions





Capture a screenshot of your current page in entirety and reliably—without requesting any extra permissions!

The simplest way to take a full-page screenshot of your current browser window. Click on the extension icon (or press Alt+Shift+P), watch the extension capture each part of the page, and be transported to a new tab of your screenshot where you can download it as an image or PDF or even just drag it to your desktop.

*No bloat, no ads, no unnecessary permissions, just a simple way to turn a full web page into an image. *

The advanced screen capture technology handles complex pages—including inner scrollable elements as well as embedded iframes—unlike any other extension. If you encounter an issue, please report it via the customer support flag icon on the capture page, so we can improve the extension for you and everyone else who uses it.

In order to screenshot the entire page, it must scroll to each visible part, so please be patient as it quickly assembles all the pieces. For the rare scenario where your page is too large for Chrome to store in one image, it will let you know and split it up into images in separate tabs.

Export your result to PNG, JPEG, or various PDF paper sizes—all configurable from the extension's options.

PRACTICE QUESTIONS

Working with a Browser

1. Identity the Browsers available in a computer.
2. How to switch among different tabs of a Browser?
3. Observe the elements: Back arrow, Forward arrow and Refresh Button and try to find their usage. Also move the Mouse pointer over the elements for a while and try to read the tooltip.
4. Type the address: https://www.google.co.in and press Enter.

   Using the search field/box try to find different information on your own.

   Learn different searching techniques.
5. How to open a Browser as In Private Window?
6. Access an URL without typing its address in the address bar.
7. How to reload an opening/opened web page?
8. Work in a full screen window using Browser.
9. Set site permissions by blocking third party cookies.
10. Create your own profile with your own settings in a Browser.

2. Google Drive

Google Drive is a file storage and synchronization service developed by Google. Launched on April 24, 2012. Google Drive allows users to store files on their servers, synchronize files across devices, and share files. In addition to a website, Google Drive offers apps with offline capabilities for Windows and macOS computers, and

Android and iOSsmart phones and tablets. Google Drive encompasses Google Docs, Sheets and Slides, an office suite that permits collaborative editing of documents, spreadsheets, presentations, drawings, forms, and more. Files created and edited through the office suite are saved in Google Drive.



PRACTICE QUESTIONS

Working with Google Drive

1. Using Google drive, create 3 folders one within another.
2. In the innermost folder, drop some files of the local computer.
3. Rename some files of a folder
4. Move a file from innermost folder to top level folder
5. Share some files of different folders among different people

3. Google Docs

Google Docs is a free Web-based application in which documents and spreadsheets can be created, edited and stored online. Files can be accessed from any computer with an Internet connection and a full-featured Web browser. Google Docs is a part of a comprehensive package of online applications offered by and associated with Google.

Users of Google Docs can import, create, edit and update documents and spreadsheets in various fonts and file formats, combining text with formulas, lists, tables and images. Google Docs is compatible with most presentation software and word processor applications. Work can be published as a Web page or as a print-ready manuscript. Users can control who sees their work. Google Docs is ideal for publishing within an enterprise, maintaining blogs or composing work for viewing by the general public.



PRACTICE QUESTIONS

1. Create a Blank document using Google Docs and type some text information in the document. Change the file name.
2. Import and convert existing MS-Word files into Google Docs
3. Stop sharing Google Doc among few people
4. Use Brochure Template for Google Docs and create a product brochure

4. Google Forms

About

Google form is a free Google application that allows you to quickly create and distribute a form to gather information. Form responses are saved in a Google spreadsheet in Google drive.

Opening Google Forms

Step 1. Open Google Chrome.

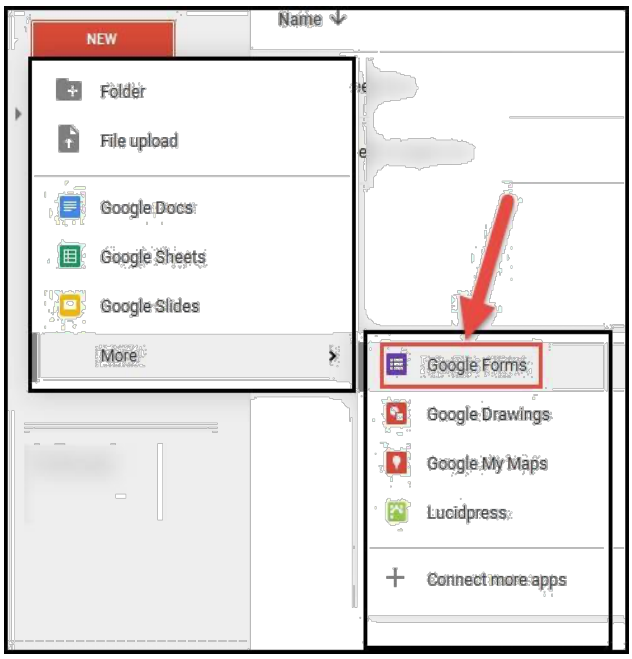
Step 2. Go tohttp://drive.google.com

Step 3. Enter your full UWW email address, then click **next.**

Step 4. Enter your UWW password, then click **Sign in**.

You will now be signed into Google Drive.

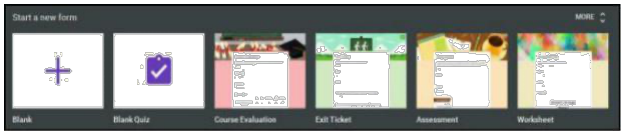
Step 5. Select **New > More > Google Forms** From the available menu.



Editing Google Forms

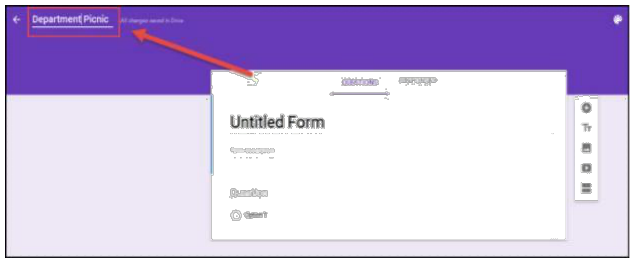
Creating a New Form

Step 1. Select the type of form to create. You can create a blank form, a blank quiz, or select from a number of form templates.



Name a Form

Step 1. Click the "Untitled Form" name in the top left corner of the screen, then enter the form's name. Hit the "Enter" key to submit your changes.



Form Title

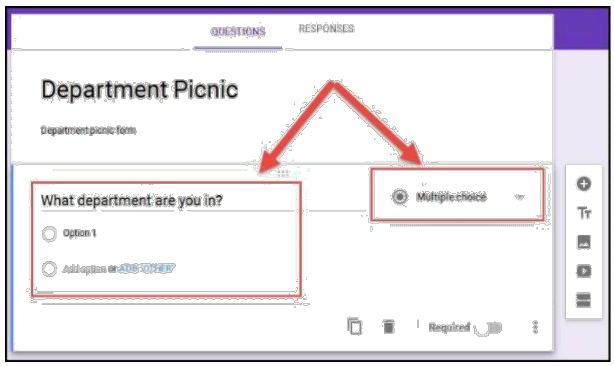
Enter a form title and description by clicking on the fields.



Edit Questions

Step 1. Select "Untitled question" to enter Your first question text.

Step 2. Use the dropdown to the right of the question to select the question type.

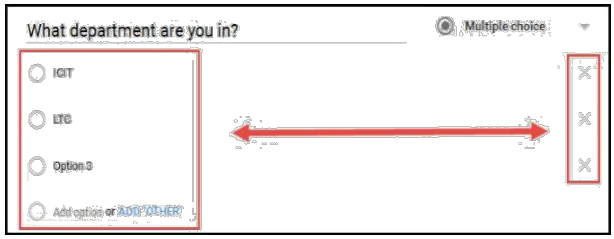


Step 3. Select each option to enter option text.

Step 4. Hit the "Enter" key to create a new option.

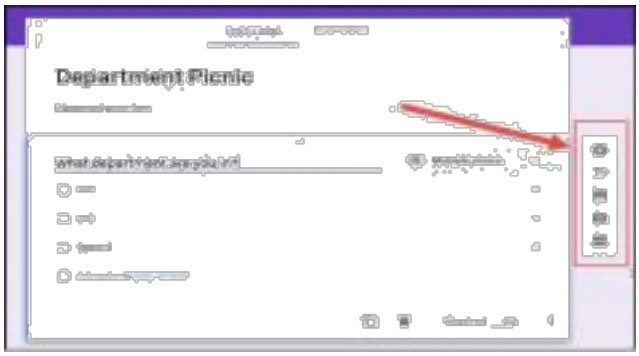
Note: Click the X to the right of each option to delete that option.

Note: Click the **Add Other** link to add an "Other" option to your list.



Add Questions

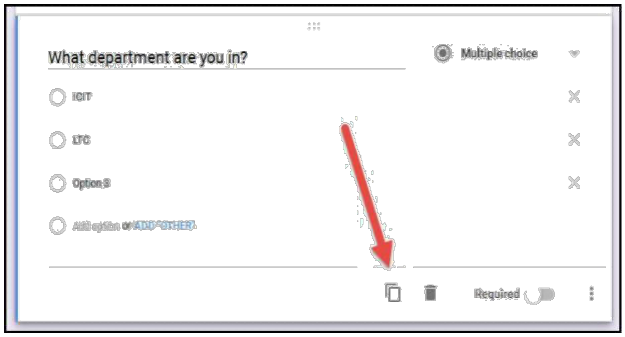
Step 1. Use the question toolbar to the right to add a new question, insert a new title and description, inset a picture, insert a video, or add a new section.



Step 2. Follow the steps above to edit the new question.

Copy/Duplicate Question

Copying a question allows you to quickly add a new question with the same format as your current question.



Delete Questions

The delete button allows you to delete the selected question and options from the list.



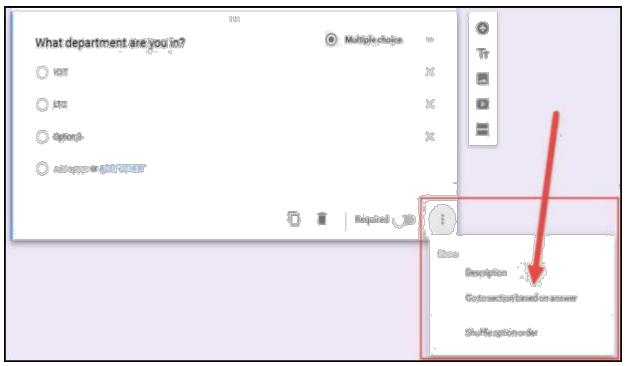
Required Questions

Select the "Required" button to make a question required.



More Button

The ⋮ (More) button allows you to shuffle the order of questions and go to a new section based on a question answer.

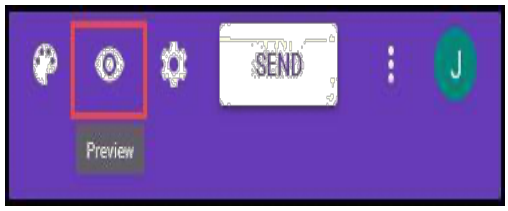


Form Colors/Themes

You can change the form color or theme by clicking the (Color Palate) button in the top right corner of the page. ??????

Click the button to select a picture theme or upload your own background theme picture.

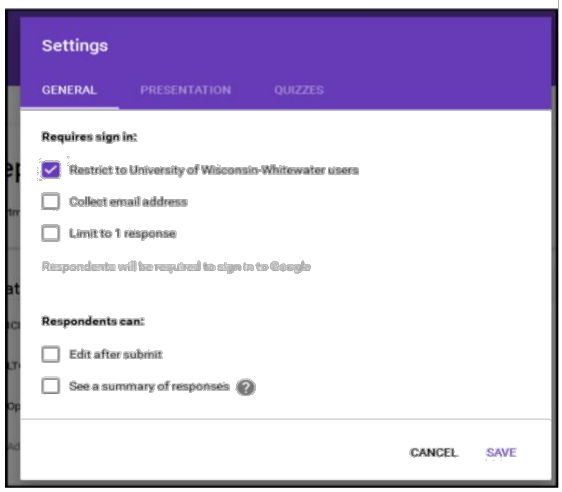
Preview Form



Click the "Preview" button to open a new browser tab with a final view of your form. Close out of that tab to return to the "Edit Form" view to make changes.

Advanced Form Settings





Click the (Settings) button to customize your form.

General Tab: Allows you to restrict users from your form, collect email addresses of users filling out your form, limit 1 response, etc.

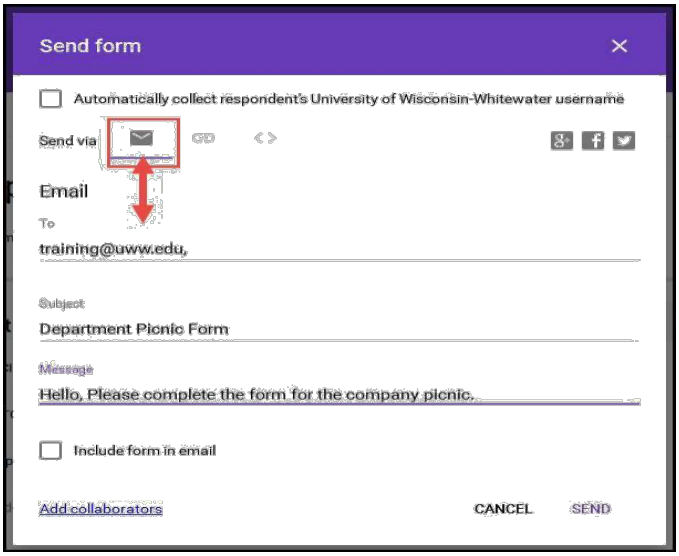
Presentation Tab: Allows you to display a progress bar, shuffle question order, and submit another form response. You can also modify your confirmation message once a user submits a form. ?????

Quiz: Allows you to set this form as a quiz, set grade options, etc. ???????

Send Form

Click the **Send** button to view different ways to distribute your form.

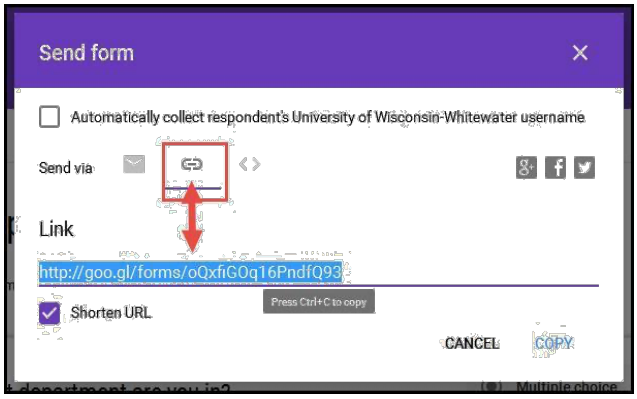




Send Via Email: You can send your form via email to recipients or send the form email to yourself, then use Outlook to forward the form link to others.

Copy Form Link: Click the "link"icon to display the Form's URL link. Select the **Shorten URL** option to display a short link option.

Click the **Copy** link in the bottom right to copy the link.



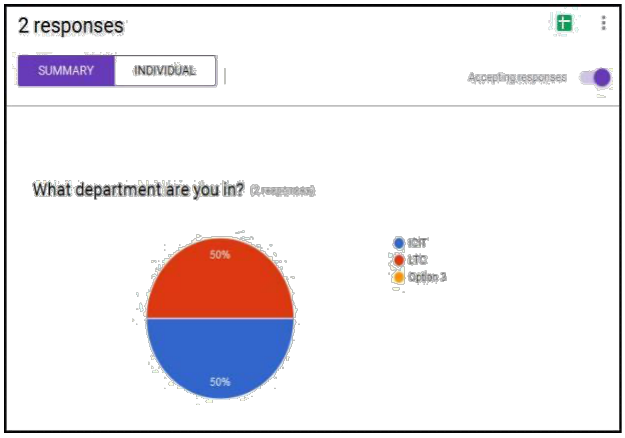
Social Media: Click any one of the social media icons to share the form link using a social media platform. ???????

Viewing Responses

Click the **Responses** tab to view user responses to your form.

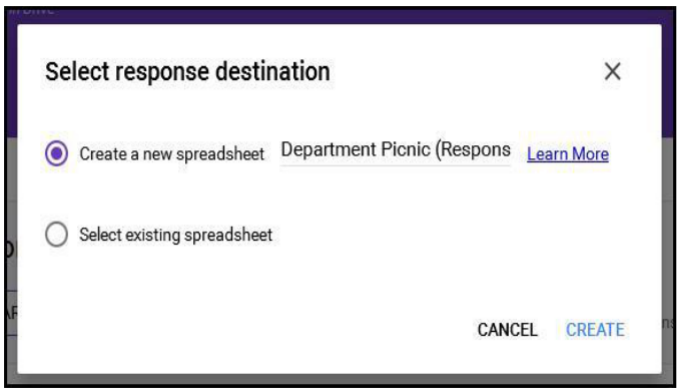


Summary: Shows a pie chart percentage of responses for each question.



Individual: Displays each form response individually. Click the < or > button to move between each response.

Spreadsheet View: Click the (Create Spreadsheet) icon to create and view form responses in Google Sheets. Select to create a new spreadsheet or add to an existing spreadsheet.



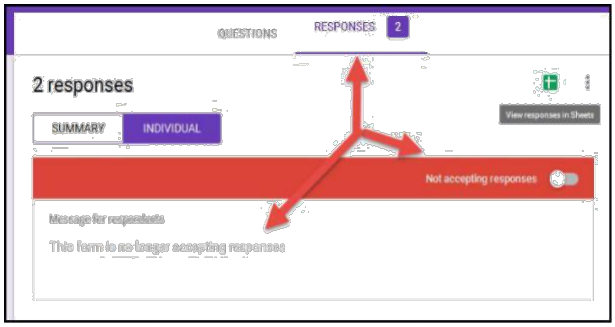
Once a spreadsheet is created, click the again to open the spreadsheet.

Note: If you wish to be notified of any new form submissions, select **Tools > Notification Rules** from the Google Sheet menu. Select your notification preference, then click **Save** to save your changes.

Note: Do not modify the sheet data until after you have collected all responses. Modifying the form could result in incorrect data placement.

Close Form

You can close the form for submission by selecting the **Responses** tab, then clicking the **Accepting Responses** toggle. You can modify the message respondents will see if they try to access your form while it is closed. Click the toggle again to reopen your form.

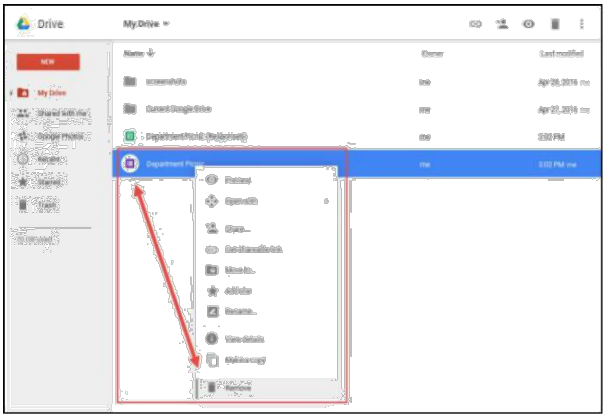


View Form and Form Responses is Google Drive

To edit your form or view your form response spreadsheet, go to Google Drive then select your form. Use the search box at the top of the page to find your form if the form was saved in a folder.



Delete Form



To delete your form completely, locate your form in Google drive, right click on the form name, then select **Delete**. You may also delete the form responses by following the same steps.

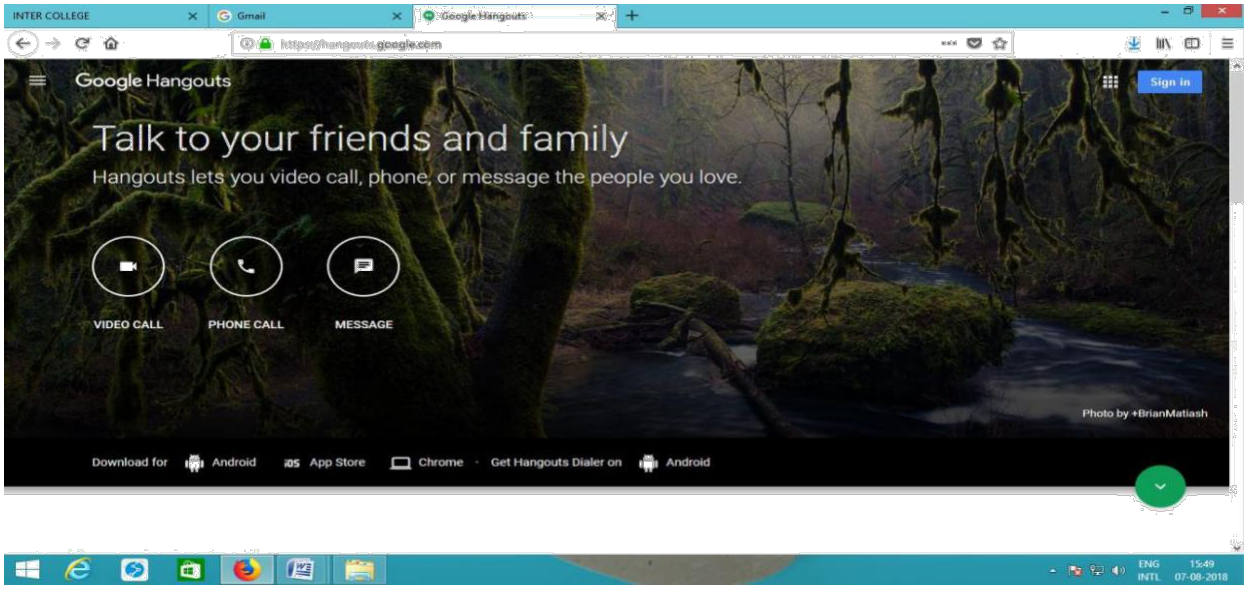
Note: Use the search box at the top of the page to locate your form if you cannot find it on your main Google drive page.

PRACTICE QUESTIONS

1. Add a header to a Google form
2. Create a form in such a way that it can also be edited by others.
3. Make a setting in a form such that let people change their answers after submitting them.
4. Use Contact Information Template for Google forms and create information.

5. Google Hangouts

Google Hangouts is a communication platform developed by Google which includes messaging, video chat, SMS and VOIP features. It replaces three messaging products that Google had implemented concurrently within its services, including Google Talk, Google+ Messenger (formerly: Huddle), and Hangouts, a video chat system present within Google+. Google has also stated that Hangouts is designed to be "the future" of its telephony product, Google Voice, and integrated some of the capabilities of Google Voice into Hangouts.



PRACTICE QUESTIONS

1. Connect to your friend using Google Hangout/Google Meet
2. Use only voice facility and talk about Covid
3. Send a document to friend
4. Send direct messages to other end
5. Save chat for future reference

6. Net Banking

Net banking, also known as internet banking is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. The online banking system will typically connect to or be part of the core banking system operated by a bank and is in contrast to branch banking which was the traditional way customers accessed banking services.

PRACTICE QUESTIONS

1. Add third party payment profile with help of Net Banking feature
2. Apply for Gift card using Net Banking
3. Create State Bank Virtual Card for Rs. 49,000/-

7. UPI

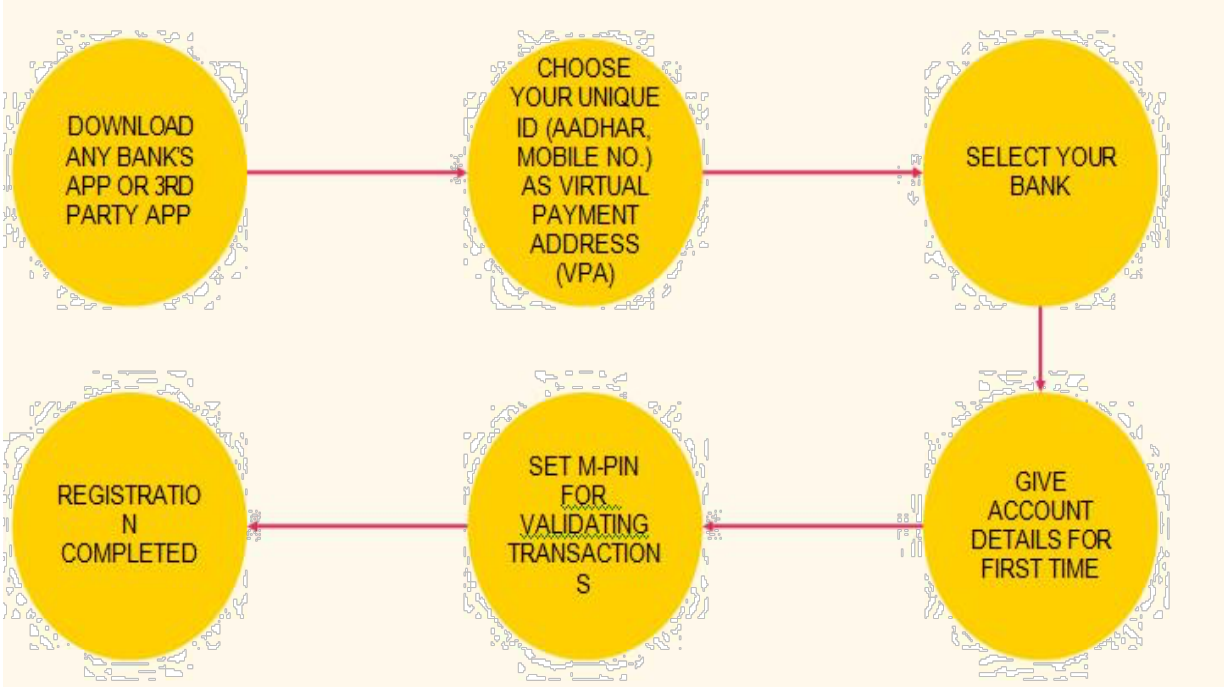
Requirements for registration on UPI

- Smartphone with internet facility
- Bank Account details (only for registration)
- AVAILABLE APPS (28 BANK APPS)

SBI app, PNB UPI, UPI Collect (ICICI), Axis Pay, Canara Bank UPI, UCO UPI, Union Bank UPI,

OBC UPI and 20 other banks

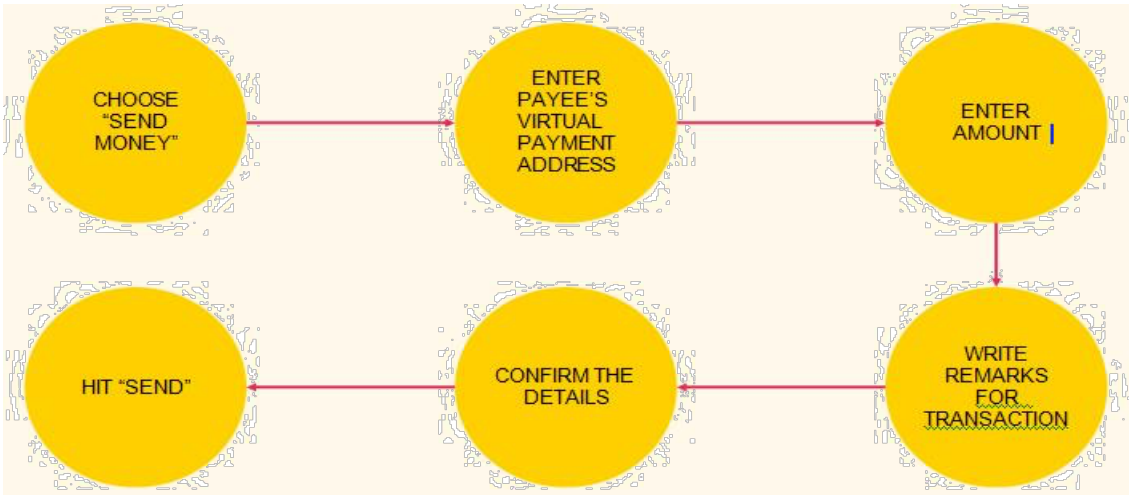
UPI Registration Process



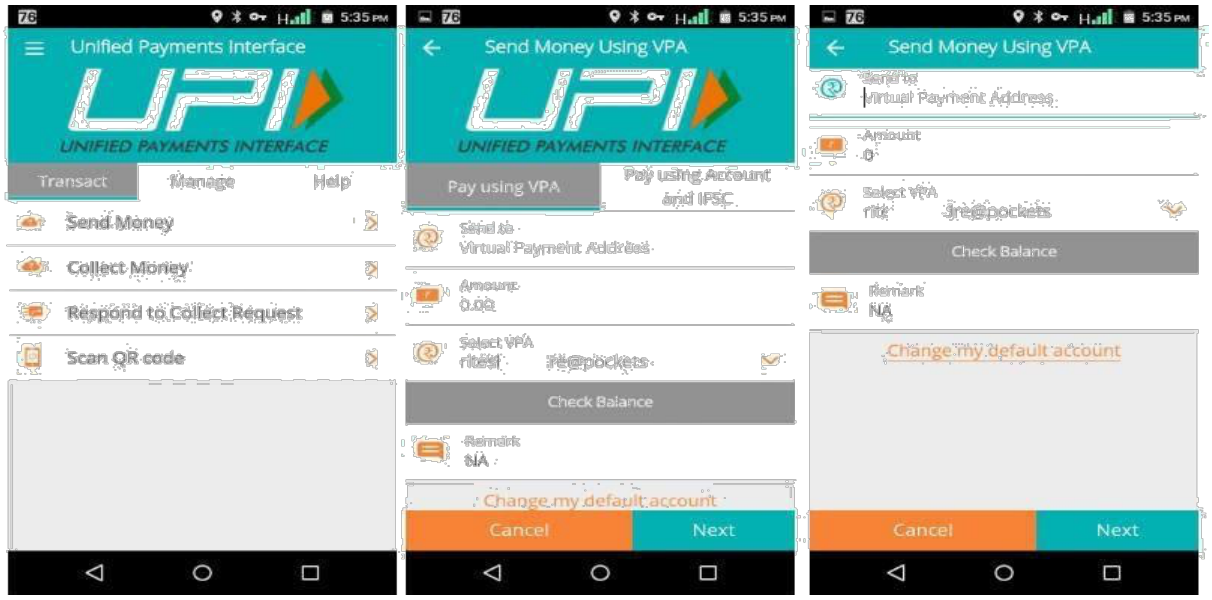
Registering on UPI

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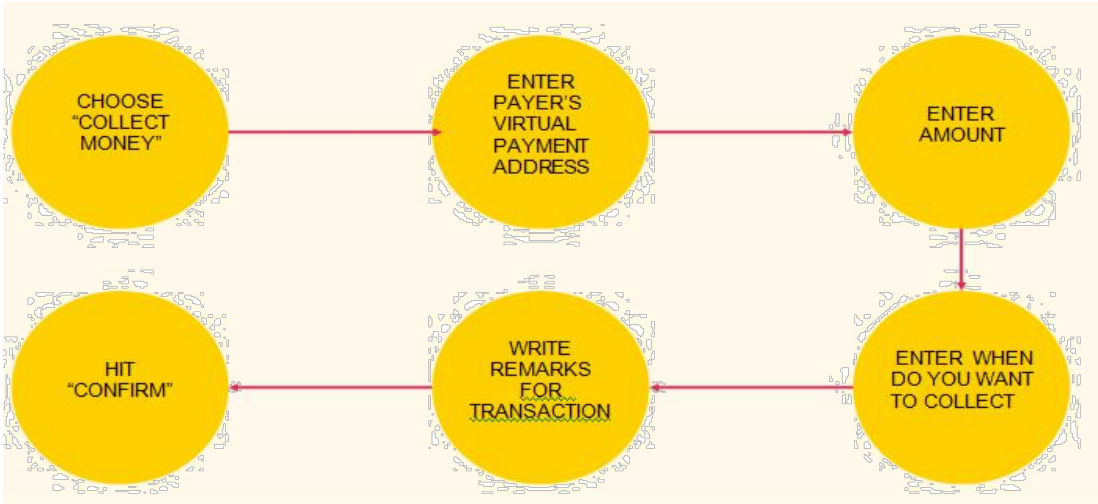
Sending Money on UPI



Sending Money



Collecting Money (raise a demand) on UPI



??????

PRACTICE QUESTIONS

1. Create an account in Google to use Google drive and then create folder in it. Now make new excel spreadsheet and save the sheet in Google drive.
2. To converse with another Google account using Google hangout.
3. Make an account on any e-commerce website; initiate shopping as per your requirement and make payment using net banking, debit or credit card.
4. Connect two computer system using team viewer and access one system from another.
5. Create an account on Digi Locker (digilocker.gov.in) and access it with Aadhaar card and upload document on it.
6. Create an account in YouTube, blogging site or any social networking website and use its basic features like uploading videos, posting blogs etc.
7. Download antivirus from its legitimate website and install it on computer system and access its various functions like scanning drive or files etc.

8. BLOGS

A blog is an online journal or informational website displaying information in the reverse chronological order, with the latest posts appearing first. It is a platform where a writer or even a group of writers share their views on an individual subject.

In the beginning, a blog was more of personal diary that people shared online, and it goes back to 1994.

Purpose of a Blog

There are many reasons to start a blog for personal use and only a handful of strong ones for business blogging. Blogging for business, projects, or anything else that might bring you money has a very straightforward purpose – to rank your website higher in Google SERPs

As a business, you rely on consumers to keep buying your products and services. As a new business, you rely on blogging to help you get to these consumers and grab their attention. Without blogging, your website would remain invisible, whereas running a blog makes you searchable and competitive.

So, the main purpose of a blog is to connect you to the relevant audience. Another one is to boost your traffic and send quality leads to your website.

Blog structure

The appearance of blogs changed over time, and nowadays blogs include different items. But, most blogs include some standard features and structure. Here are common features that a typical blog will include:

- Header with the menu or navigation bar
- Main content area with highlighted or latest blog posts
- Sidebar with social profiles, favorite content, or call-to-action
- Footer with relevant links like a disclaimer, privacy policy, contact page, etc.

Blogs and websites

A majority of people still wonder whether there is any difference between a blog and a website. What is a blog and what is a website? It’s even more challenging to differentiate between the two today. Many companies are integrating blogs into their sites to perform the same function.

What differentiates blogs from websites?

Blogs need frequent updates. Good examples include a food blog sharing meal recipes or a company writing about their industry news.

Blogs promote perfect reader engagement. Readers get a chance to comment and voice their different concerns to the viewer. Static websites, on the other hand, consists of the content presented on static pages. Static website owners rarely update their pages. Blog owners update their site with new blog posts on a regular basis.

Key elements that identify a blog post from a static page include a publishing date, author reference, categories, and tags within a byline. While not all blog posts have all those byline elements, static website pages do not have any of these items. From a visitor perspective, the content on a static site will not change from one visit to the next. The content on a blog, yet, has the potential to offer something new each day, week, or month. Depending on the

blog owner's publishing schedule.

2. TWITTER

It's a platform wherein users share their thoughts, news, information and jokes in 140 characters of text or less. Twitter makes global communication cheap and measurable. Profiles are (usually) public — anyone in the world can see what you write, unless you elect to make your profile private. Users "follow" each other in order to keep tabs on and converse with specific people.

On Twitter, following someone is not necessarily an admission of friendship, but nonetheless affords interaction and conversation — at least in short bursts.

There are certain terms that you must understand if you are interested to use Twitter

Tweet

It all begins with a Tweet. Join or start any conversation in the world with a simple Tweet. It is a 140 long characters message.

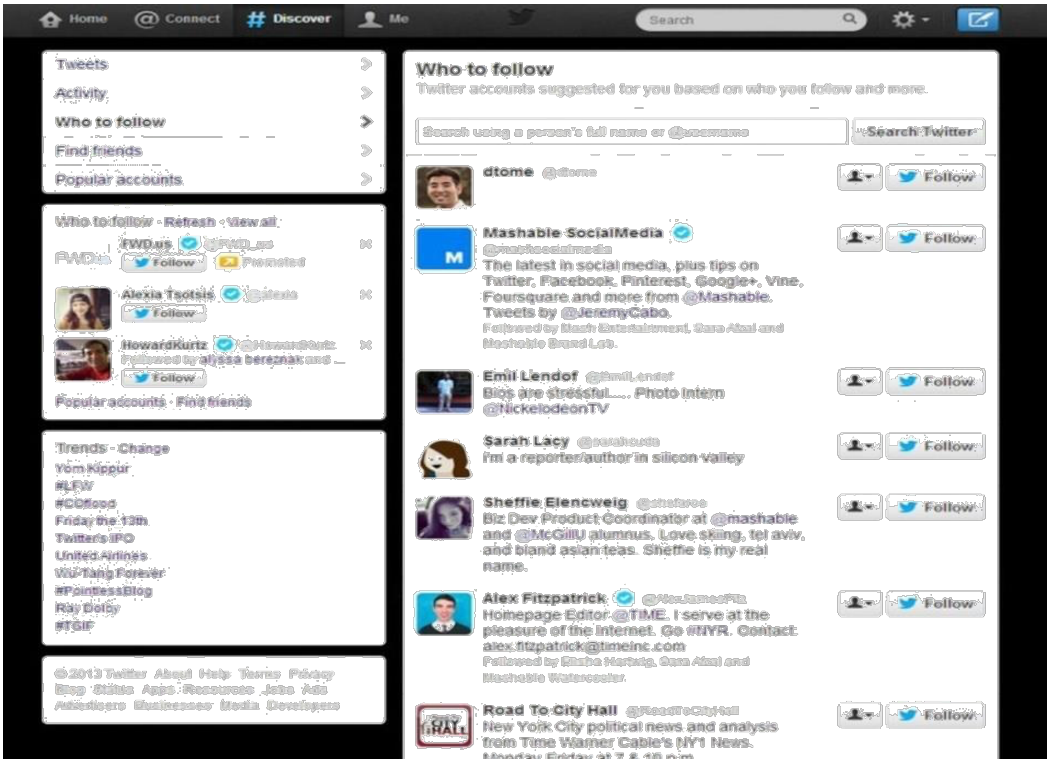
Retweet

See something you like? Retweet it to spread the word instantly. Re-sharing or giving credit to someone else's tweet.

Follow

Never miss an update from the people that matter to you. Building your timeline all starts with a follow.

Search



Wondering what something is all about. Search and see the conversation unfold line.

3. <u>You Tube</u>

What is YouTube?

YouTube is a video sharing website on which users can upload and share videos.

How did it start?

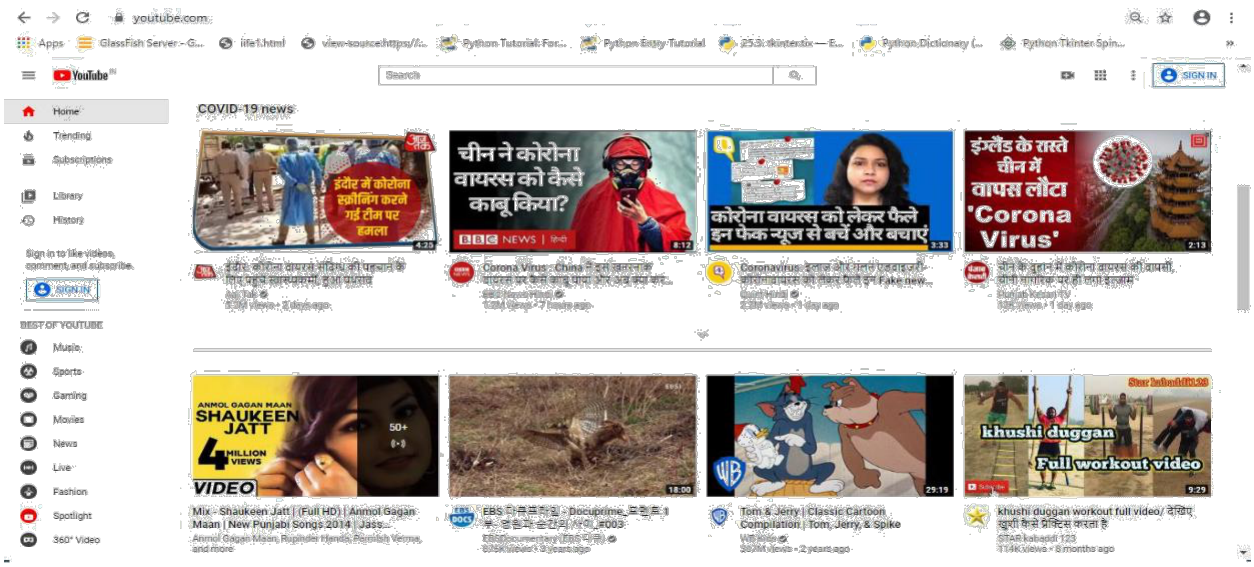
Three former PayPal employees created YouTube in February 2005. In November 2006, YouTube, LLC was bought by Google Inc. for $1.65 billion, and is now operated as a subsidiary of Google.

What's on YouTube?

You can use YouTube in many ways, but since it's a video -sharing network, two obvious options are to watch other people's videos and to upload your own videos so other folks can watch them. The site's motto is "Broadcast Yourself," but you don't have to, of course. You can simply watch other people broadcasting themselves. Unlike any other social networks, YouTube doesn't require you to create an account before you can search for content or view videos. Searching and watching are two activities you can engage in anonymously on the site. But if you want to broadcast yourself or anything else, you'll have to register for a Google account and get a username and password, because you can't upload videos without a user ID.

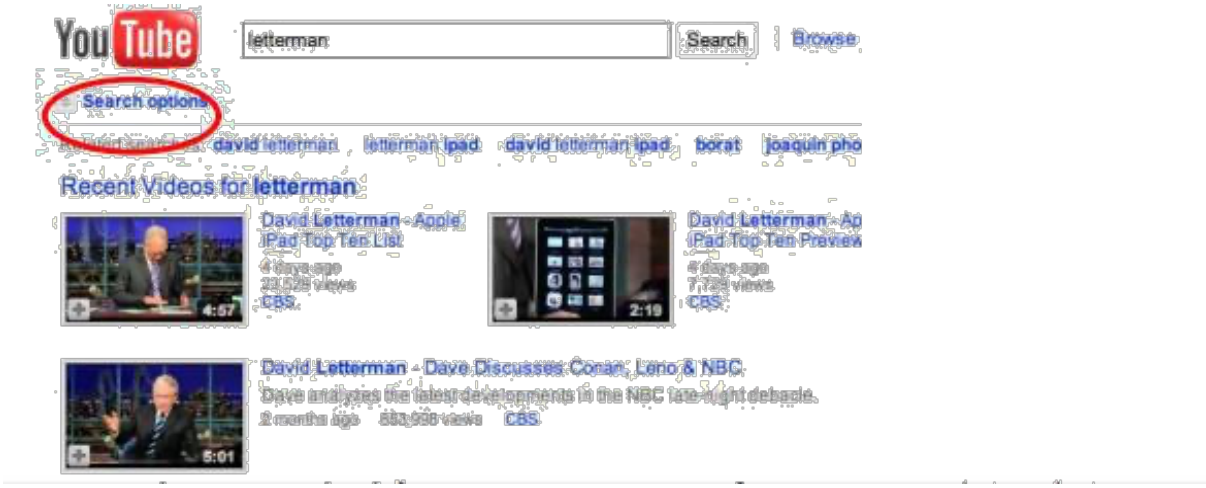
YouTube Logo

YouTube Home Page



On home page, there is a search option that can be used to find videos of your interest. Type in key terms- that is, names, places, events in the search field (the box to the left of “search” at the top of the page.

Once you have searched for a topic, you can refine your search by clicking on “search options” or you can click on links to open the video



The vast collectionof videos are organized in your homepage (after you’ve signed in, if you choose to create an account) in a few wats. The nice things are that you can remove any of the categories if you don’t like particular.

Features Videos: Mostly videos provided by YouTube commercial partners, although occasionally contains user –submitted videos that are high popular

Subscriptions: If you like the video(s) posted by one user/organization/company, you can subscribe to that channel and see all of their videos on your main YouTube page.

Recommended for You: Videos suggested by YouTube based on videos you've see or ones you've marked as a "favorite".

Recent Activity: Videos you have watched recently

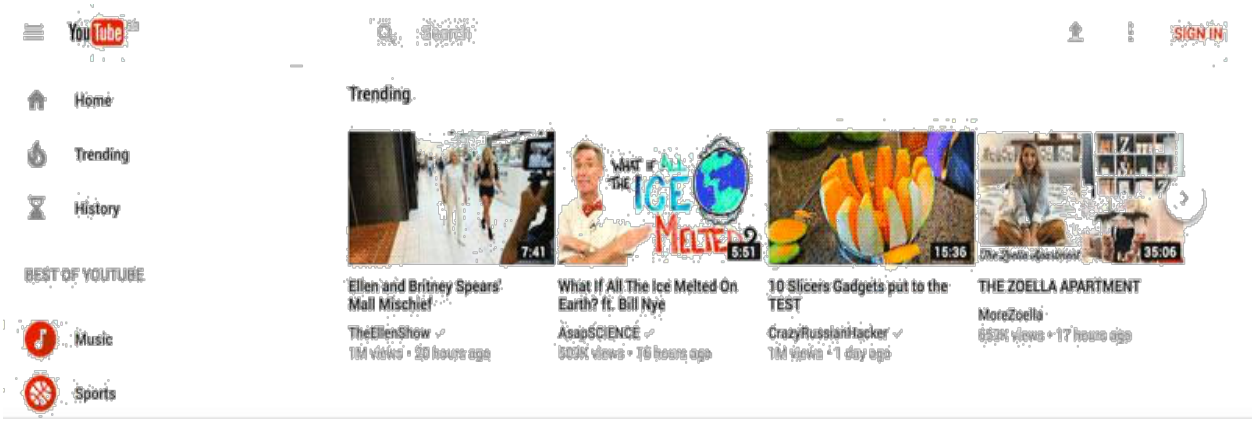
Most Popular/Most viewed: "MostPopular" seems to be calculated by some kind of YouTube-designed algorithm

Creating YouTube Channel

If you have a Google account, you can watch, share and comment on YouTube content. However, Google accounts don't automatically create YouTube channels. Getting a new channel set up is a simple and quick process, though.

Go to YouTube and Sign In

Go to YouTube and click "Sign In" in top right corner of the page

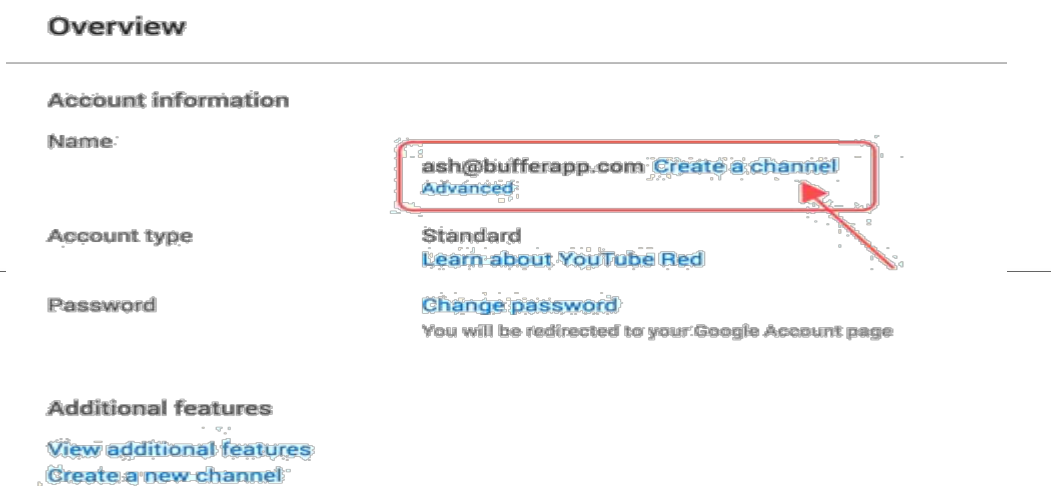


Then log in using the Google Account you'd like your channel to be associated with:

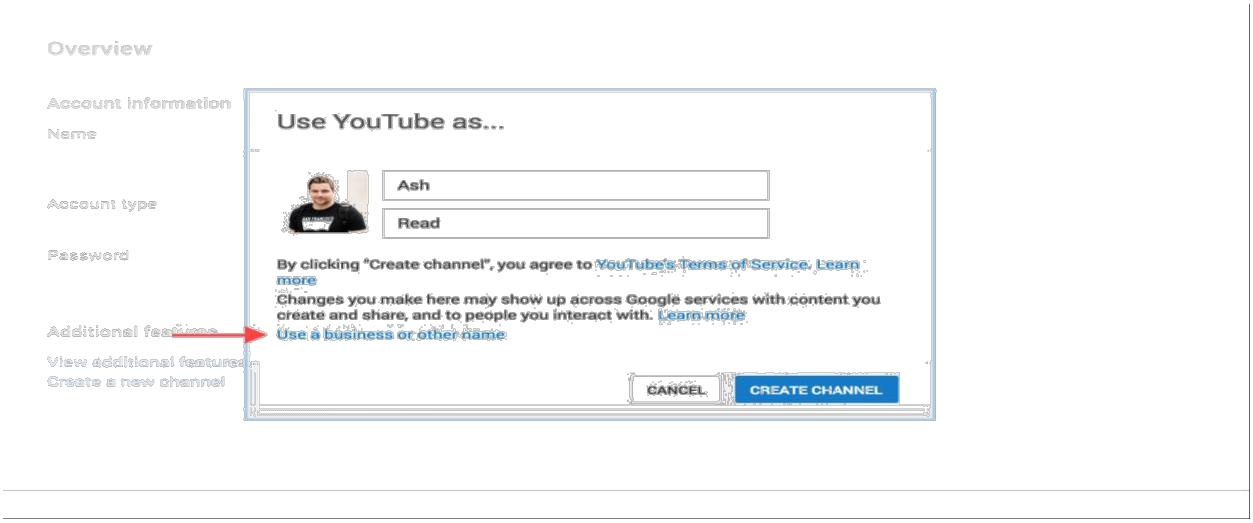
Head over to your YouTube settings

In the top right corner of the screen, click on your profile icon and then click "Settings" link

Under your settings, you'll see the option to "Create a Channel", click on that link:



Next, you'll have the option to create a personal channel or create a channel using a business or other name



Now its time to name your channel and select a category. The channel options available include:

- Product or Brand
- Company or organization
- Arts, Entertainment or Sports
- Other

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4. **Instagram**

What is Instagram?

Instagram is an American photo and video sharing social networking service owned by Facebook. It was created by Kevin Systrom and Mike Krieger, and launched in October 2010 on iOS. A version for Android devices was released in April 2012.

People can upload photos or videos to our service and share them with their followers or with a select group of friends. They can also view, comment and like posts shared by their friends on Instagram. Anyone 13 and older can create an account by registering an email address and selecting a username.

Over the past few years, Instagram has seen exponential growth – from one million users in December 2010, to over one billion user in 2019.



Steps to use Instagram

1. **Set up your account and profile**

If you don't have Instagram app on your phone, you can download it from the App Store, Google Play Store, or Microsoft Store. After download, you need to create your account and profile. When you create your account on the mobile app, the app will guide you through a few basic steps for getting set up.

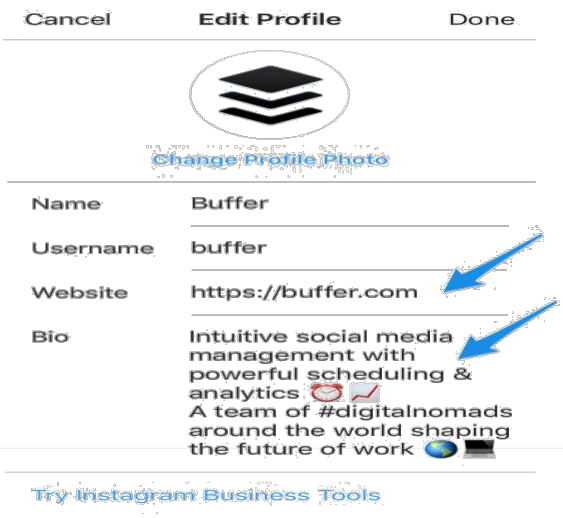
2. **Profile Photo**

Your Instagram profile photo will be displayed as a circle. You can select profile photo from gallery or you can click at the moment while setting up your profile.

3. **Profile Information**

The app will not prompt you to fill out your profile information but it will be great to do so. To fill out your profile information, go to your profile in the app and tap on "Edit-Profile".



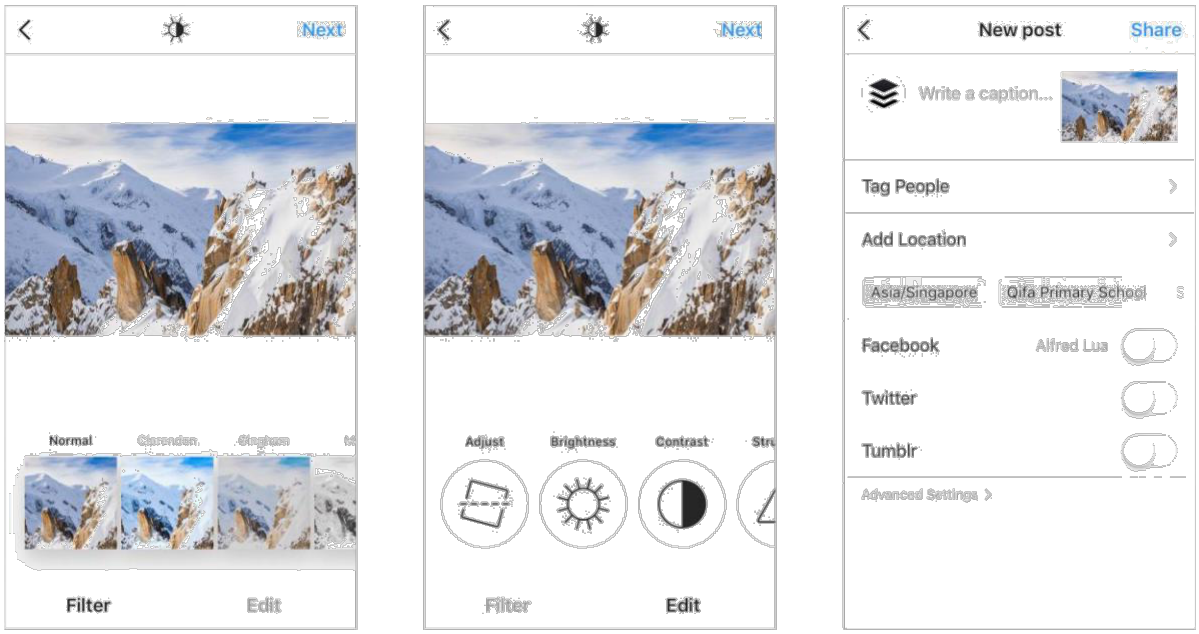


4. **Post Photos or videos**

When you want to post a photo or video, just hot the "+" icon at the bottom. Instagram will show you the most recent photos in your photo library. You can also choose to take a new photo or video by tapping on "Photo" or "Video" respectively.

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5. Edit your Media



Once you have selected your media for your post, you can add a filter or edit its orientation, brightness, contrast, and more. When your media is ready to go, just tap “Next” to fill out your post details.

Write a caption: Your caption appears just below your media when your post is published. You can mention another Instagram account (i.e. @username) and add hashtags. Accounts that you mention will receive a notification about it, and your post will appear when someone searches for the hashtags you used.

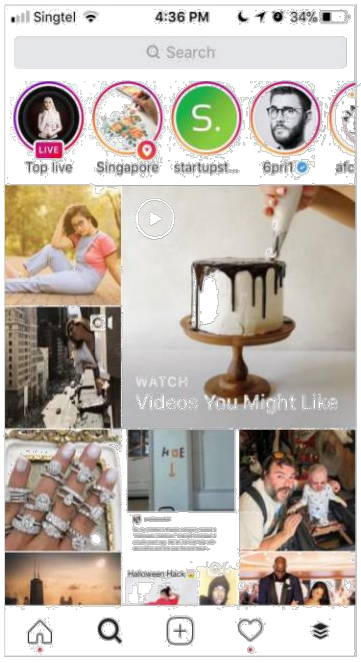
- **Tag People:** If you are posting a photo or a collection of photos, you can tag multiple Instagram accounts in each photo. The accounts you tag will also receive a notification about it.
- **Add Location:** If your media is a photo or video of a location, you could add a location tag to your post. Your post will appear when someone searches for posts in that specific location.
- **Social shares:** If you have connected other social media profiles to your Instagram account, you can easily share your posts on those profiles by toggling the switch.

6. **Find people to follow**

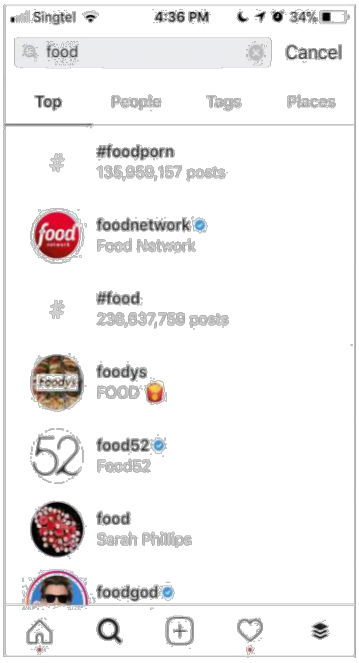
If you have not followed any accounts, Instagram will prompt you to "Find people to follow" on your feed and provide three ways to discover people to follow. You can either connect your Facebook account, connect your contacts, or follow profiles suggested by Instagram. A better approach, I feel, is to use the Instagram search and explore feature.

In the search and explore tab, Instagram will show you Instagram stories and posts that you might like. Here's how I would go about finding people to follow:

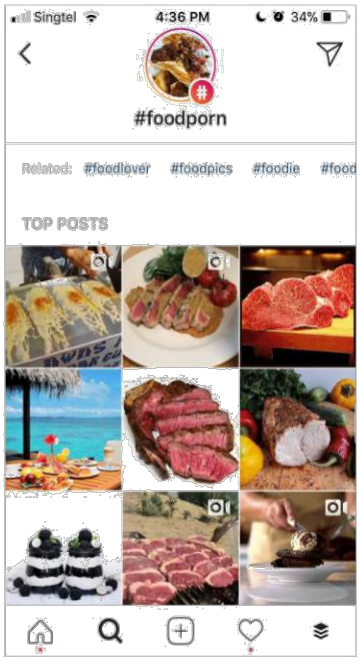
- Type in a keyword that is relevant to your business in the search bar
- Check out the suggested Instagram profiles or hashtags
- Follow the profiles that are relevant to your business
- Check out profiles that are recommended to you when you follow a profile



Search and explore



Search



Hashtag

5. **Facebook**

What is Facebook?

Facebook (FB) is a very popular social networking site that was launched in 2004. Registered users create a profile, which allows them to upload photos/videos, send messages, and connect with other people and businesses. It is international, and available in approximately 50 languages. Facebook also allows for creating events (and sending invitations) as well as a host of other things, such as playing games.

Businesses, bands, and organizations often create a Facebook page to market or promote themselves. This class will focus on the basics for the individual, not the business.

Signing Up

To create an account, you must have a working email address.

Please keep in mind that when you are signing up, you do not have to provide all the information that you are asked for – you can limit it to what you feel comfortable submitting. Remember, depending on your privacy settings or the specific piece of information, it may be seen by a great number of people.

Note: though you must provide your birthday when signing up, you can change the setting so that it is not viewable (or that only the month and day are viewable.) When registering, your birthdate is asked to verify that you are at least 13 years old and to, according to Facebook, “make sure you get the right Facebook experience for your age.”

Your Profile

By signing up, you created an account -- you didn’t set up your profile. Your profile, which is what people can see about you, is still probably blank.

By default, there are some sections that everyone can see, unless you change your settings. Contact information is available only to your confirmed friends by default. We’ll get more in to privacy settings later

D. e-Governance Portals

1. E-HRMS (Employee Human Resource Management System)

- To develop a complete HR solution.
- To collate the data for creation of posts, determining staff strength and expected number of retirements in a year and rational deployment of staff in various field offices
- To develop HR related databases for analyzing the skill set of each employee by collecting the information like skills, compensation, personal details, demographic information, and other detailed relevant information.
- To link with attendance management (Biometric Based attendance System) for collecting and analyzing information about employees working hours and then to use in evaluating cost account for the departments.
- For providing Salary and Compensation Management to the departments to compute the pay roll details of the employees by using inputs of employees working hours and attendance.
- To developer Benefits Management System for calculating additional allowances and benefits provided to employees using details about insurance policies, pension plans.



2. DigiLocker

https://digilocker.gov.in/

Introduction

DigiLocker, one of the key initiatives under the Digital India initiative, is aimed at eliminating the usage of physical documents and enable sharing of e- documents across government agencies via a mechanism to verify "authenticity" of the documents online. Residents can also upload their own electronic documents and digitally sign them using the e-sign facility. These digitally signed documents can be shared with Government organizations or other entities.

USER ID CREATION

Step 1: Click on 'Sign In'

- Go to https://digilocker.gov.in/
- Click on **Sign In** at the top of the page



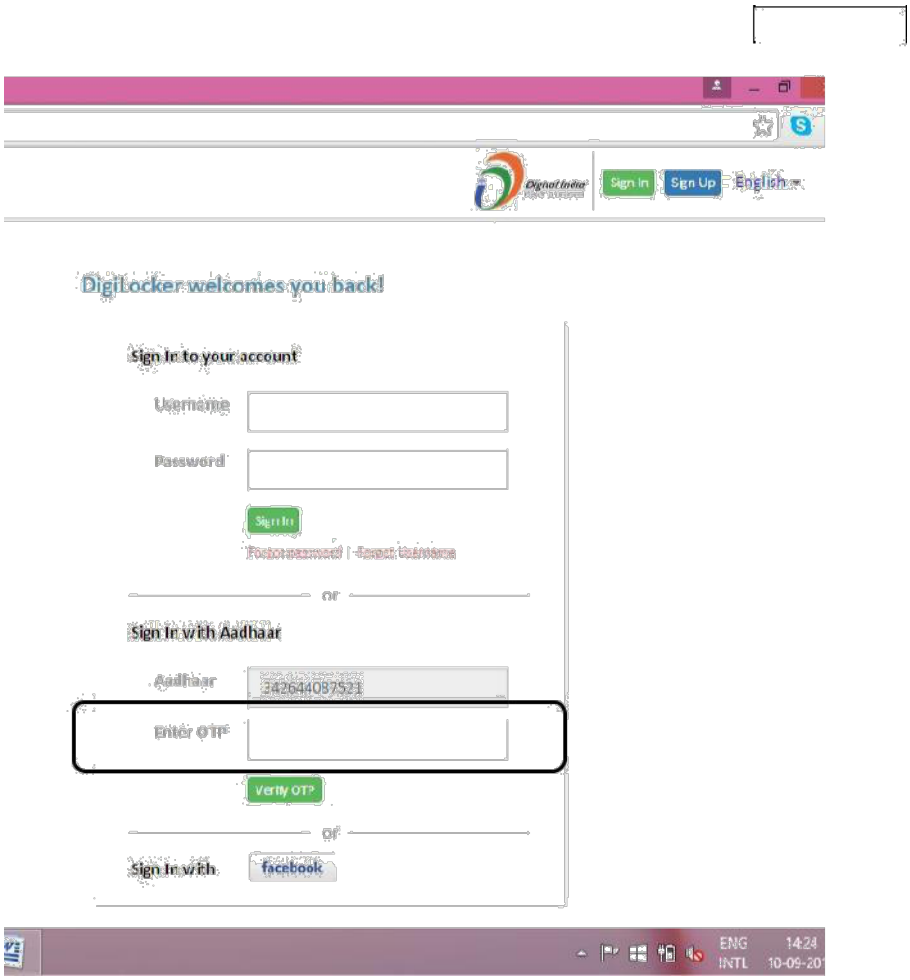
Step 2: Enter User Details

User can login via any of these 3 available options:

1. Aadhaar Number and the OTP
2. User name and Password provided during account creation
3. Facebook ID validation

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Entering Aadhaar OTP if Aadhaar number option is selected. Click on **Verify OTP**



Entering User ID and Password if User Name option selected. Click on **Sign In** button after that

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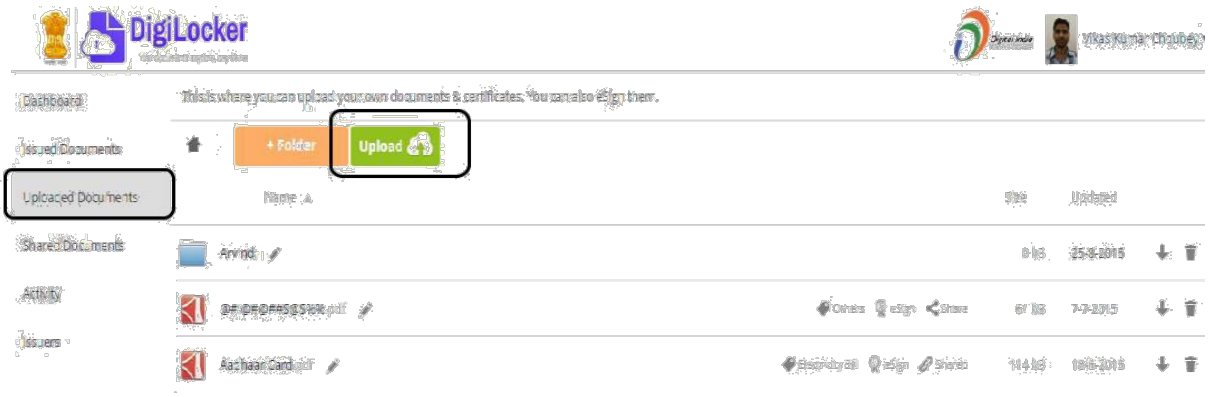
Entering Facebook ID and Password if Social Media (Facebook) option **3.1.3 Uploading Certificates & Documents**



Step 1: Document Upload Screen

- After signing into Digital Locker, click on **Uploaded Documents** and then click on **Upload** to upload your documents in the Digital Locker Account
- Multiple documents can be uploaded at a time

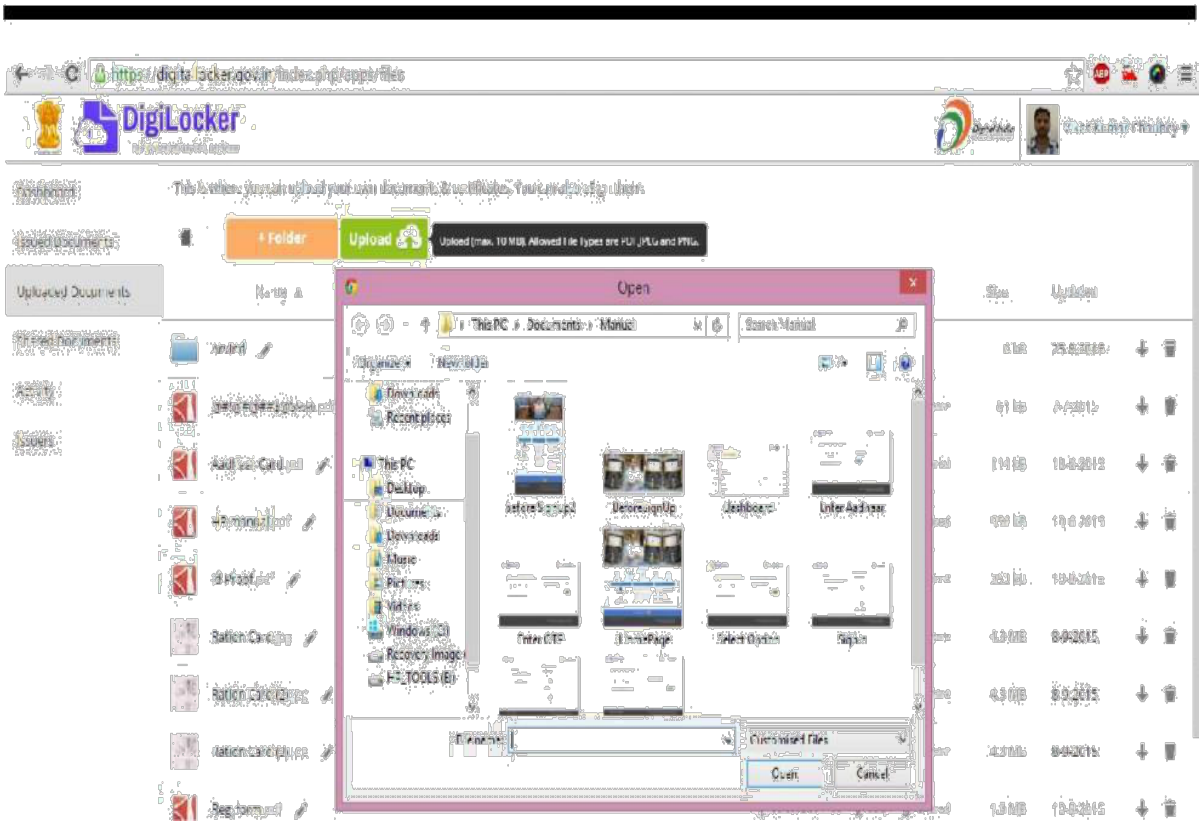
1



Step 2: Document Upload Screen

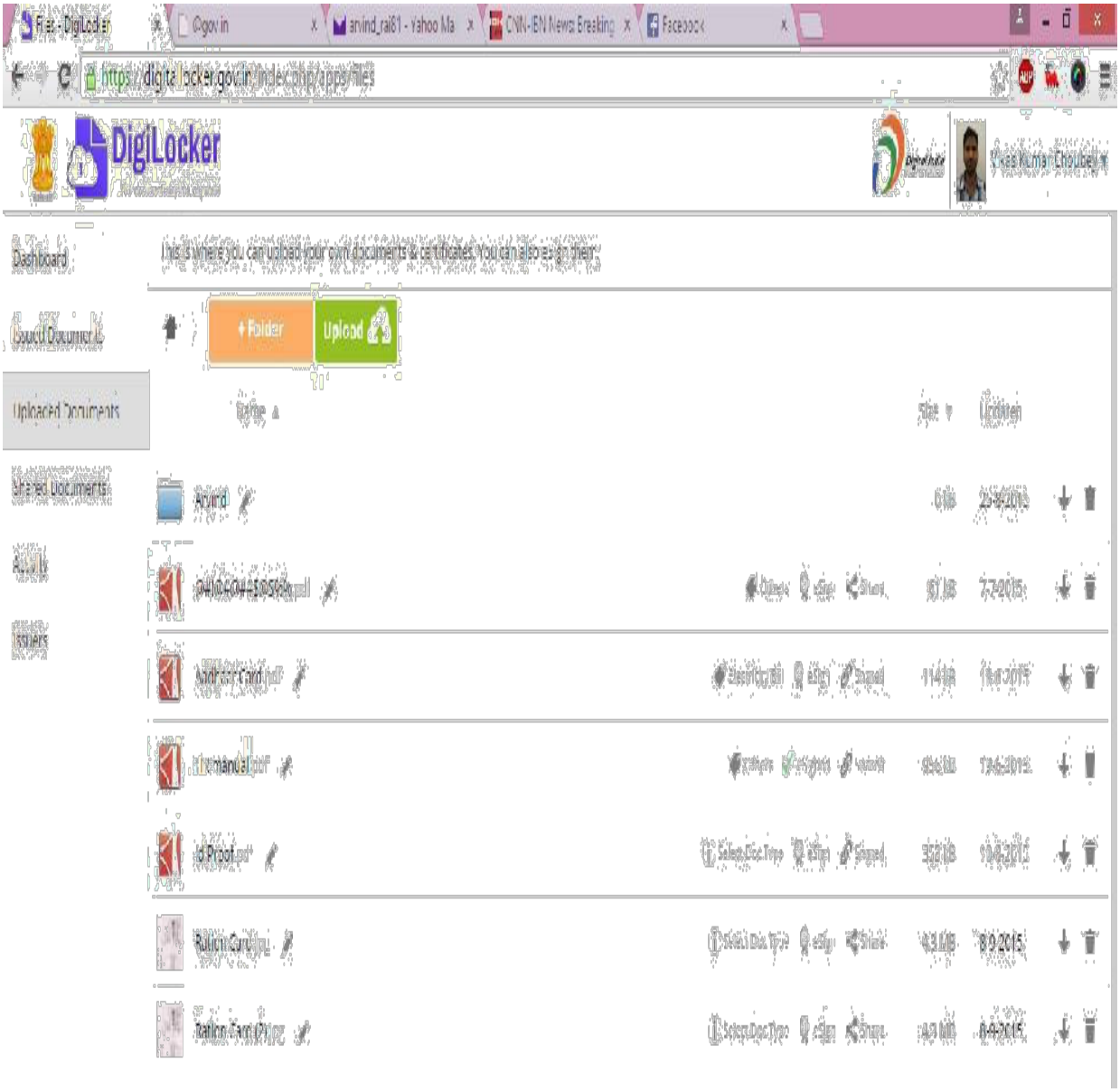
Click on the Upload button as shown in the image

Choose the location and select the file(s). After selecting file(s), click on **Open** button Multiple documents can be uploaded at a time



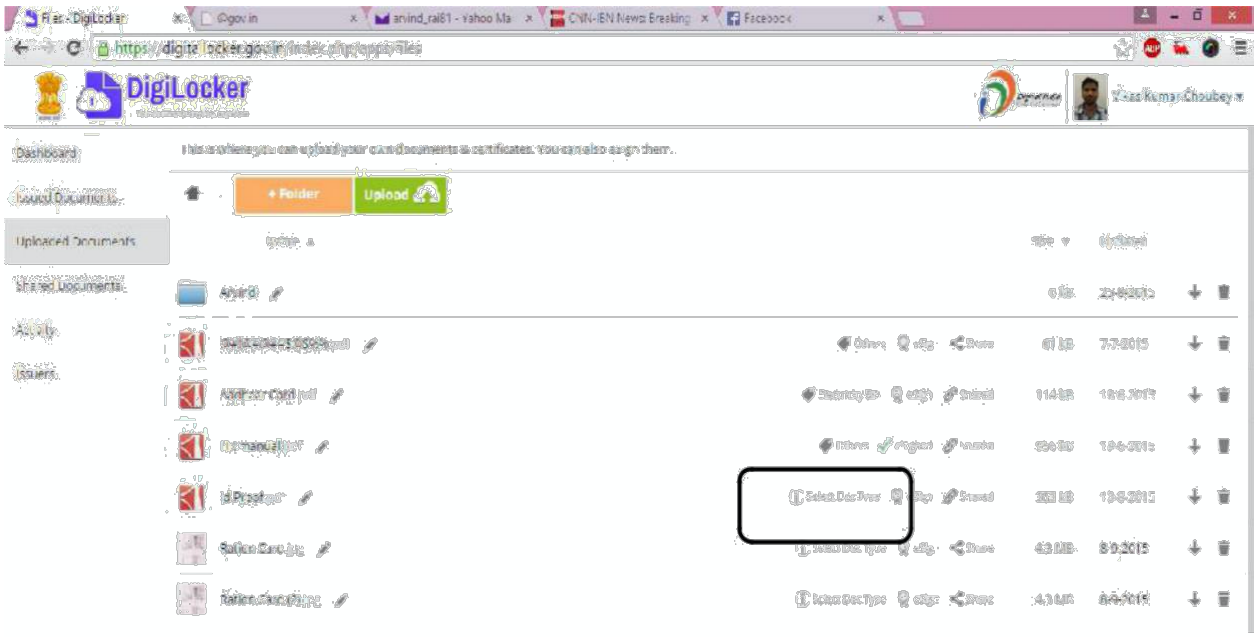
- The sample screen will look as below

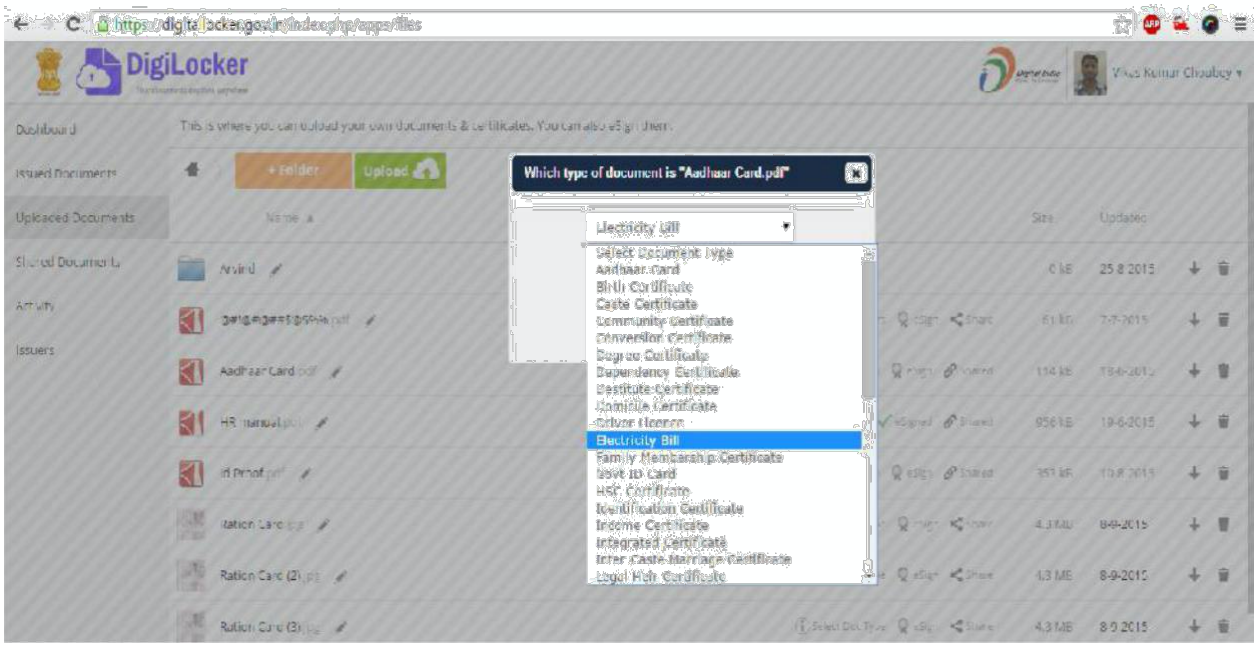
- Documents uploaded will be visible in ‘Uploaded Documents’ section



Step 3: Select Document Type

- Click on ‘Select Doc Type’ for any document listed in Uploaded Documents list
- Choose the Document type from the given drop down.
- If your document does not match with any of the predefined document types then select “Others” from the drop down.
- After above mentioned steps, click on **Save** button





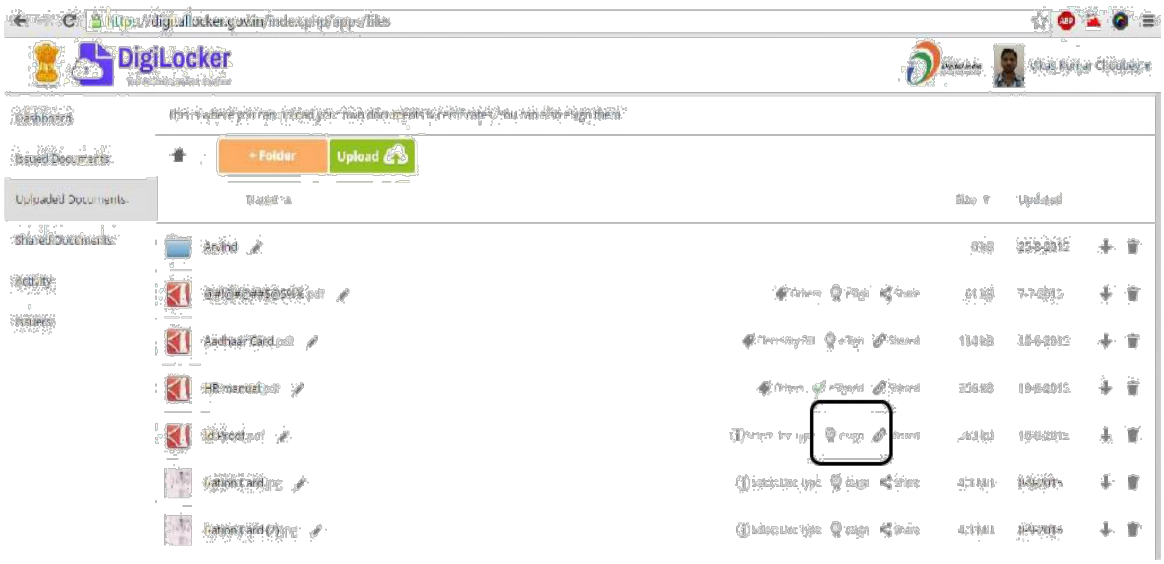
Viewing Certificates

- After login into Digital Locker account, click on **Uploaded Documents** to view all user uploaded certificates and documents

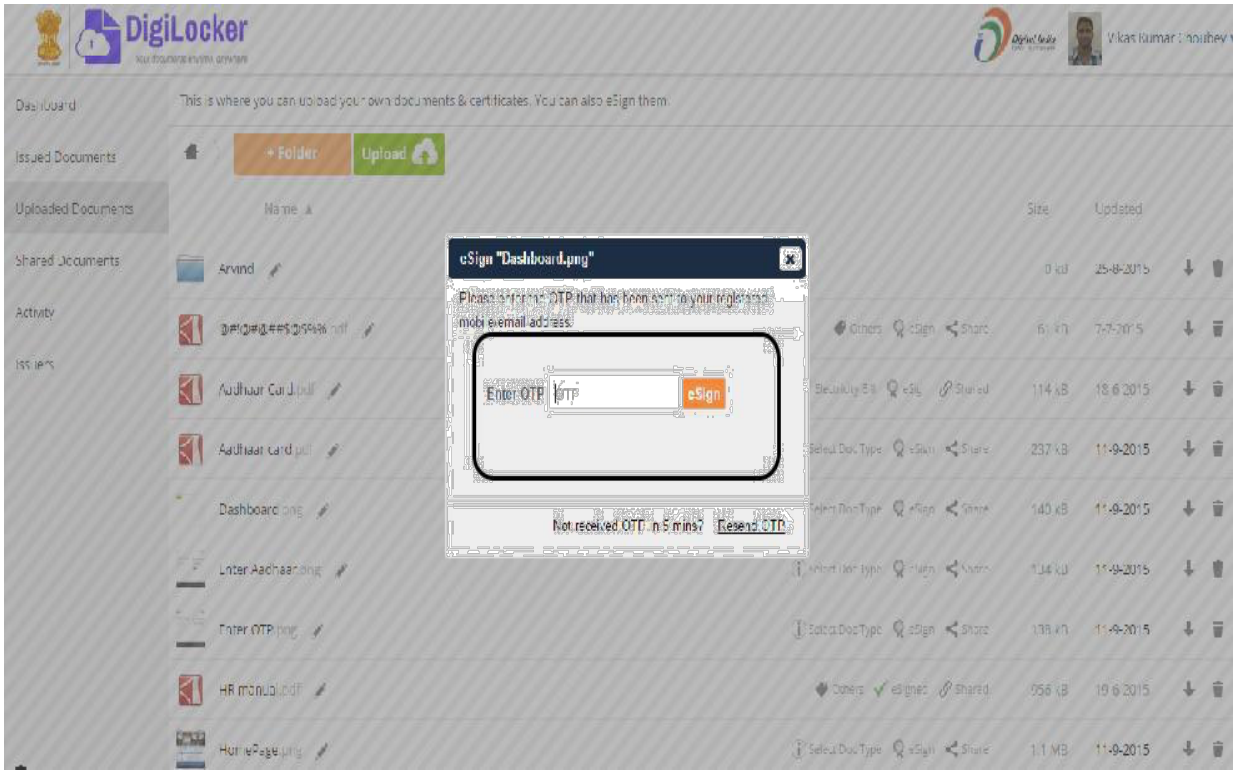
- Users can edit (file names, Doc type), download, and share files from here.

Sign Document/Certificate

- Click on eSign link provided for each document in Uploaded Document section.



- User will receive an OTP on mobile which needs to be filled in the text box.
- After entering OTP, click on eSign button.
- Selected document will be eSigned (and converted into pdf if not already a pdf document)
- Only one document can be eSigned at a time

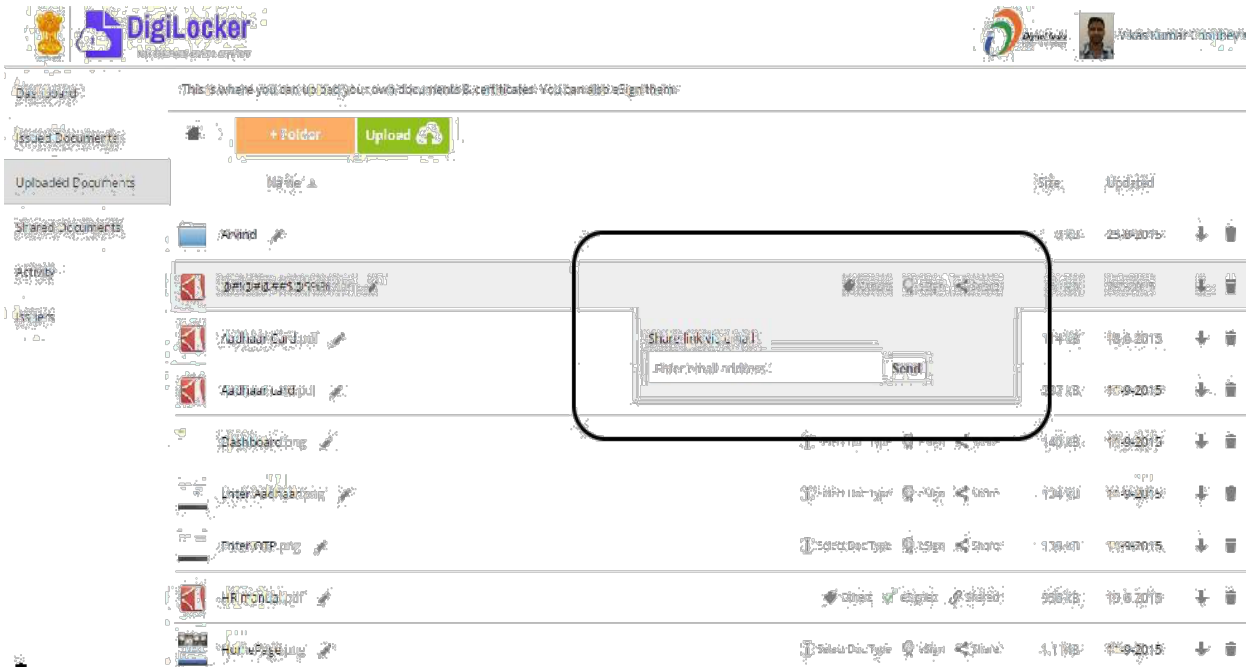


Share Document

- Click on share link provided for each document in Uploaded Document section.



User will get a pop up for entering email ID with whom this document will be shared.



- After entering email ID, click on send button.
- Selected document will be shared with email address provided.
- Only one document can be shared at a time

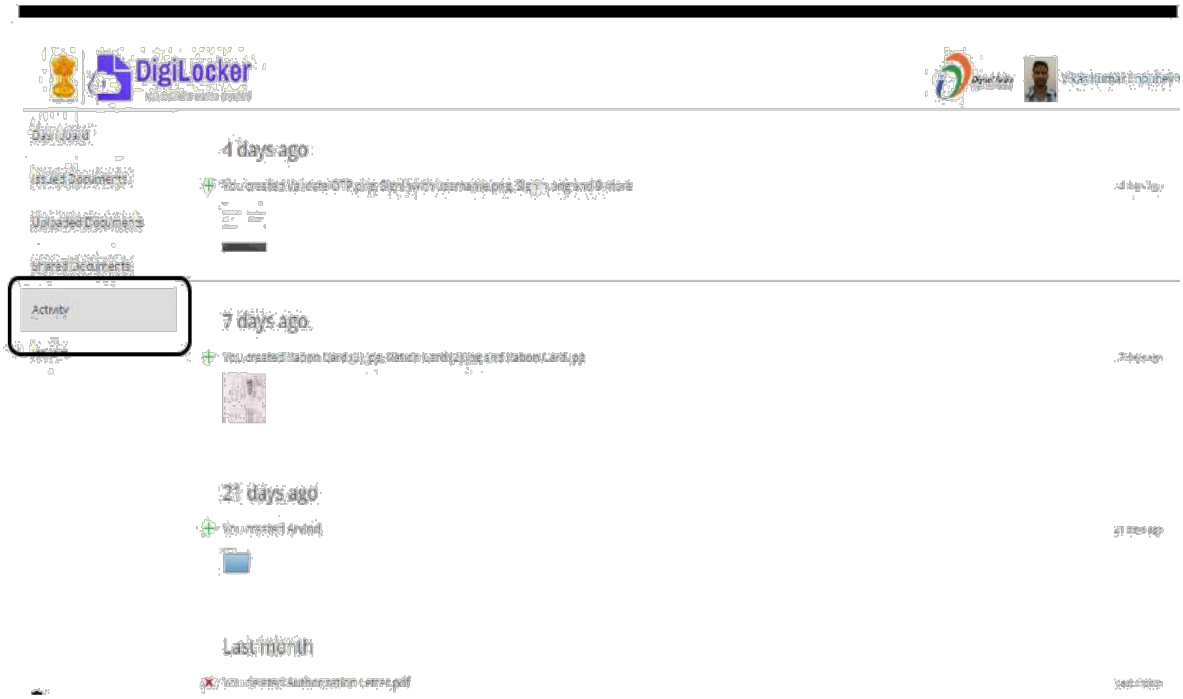
Viewing Issued Documents

- After login into DigiLocker account, click on **Issued Documents** to view all issued certificates
- Users will be able to view URI of the documents shared with him/her by registered issuers
- Clicking on URI will fetch the actual document directly from issuer database/file system.



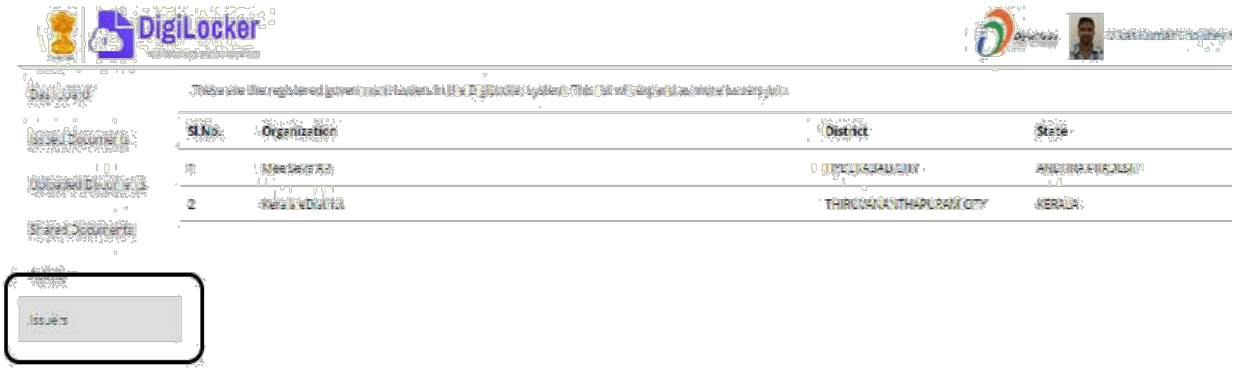
Viewing Activity

- After login into DigiLocker account, click on **Activity** to view all the activities performed by the logged in user in the system.
- Activity list is only for viewing. It cannot be edited or deleted.



Viewing Issuers

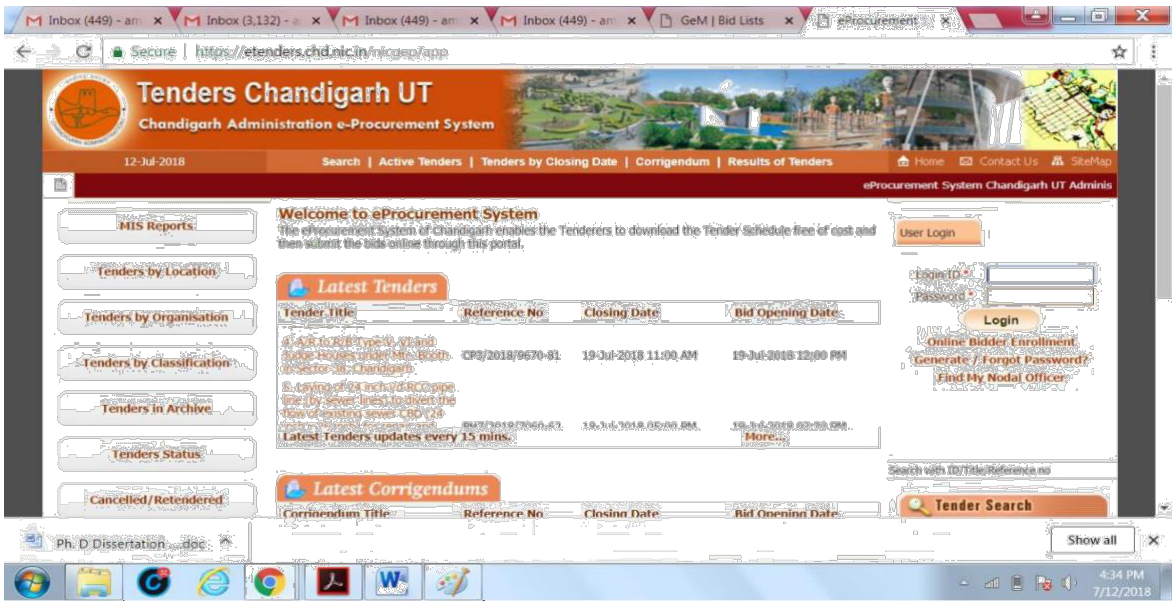
- After login into DigiLocker account, click on **Issuers** to view all registered issuers who are part of the DigiLocker system.



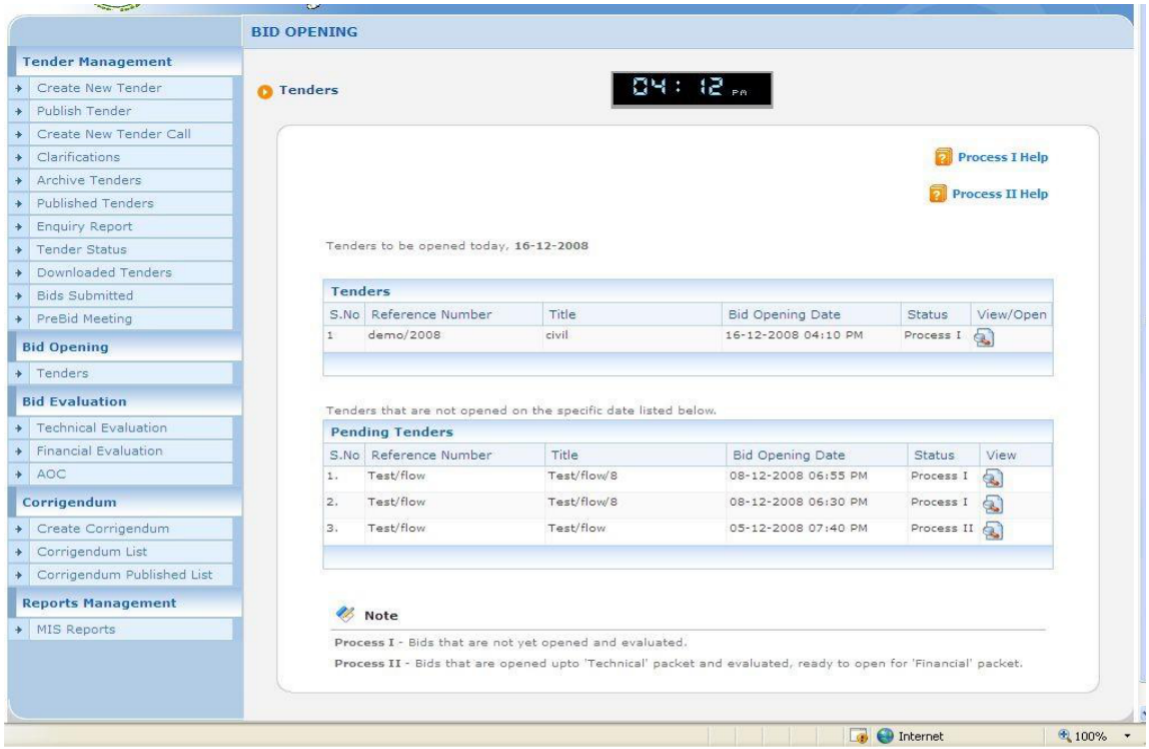
3. E-Tendering

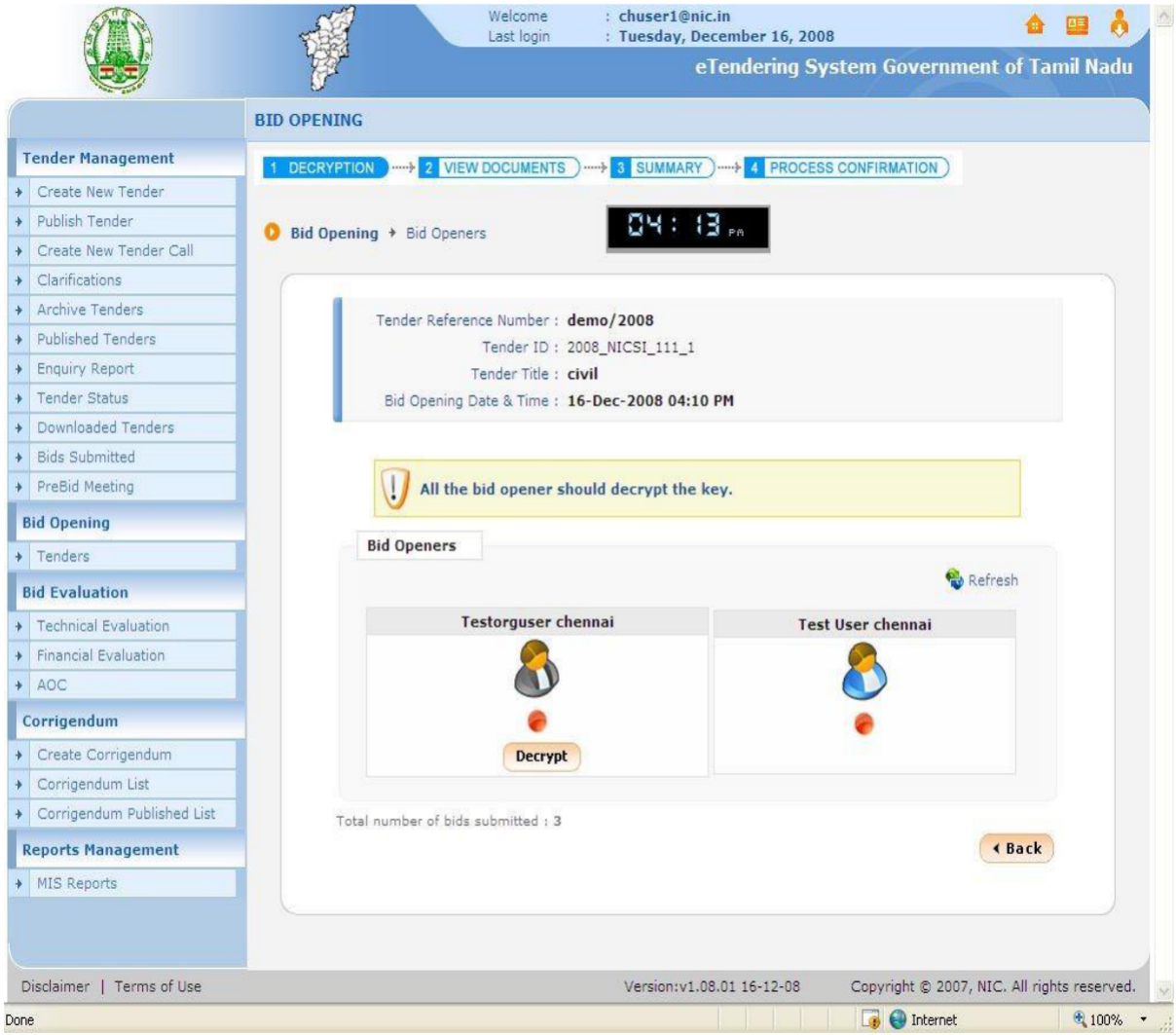
An internet based process wherein the complete tendering process; from advertising to receiving and submitting tender-related information are done online. This enables firms to be more efficient as paper-based transactions are reduced or eliminated, facilitating for a more speedy exchange of information.

Login Page



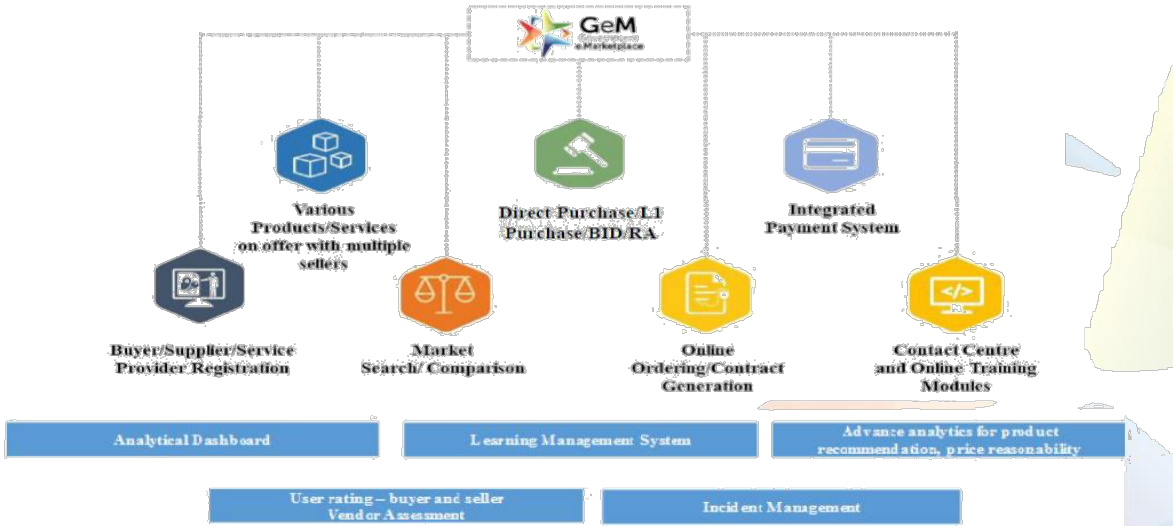
Bid Opening Process Flow: Authenticating using Encrypting Keys for Bid opening.
Bid Opening on Specific Date and mentioned time as per Portal Date/Time settings.


BID OPENING
Tender Management
Create New Tender
Publish Tender
Create New Tender Call
Clarifications
Archive Tenders
Published Tenders
Enquiry Report
Tender Status
Downloaded Tenders
Bids Submitted
PreBid Meeting
Bid Opening
Tenders
Bid Evaluation
Technical Evaluation
Financial Evaluation
AOC
Corrigendum
Create Corrigendum
Corrigendum List
Corrigendum Published List
Reports Management
MIS Reports
Tenders
04 : 12 PM
Process I Help
Process II Help
Tenders to be opened today, 16-12-2008
Tenders
S.No | Reference Number | Title | Bid Opening Date | Status | View/Open
1 | demo/2008 | civil | 16-12-2008 04:10 PM | Process I
Tenders that are not opened on the specific date listed below.
Pending Tenders
S.No | Reference Number | Title | Bid Opening Date | Status | View
1. | Test/flow | Test/flow/8 | 08-12-2008 06:55 PM | Process I
2. | Test/flow | Test/flow/8 | 08-12-2008 06:30 PM | Process I
3. | Test/flow | Test/flow | 05-12-2008 07:40 PM | Process II
Note
Process I - Bids that are not yet opened and evaluated.
Process II - Bids that are opened upto 'Technical' packet and evaluated, ready to open for 'Financial' packet.
Internet
100%


Welcome : chuser1@nic.in
Last login : Tuesday, December 16, 2008
eTendering System Government of Tamil Nadu
BID OPENING
1 DECRYPTION → 2 VIEW DOCUMENTS → 3 SUMMARY → 4 PROCESS CONFIRMATION
Bid Opening → Bid Openers
04 : 13 PM
Tender Reference Number : demo/2008
Tender ID : 2008_NICSI_111_1
Tender Title : civil
Bid Opening Date & Time : 16-Dec-2008 04:10 PM
All the bid opener should decrypt the key.
Bid Openers
Refresh
Testorguser chennai
Test User chennai
Decrypt
Total number of bids submitted : 3
Back
Disclaimer | Terms of Use
Version:v1.08.01 16-12-08
Copyright © 2007, NIC. All rights reserved.
Done
Internet
100%

4. Government e-Marketing (GeM)

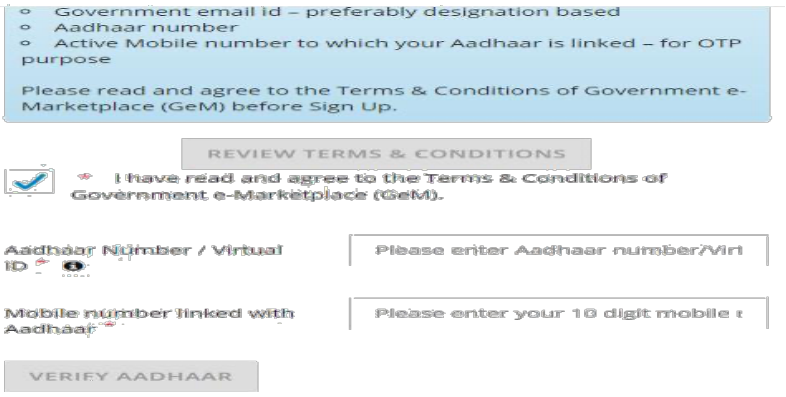
Based on their commendations of the Group of Secretaries made to Hon'ble Prime Minister, the Government decided that it will create a one stop Government- Marketplace (GeM) to facilitate online procurement of common use Goods & Services required by various Government Departments / Organizations / PSUs. GeM aims to enhance transparency, efficiency and speed in public procurement. It provides the tools of e-bidding, reverse e- auction and demand aggregation to facilitate the government users, achieve the best value for their money. There are different reasons for purchasing a product on GeM as shown in figure.



Reason to buy product on GeM

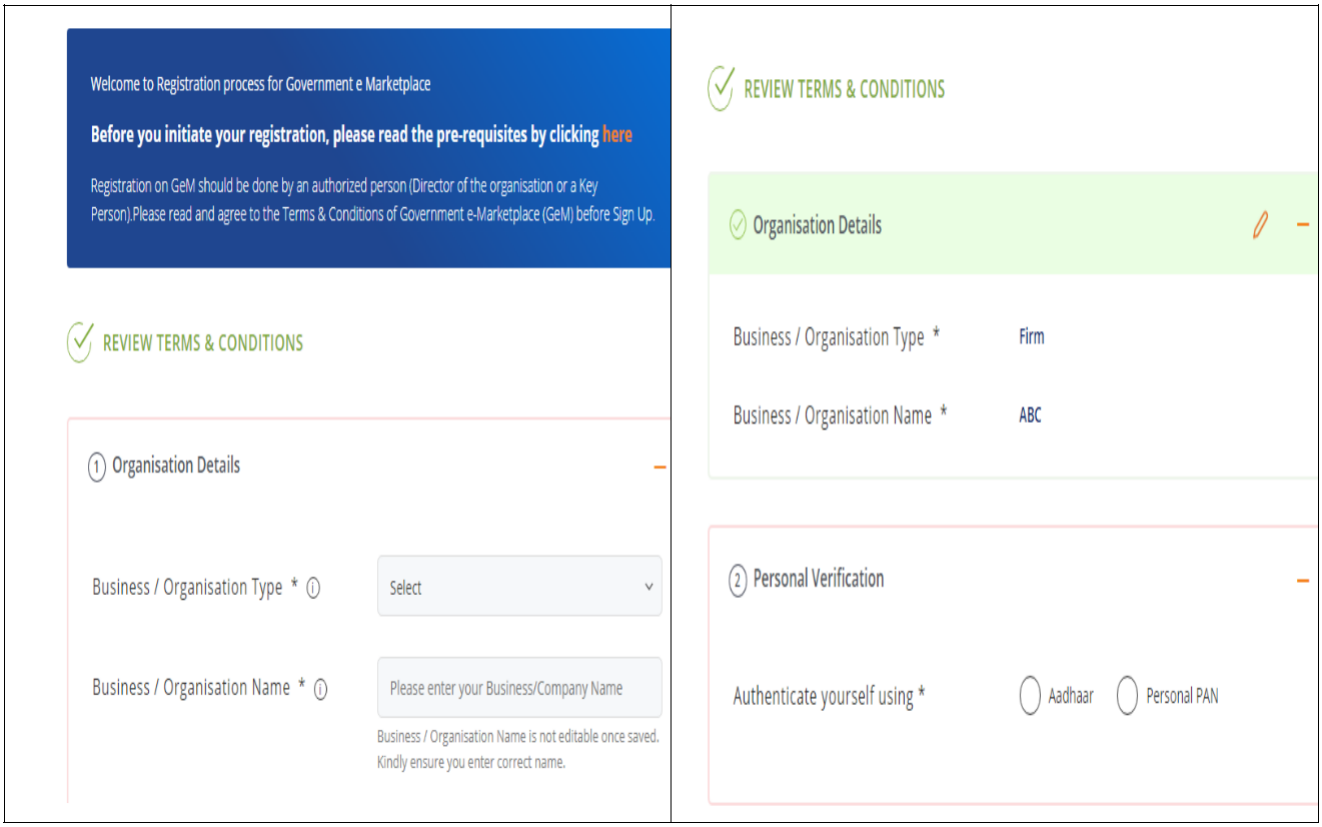
Requirements to register on Gem Portal

User role to register on website is categorized as buyer and seller. A buyer which is a government organization needs to have Aadhaar number, official email id (gov.in/nic.in), official landline number and bank account details of an organization to register an organization on GeM portal. Below shown figure mention how to register in GeM as buyer.



Buyer Registration

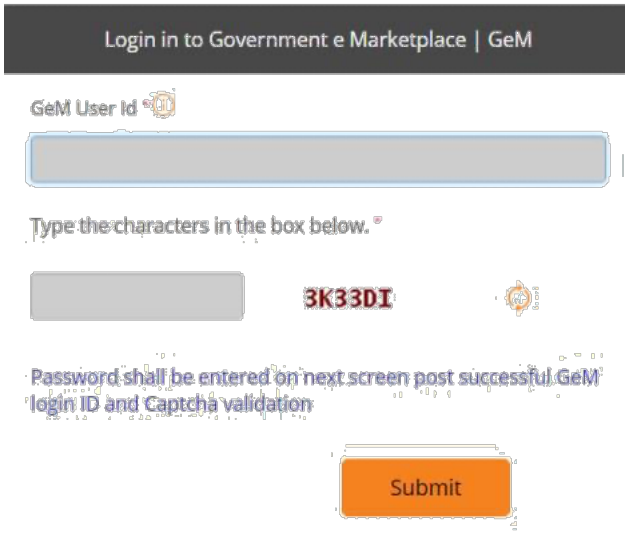
Similarly, the seller also registers on the GeM portal and below displayed figure shows the step to follow.



Seller Registration Page

GeM Login Page

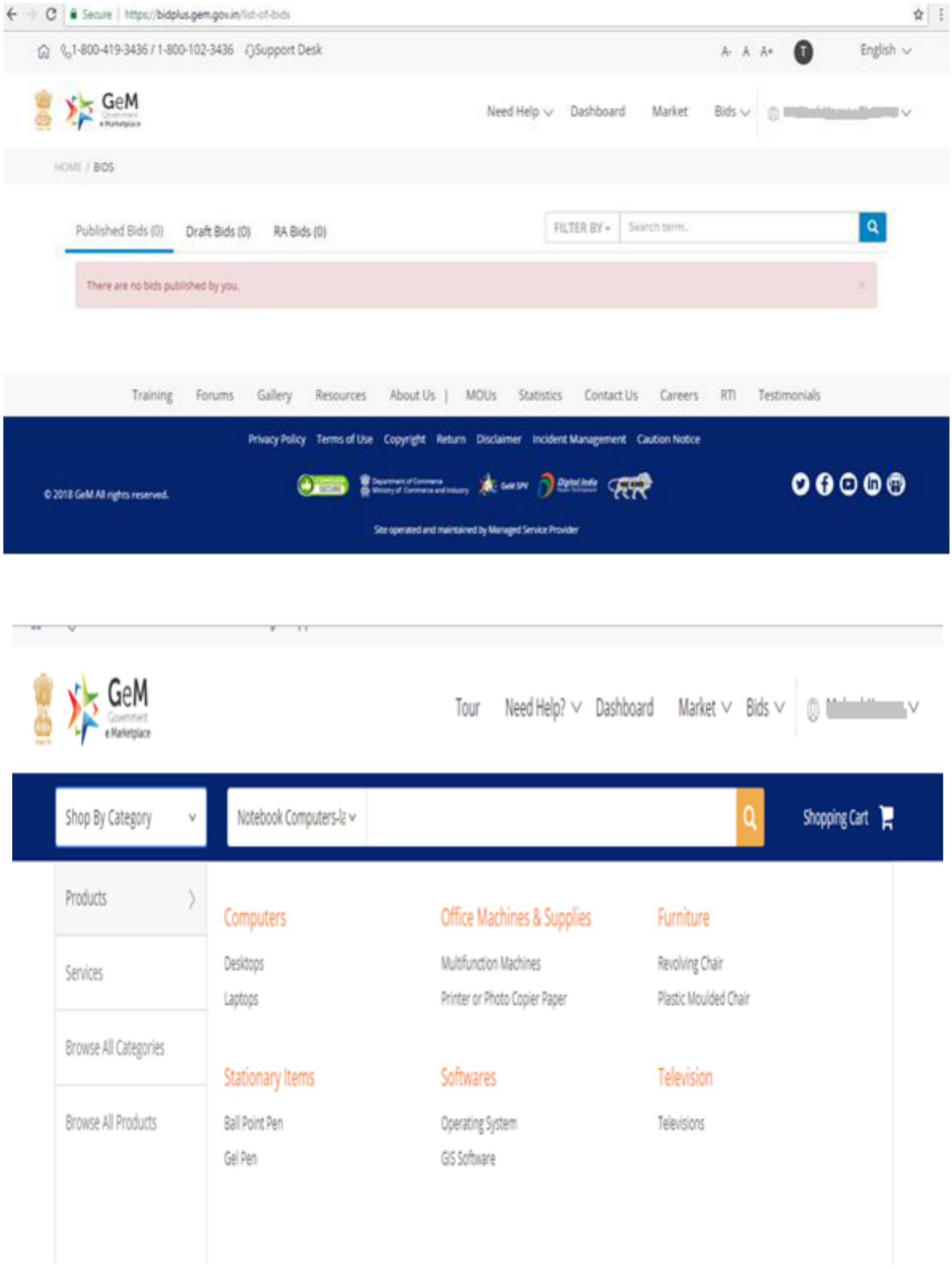
After registering with the GeM portal, user can access the GeM features with their login credentials as shown in below mentioned figure.



Login Page

Dashboard for Bids

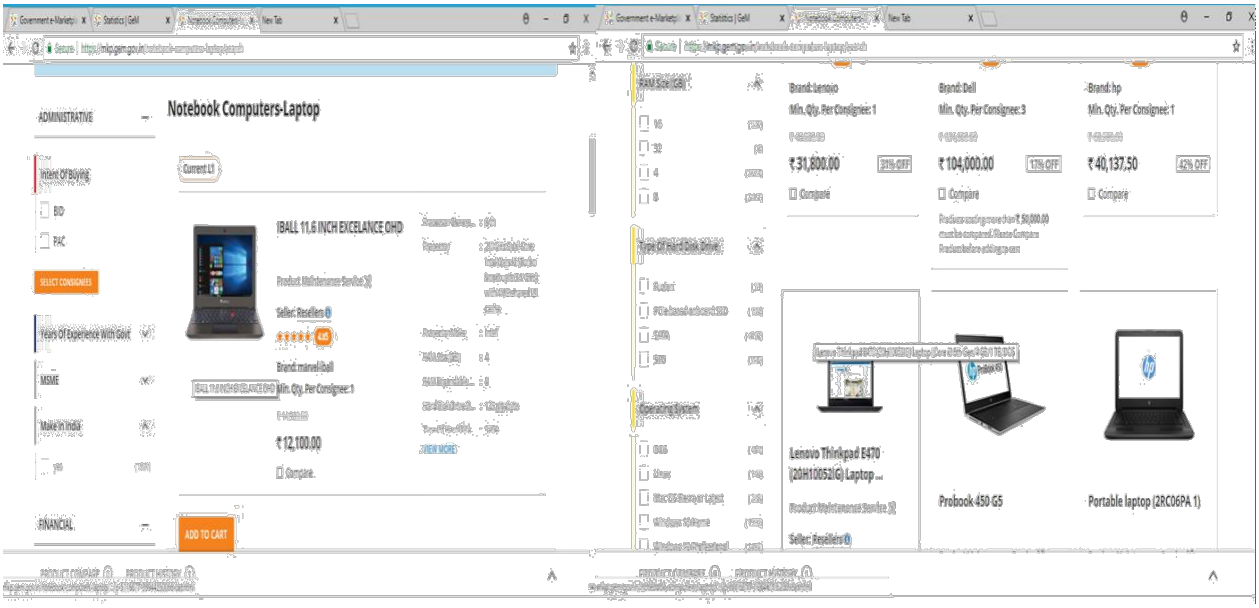
After user login as buyer below mentioned dashboard will appear which shows the published, draft and reverse auction (RA) bids. The dashboard also facilitates the buyer to search various product and services as per category as shown in figure.



Dashboard of user as buyer

Advanced Search

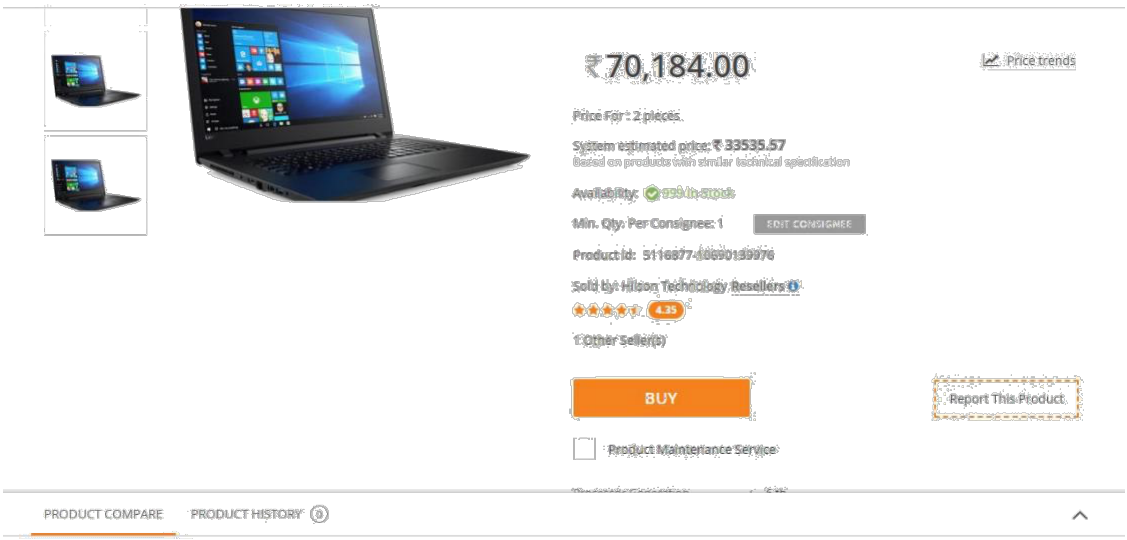
This feature allow user to search the product under various classifications and filter the product as per desired requirement. Below mentioned figure shows the list of products of different vendors which fulfill the searched criteria of user.



Searching products on GeM

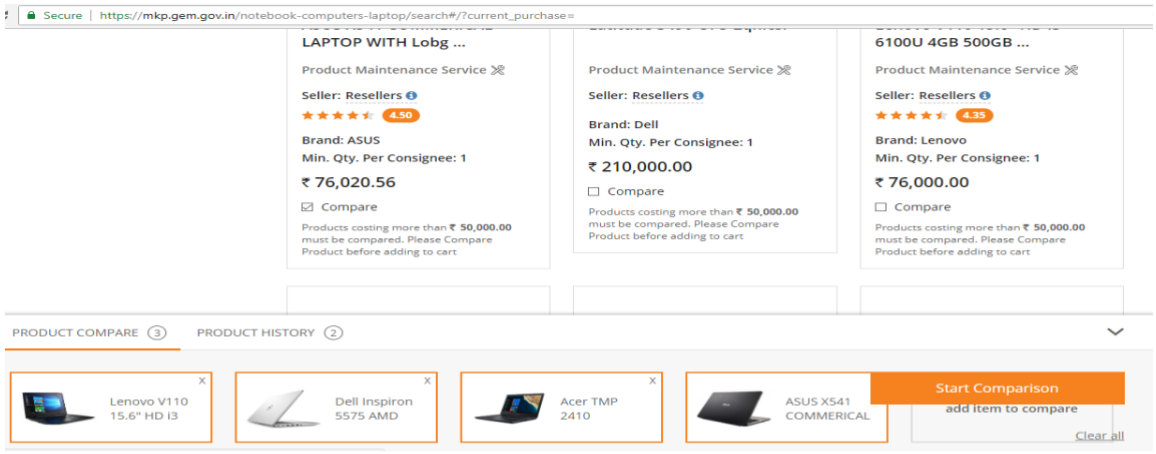
Purchase a Product

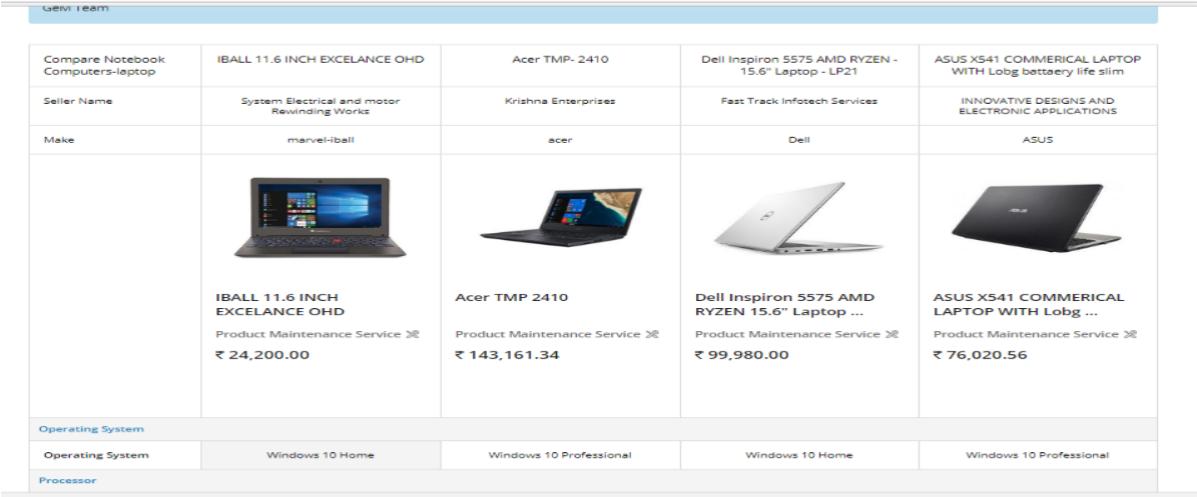
There are four ways to purchase a product from GeM portal and these are buy (without comparison), buy (with comparison), bidding purchase and reverse auction purchase. In direct buy (without comparison) just select the single product from the list and click buy button or add to cart if purchase more item. This type of purchase can be initiated when the total purchase amount of all products should be less than 25K as per latest government terms and condition. The same is shown in figure shown below.

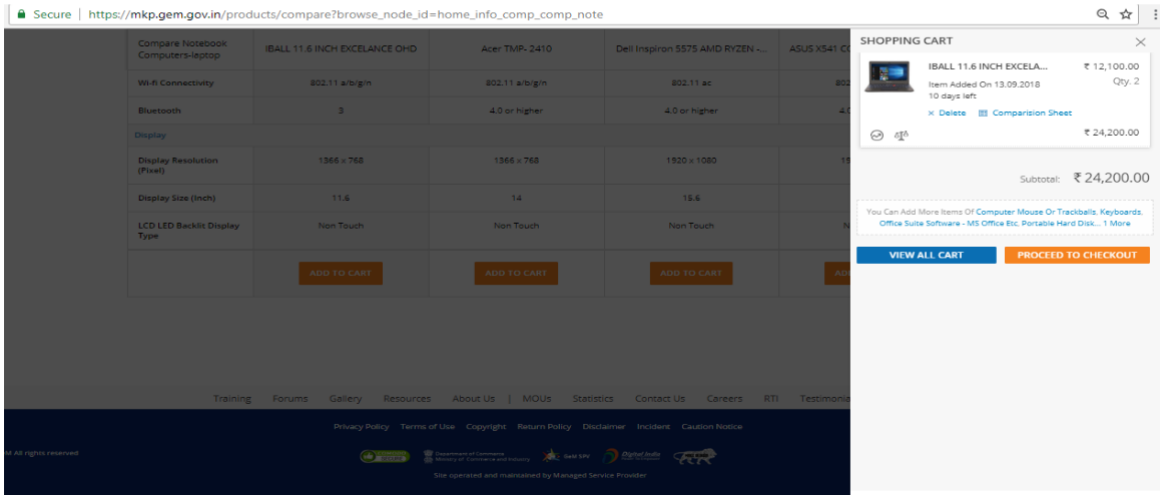


Buy (Without comparison)

Buy (With comparison) method can be used when the amount of the all the product to amount is greater than 25K, in that can user must have at least 3 comparison of same product from different vendors and award the buy call to the vendor who quoted the lowest price of the desired filtered product. This step is shown in figure mentioned below.

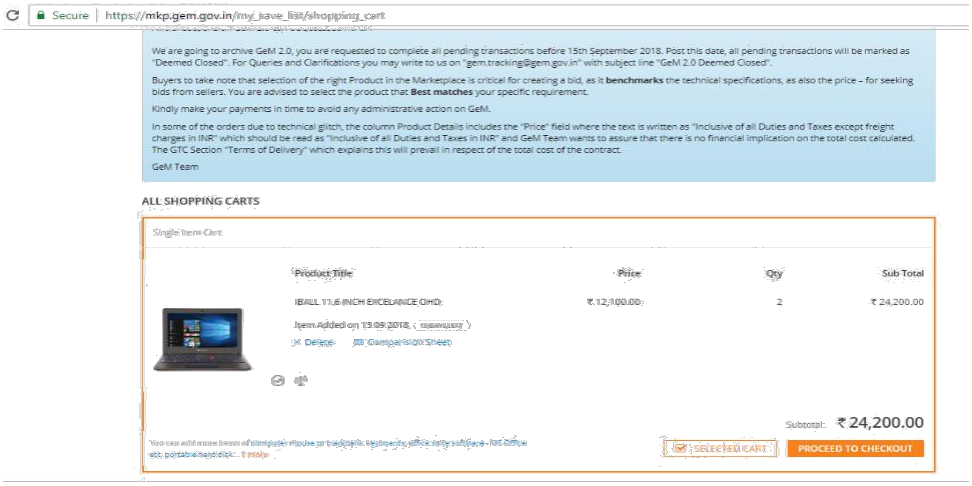






Buy (With Comparison)

After selecting the product by buy option of with comparison and without comparison the below mentioned steps comes in which user click proceed to check out to move to next step of payment.



Proceed to next step of payment after selection of product

Applying the purchase through bidding and reverse auction is similar as direct buy in GeM portal.

Bidding: Bidding is an offer (often competitive) to set a price by an individual or business for a product or service or a demand that something be done. Bidding is used to determine the cost or value of something.

Reverse Auction: A reverse auction is a type of auction in which the roles of buyer and seller are reversed. In a reverse auction, the sellers compete to obtain business from the buyer and prices will typically decrease as the sellers under bid each other.

Complete Working Process through GeM

Below mentioned figure show the integration of GeM portal with the public procurement ecosystem.

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Raising a Ticket

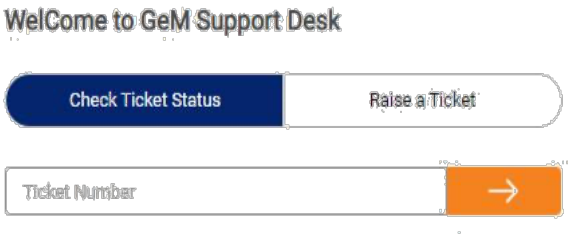
If any user faces any problem related to the GeM portal, then they can raise a ticket which have unique Id which can be tracked to check the status of the ticket whether the problem is resolved or not. Raise a Ticket option is available at the footer of GeM postal as shown in figure.



Shows Option of Raise a Ticket and LMS

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Form a raise a Ticket

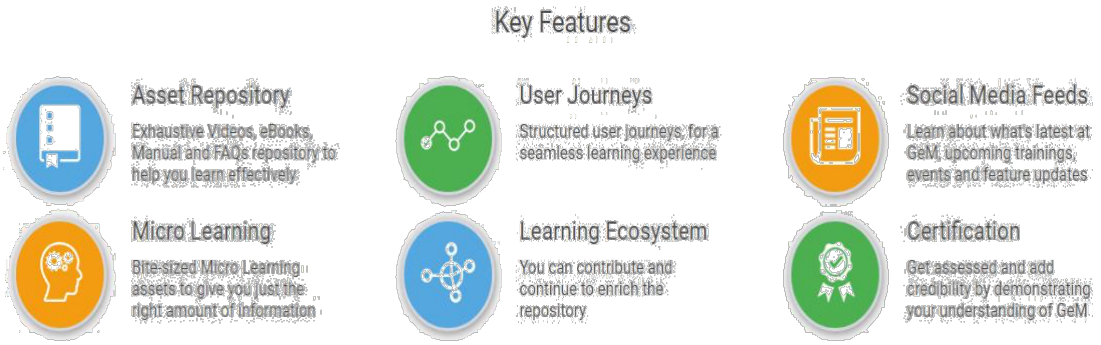


Form to check the Status of the Ticket

GeM Learning Management System

GeM LMS is an invaluable, user-centric knowledge repository featuring learning paths to meet user specific needs and learn the ecosystem better. It serves as a platform for users and trainers facilitating intermediate processes like registration training, live training using webinar, certification, feedback, FAQs and other user specific journeys.

Key Features of LMS:



Features of LMS

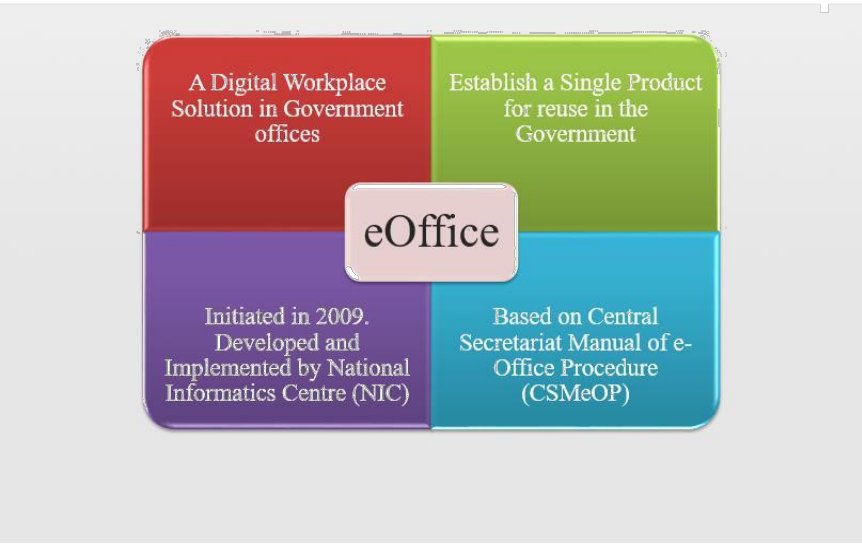
Steps to use the LMS portal of GeM: Following steps is to followed to use the GeM LMS portal.



Steps to use LMS portal

5. E-office

Introduction



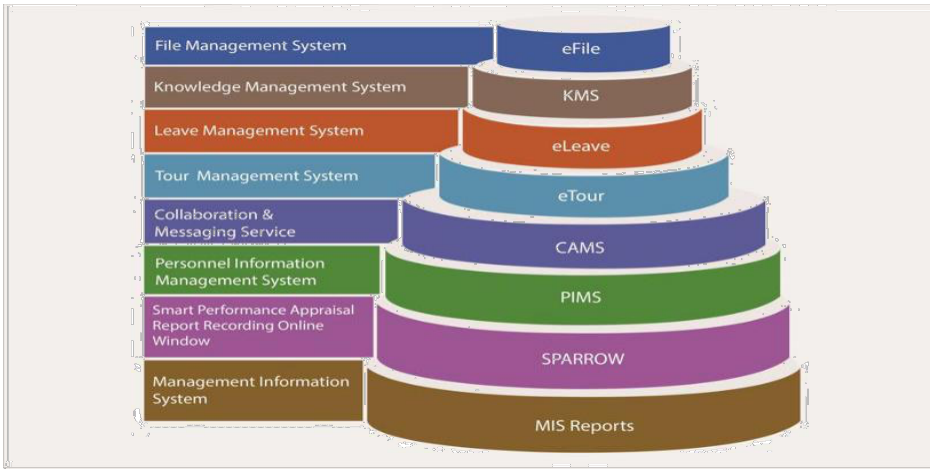
Why eOffice?

- An average document is photocopied 19 times
- Paper files get doubled every 3.5 years
- Paper usage in an average office grows 22 percent a year and doubles every 3.3 years
- Every 12 filing cabinets require an additional employee to maintain them
- The average search time for any document is 18 minutes and some are never found
- At any given time, 3-5 percent of an organization's files are lost or misplaced
- Large organizations lose/misplace a document every 12 seconds
- 92 percent of information is in manila folders
- Almost half of an office's time is spent handling paper/data entry
- 80 percent of today's information is paper based
- The average time to retrieve and file a paper document is 10 minutes
- E-mail causes an average 40 percent increase in paper consumption
- 12,500 sheets of paper can be made from one tree
- A letter has to pass through 41 steps and entered in dozens of the registers before it is answered

eOffice – Benefits

- Enhance transparency
- Increase accountability
- Assure data security and data integrity
- Transform the government work culture and ethics
- Promote innovation by releasing staff energy and time from unproductive procedures

eOffice Product Suite



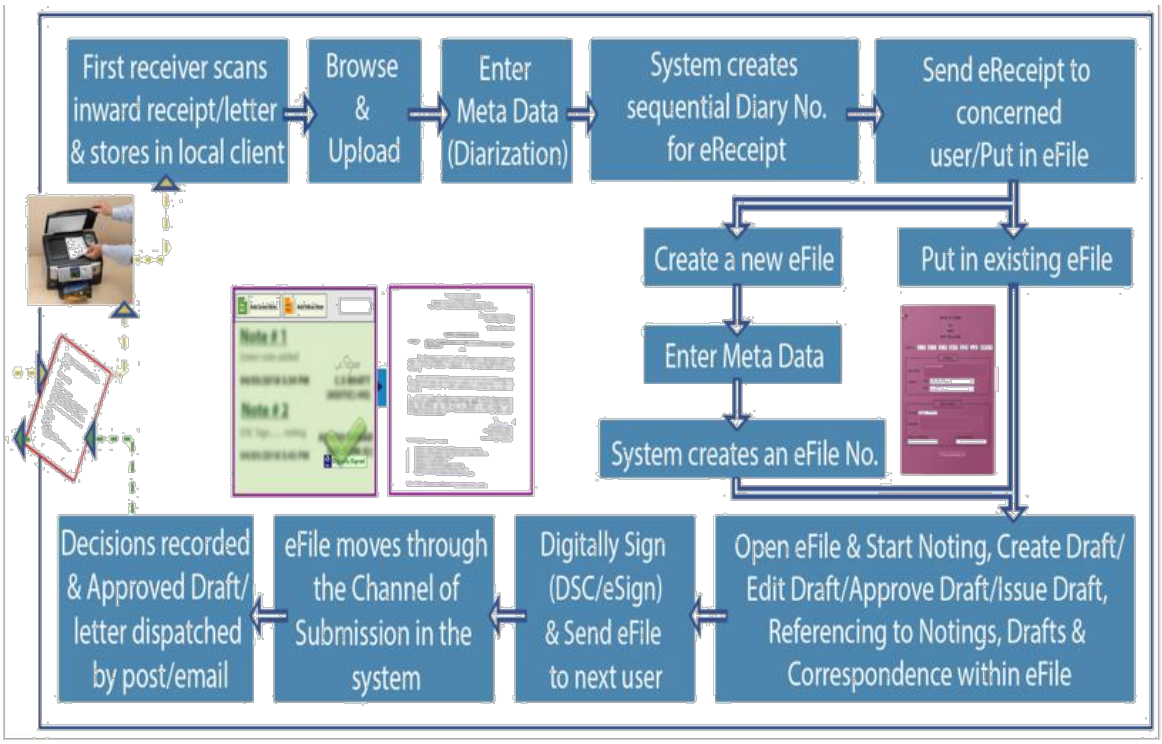
File Management System (eFile)

eFile is a workflow-based system that replaces the existing manual handling of files with a more efficient electronic system.

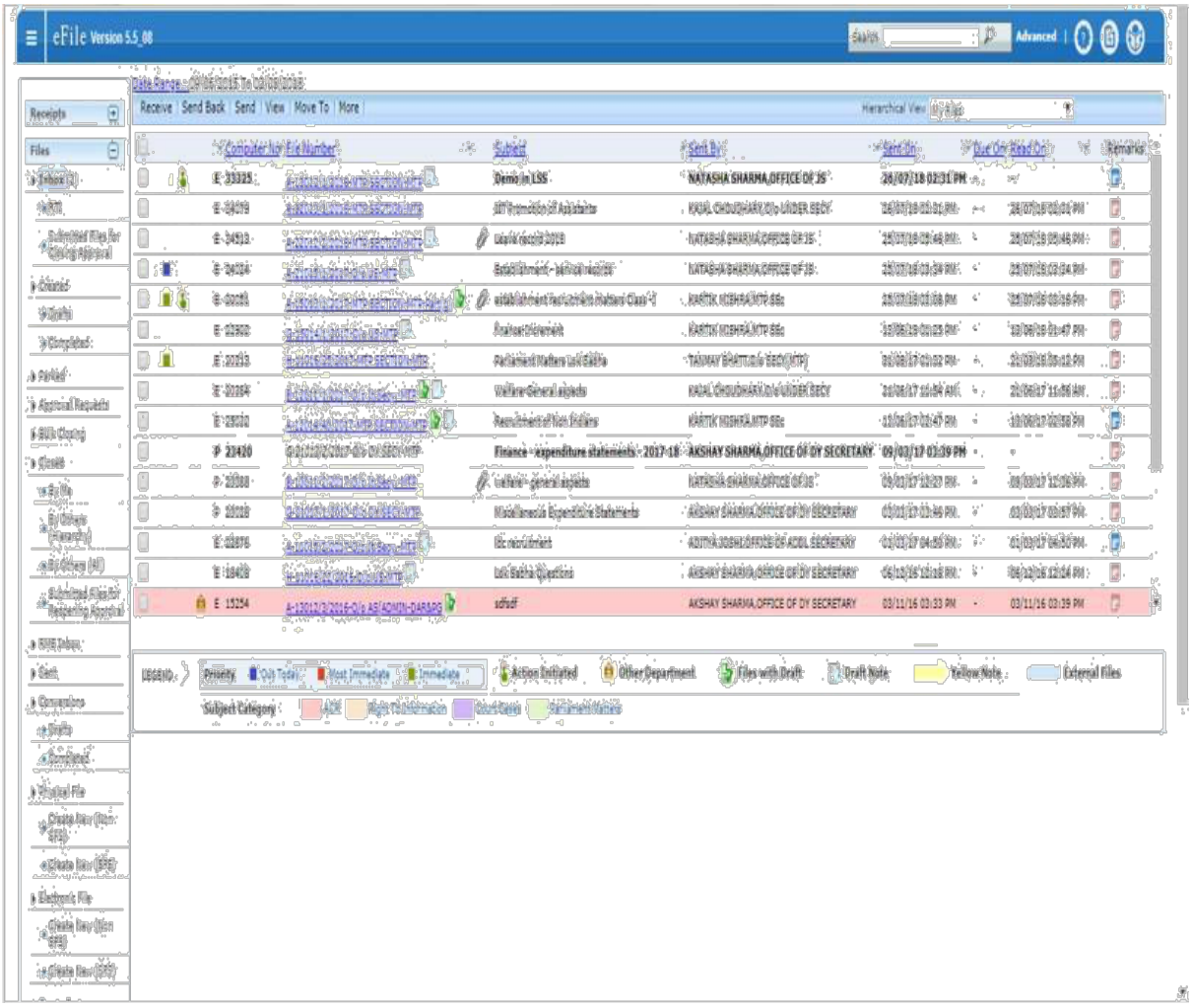
This system involves all stages, including the electronic diarization of inward correspondence, creation of files, movement of correspondences and files, electronic signing of noting & drafts using Digital Signature Certificates (DSC), eSign, and finally, the archival of records.

Receipts	Files
• Diarization – Electronic / Email / Physical • Acknowledgement Generation • Receipt to Receipt and File Attachment • VIP Letter Tracking • Address Book • Signing on remarks • Legends on priority • Advanced Search on metadata • Receipt Status Monitoring System • Closing of Receipts	• File Creation – Electronic and Physical • Notings (Green and Yellow Note) • Correspondence • Draft for Approval (DFA) • Referencing • Digital Signatures on Noting and DFA • File to File and Receipt Attachment • Linking of File • Closing of File • Advanced Search on metadata
Dispatch	**Reports**
• Templates Selection • Digital Signatures • Advanced Search on metadata • Reminders and Follow-ups • Dispatch sent through email and post	• MIS Reports ➢ File/Diary Register Report ➢ File/Diary Movement Report ➢ File/Diary Pendency Reports ..... many more

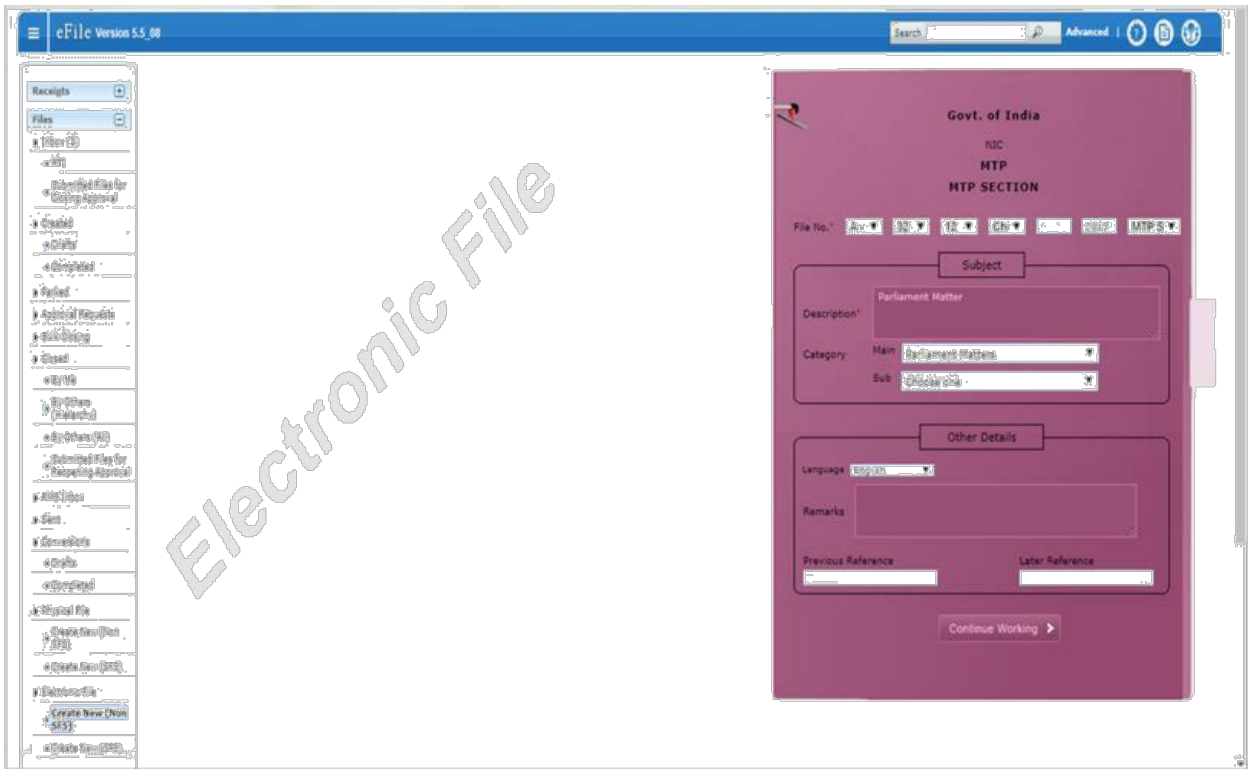
eFile Process



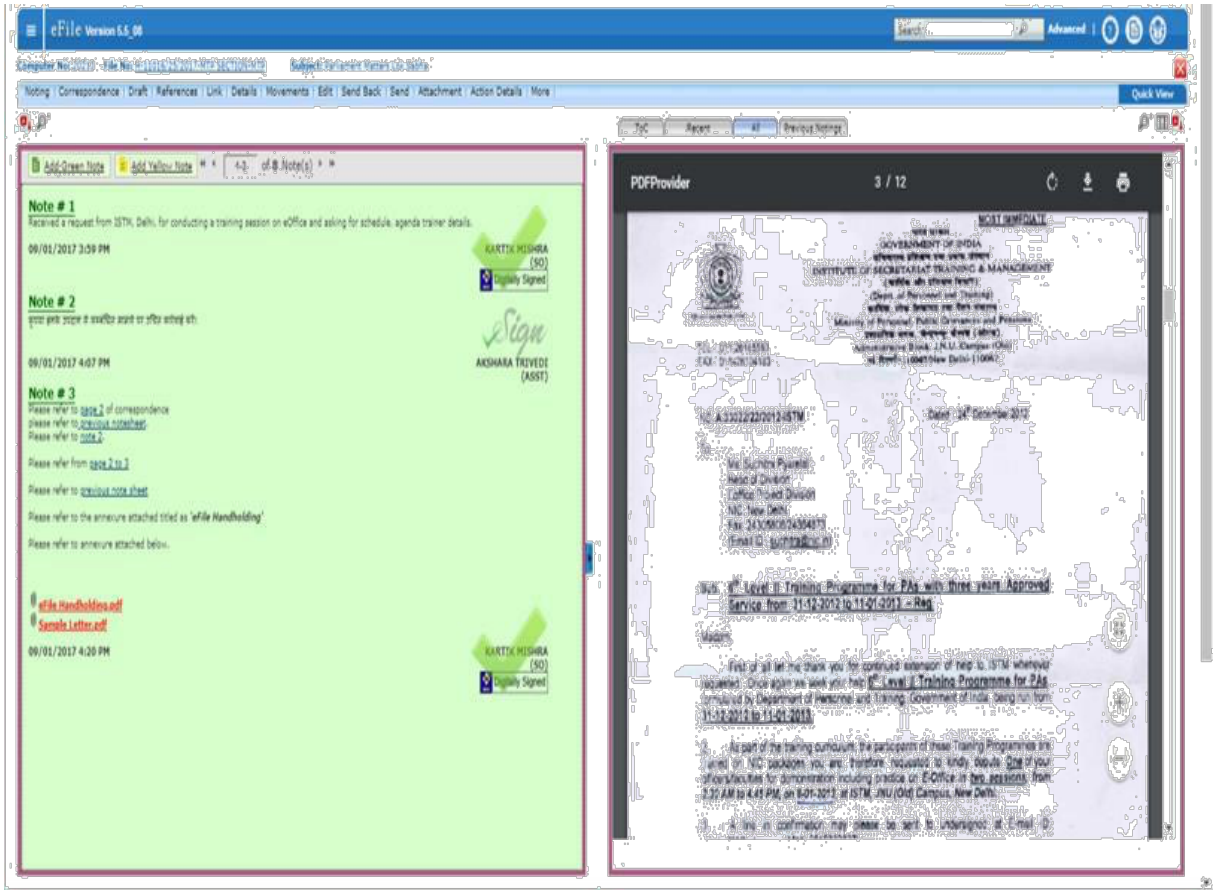
eFile – File Inbox



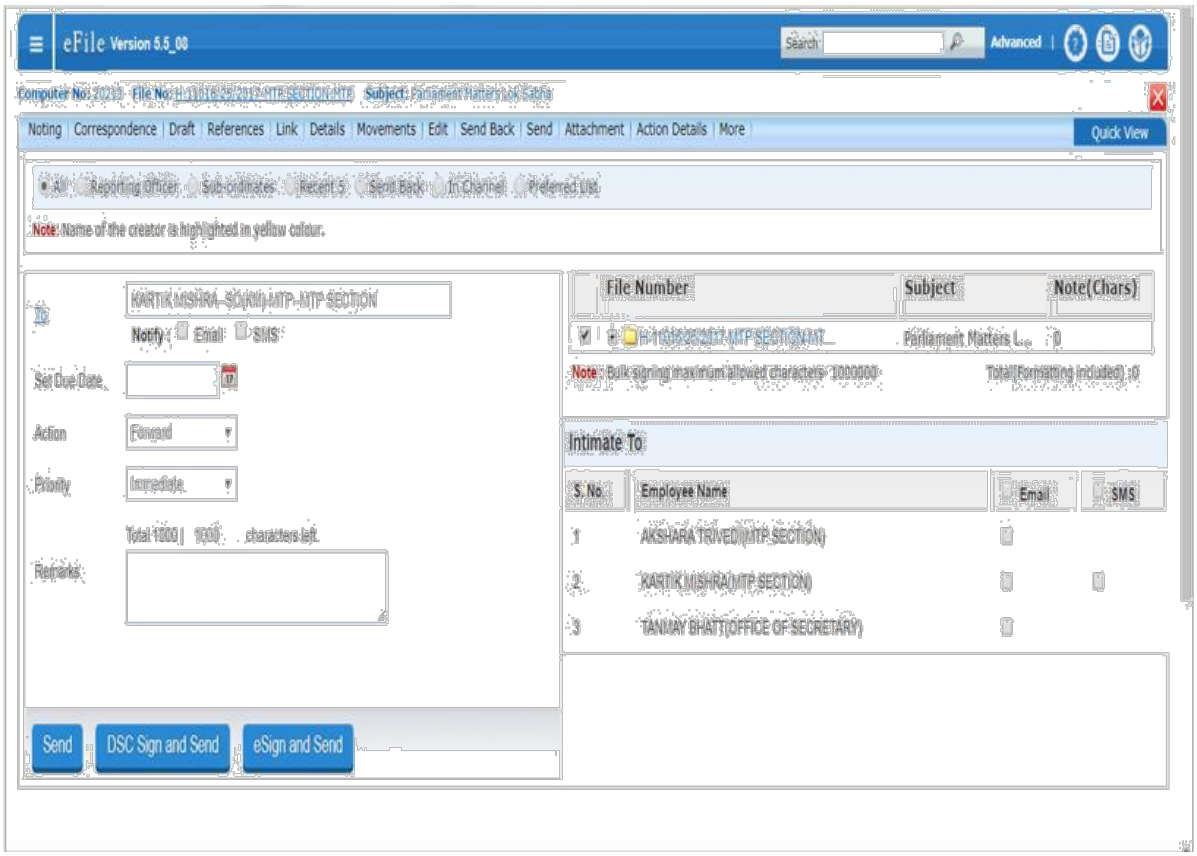
eFile – Electronic File Cover Page



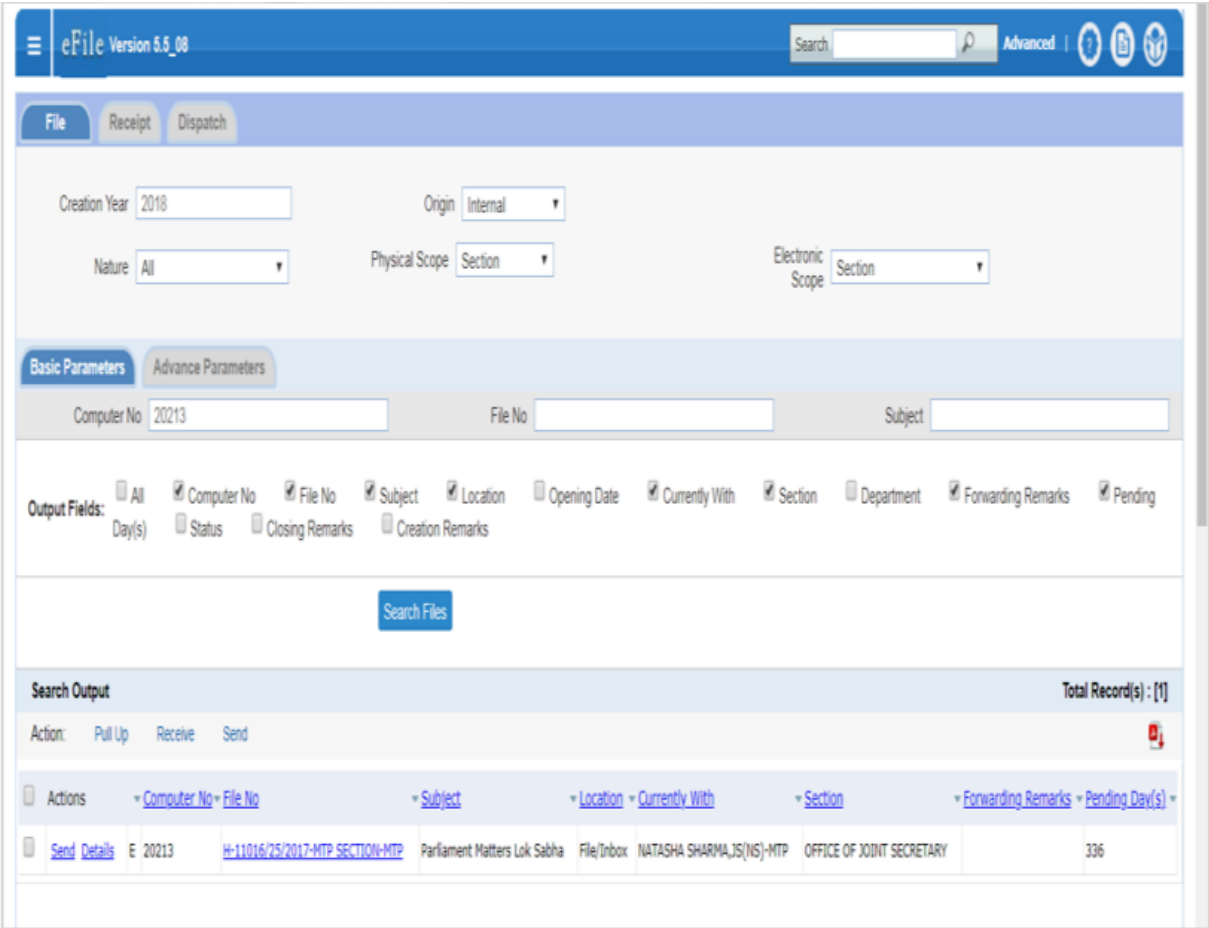
eFile – Inner Look



eFile – File Send Page



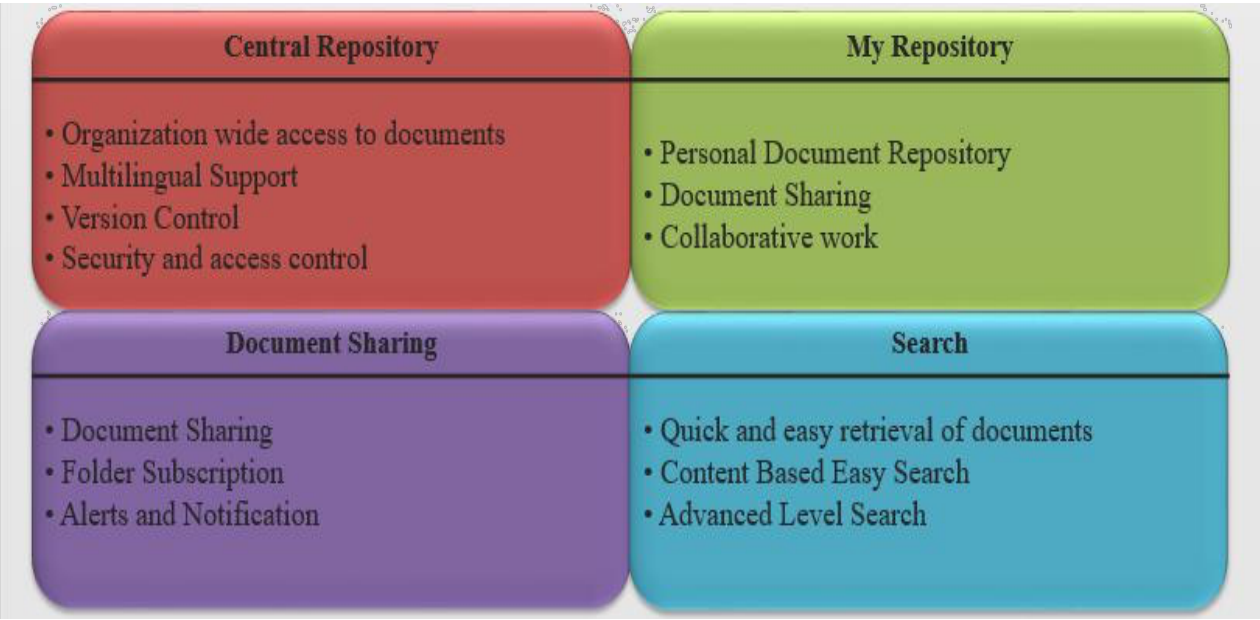
eFile – Search Page



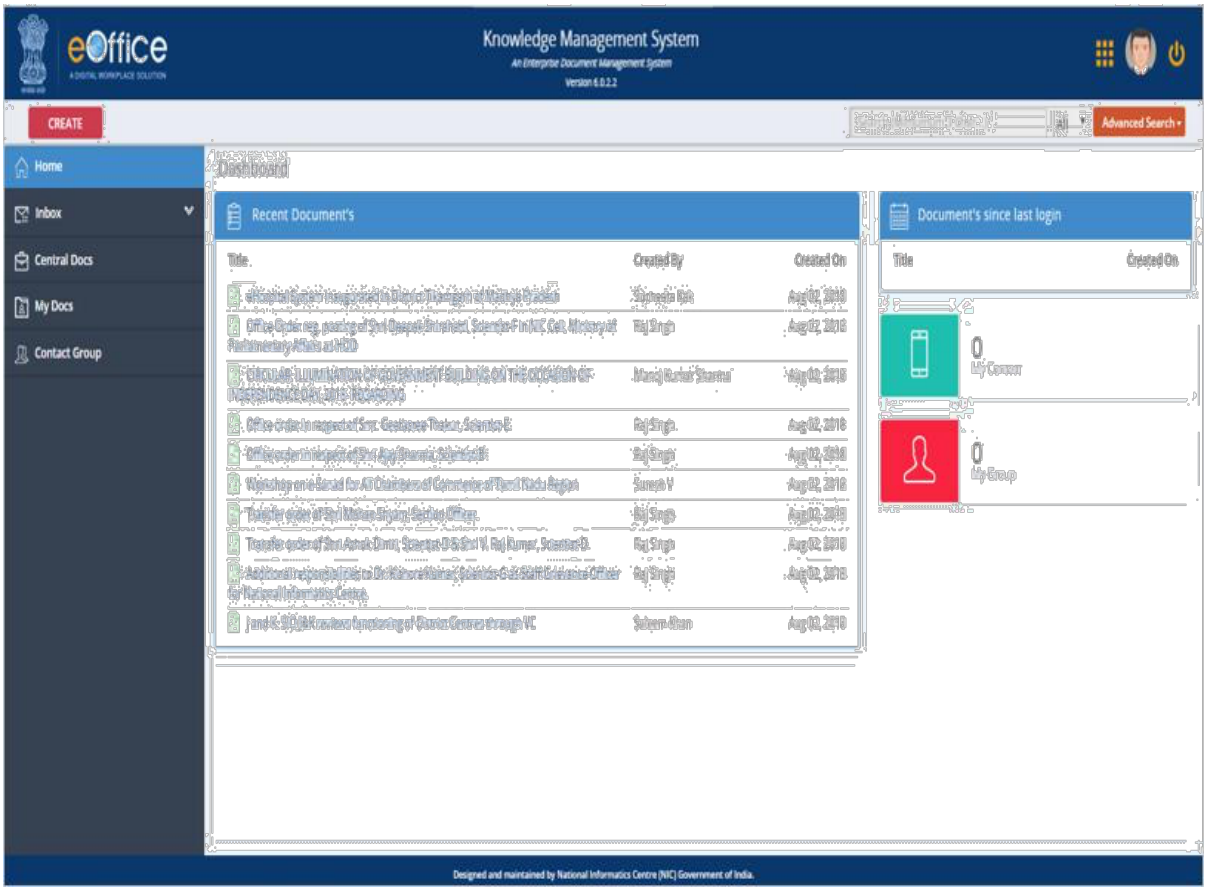
Knowledge Management System (KMS)

Enables users to create and manage electronic documents that can be viewed, searched and shared.

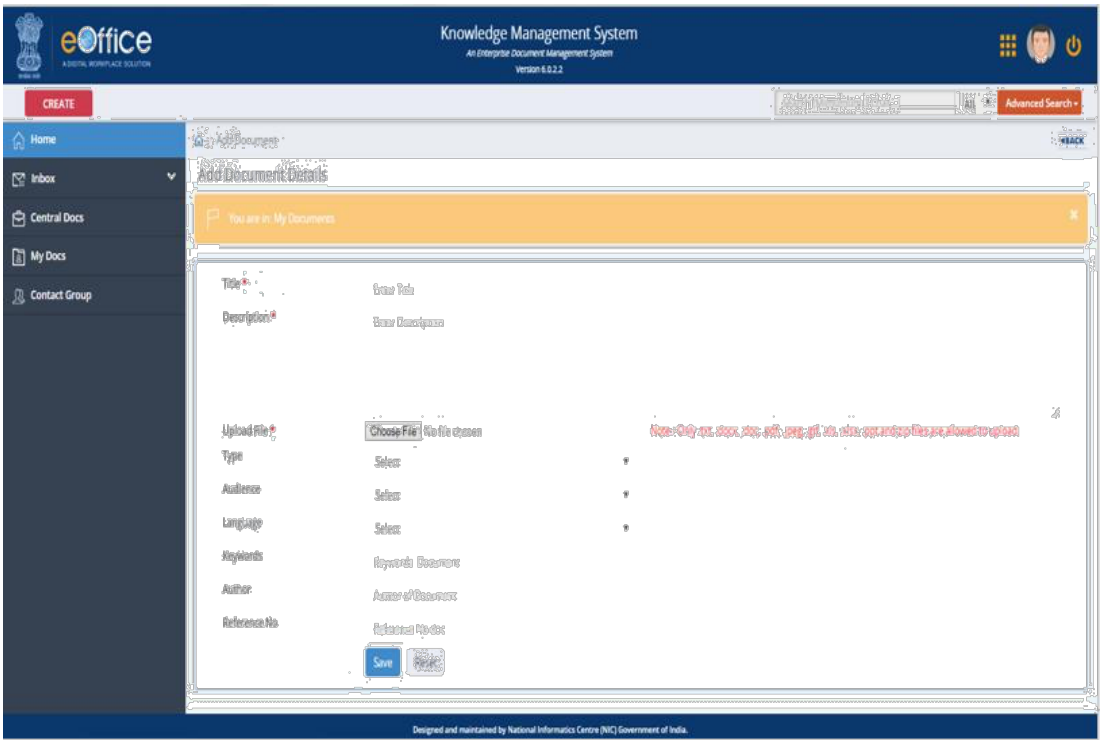
Contains a dynamic workflow to keep document in various stages



KMS - Dashboard



KMS – Document Creation

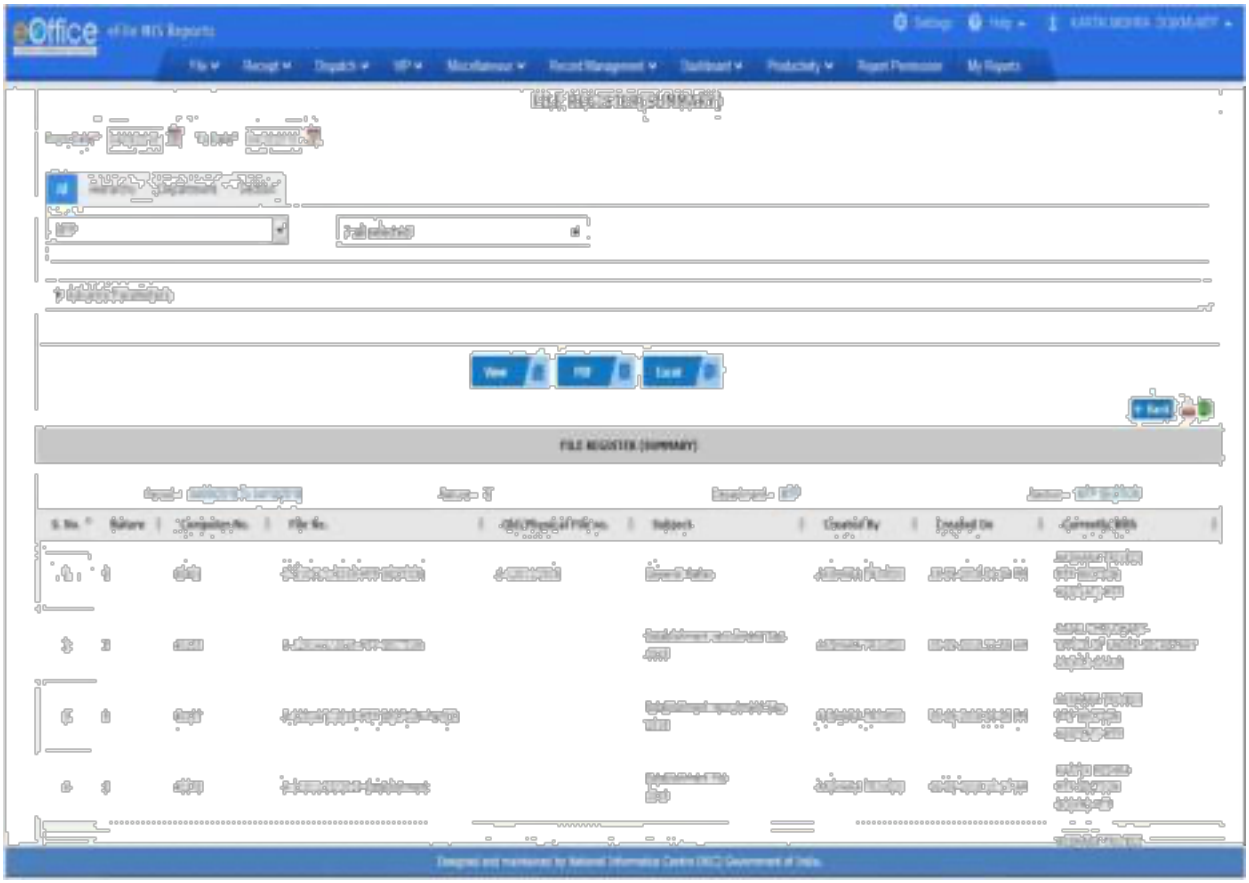


MIS-Reports

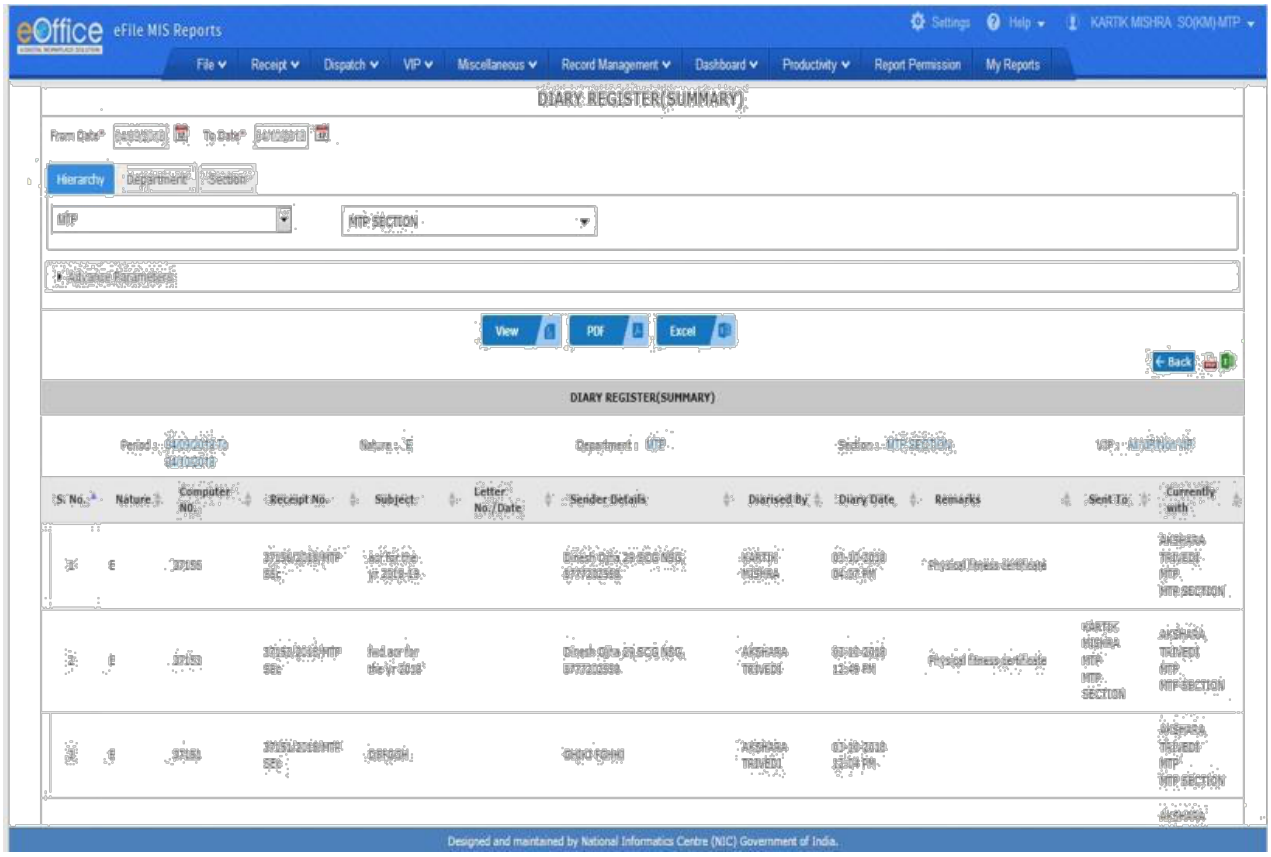
Management Information System (MIS-Reports) is a system that provides real-time monitoring of an organization's productivity & efficiency through various transactional data made available for the organization



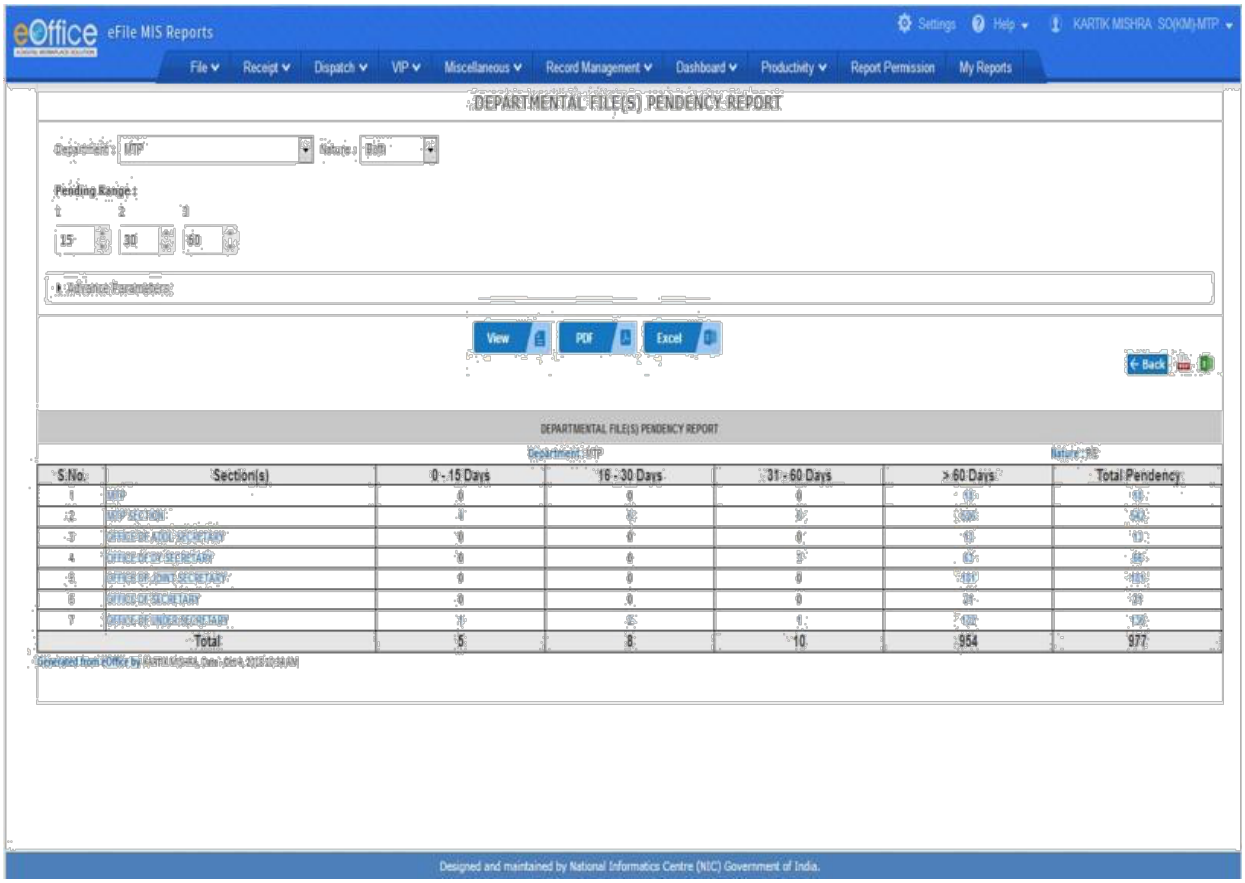
MIS-Reports – File Register



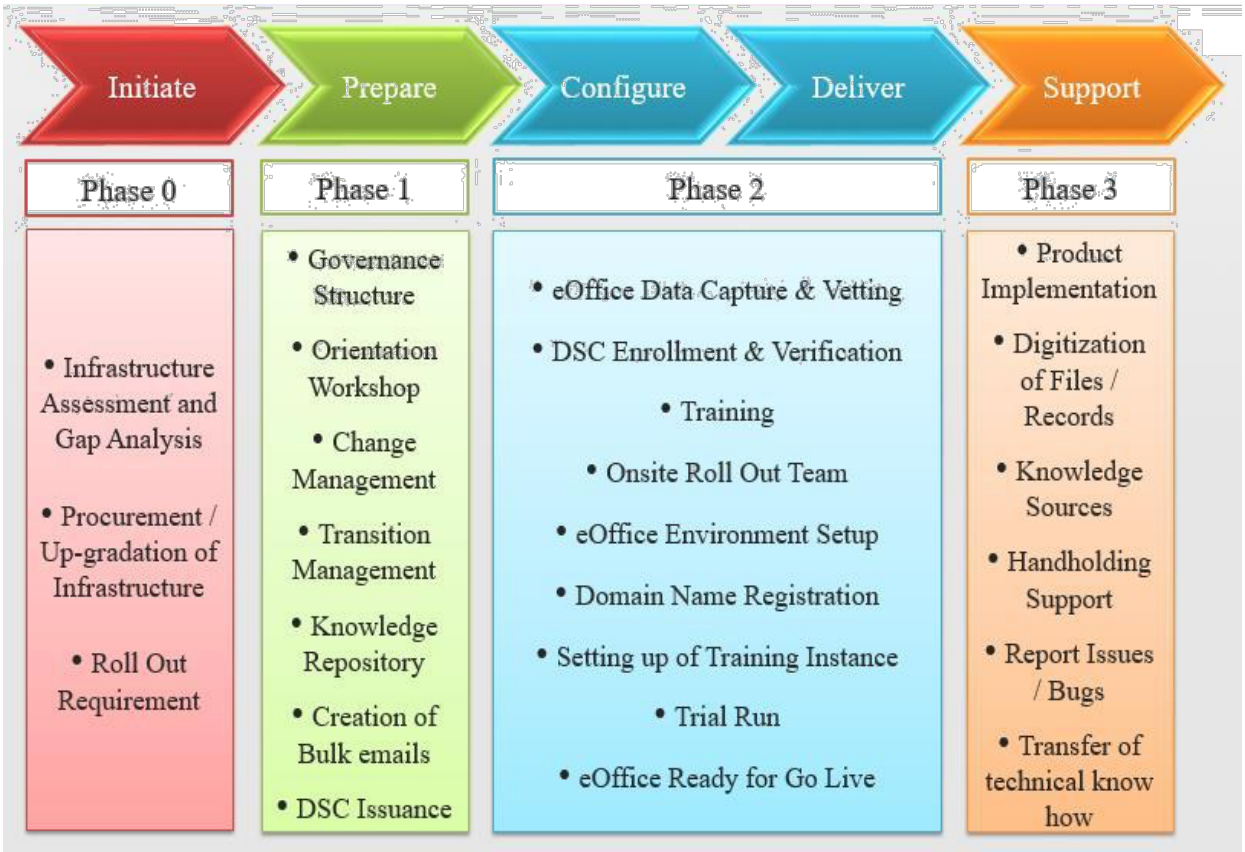
MIS-Reports – Diary Register



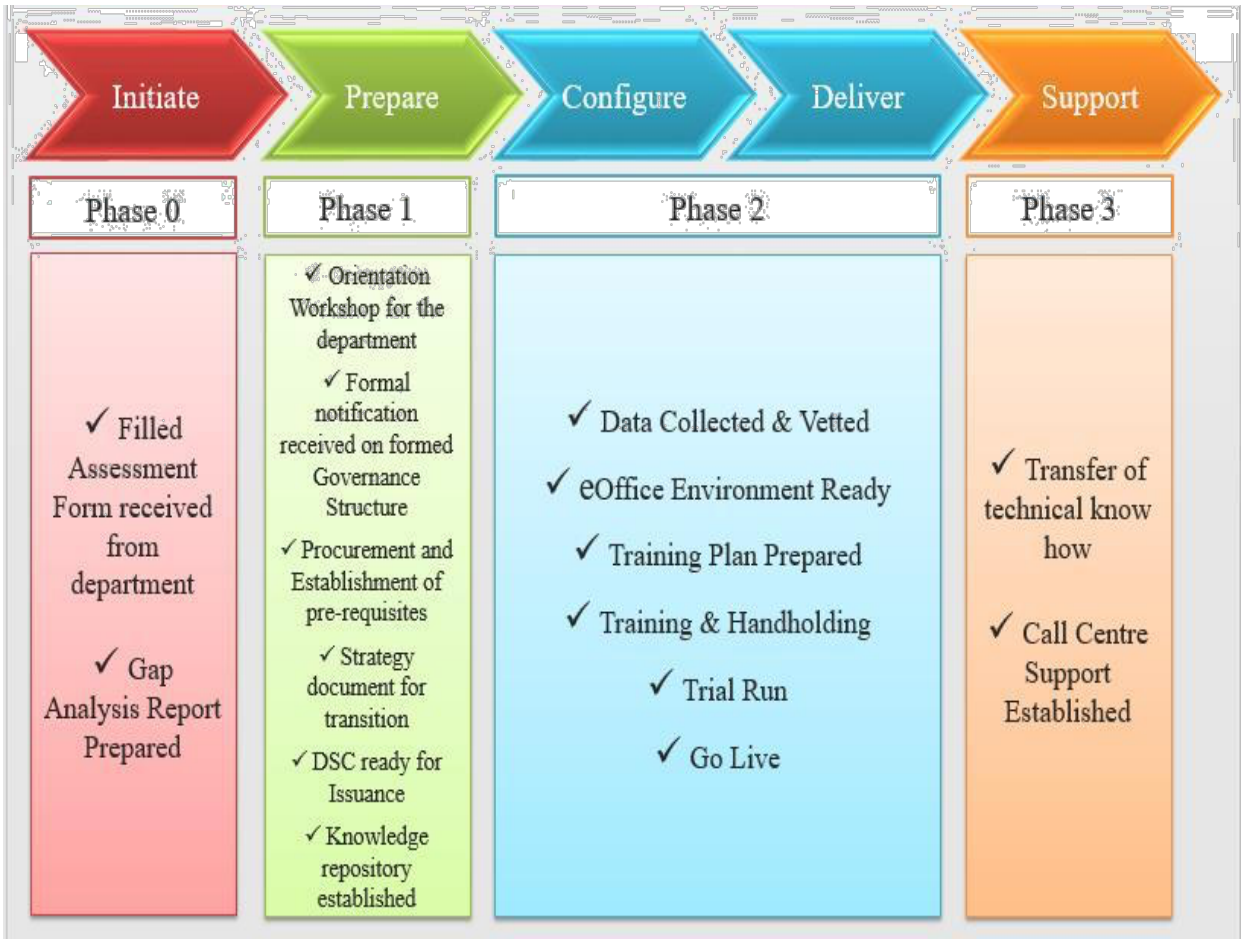
MIS-Reports – Departmental File Pendency



eOffice Implementation Phases



eOffice Implementation Checklist



E. BASIC CONCEPTS OF NETWORKING

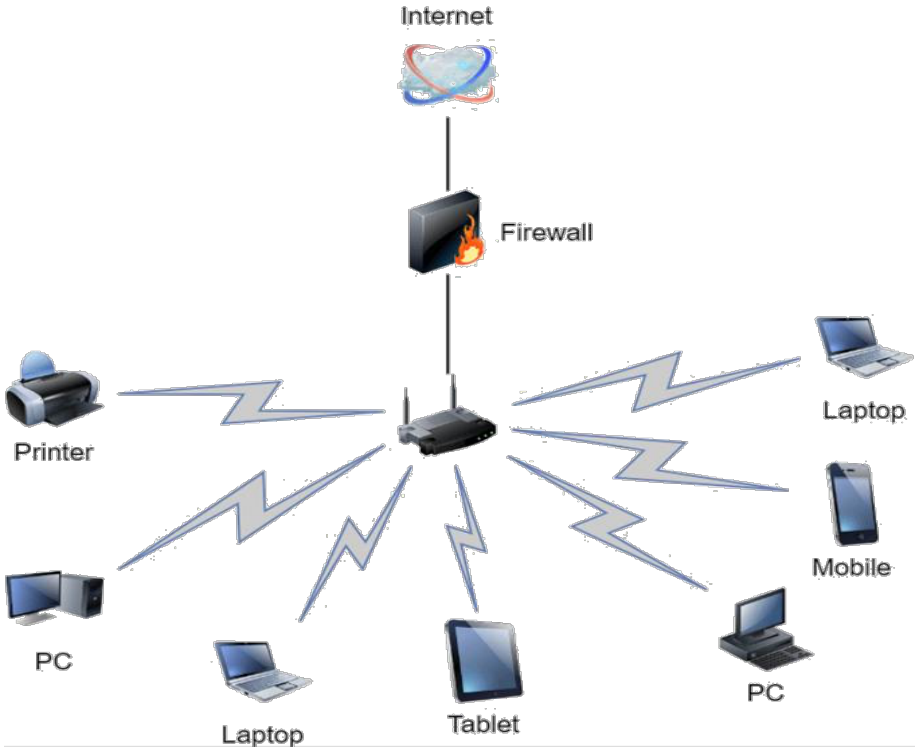
What is a Computer Network

A computer network is a group of two or more interconnected computer systems. You can establish a network connection using either cable or wireless media. Every network involves hardware and software that connects computers and devices.

Uses of a Computer Network

- Helps you to connect with multiple computers together to send and receive information when accessing the network.
- Helps you to share printers, scanners, and email.
- Helps you to share information at very fast speed
- Electronic communication is more efficient and less expensive than without the network.

Computer Network Components



Here are essential computer network components:

Switch

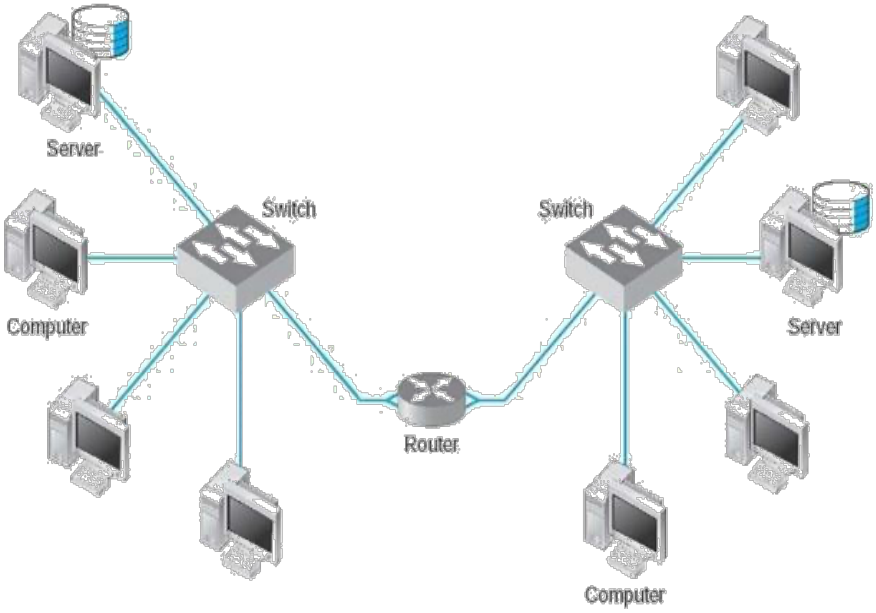
A switch is a networking device which connects other devices in a network and uses packet switching to send and receive data over the network.

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Like a hub, a switch also has many ports, to which computers are plugged in. However, when a data frame arrives at any port of a network switch, it examines the destination address and sends the frame to the corresponding device(s).

Routers

A router is a networking device that forwards data packets between computer networks.



Routers perform the traffic directing functions on the Internet. Data sent through the internet, such as a web page or email, is in the form of data packets. A packet is typically forwarded from one router to another router through the networks that constitute an internetwork (e.g. the Internet) until it reaches its destination node. It automatically selects the best route for data to travel and send it on its way.

Servers:

Servers are computers that hold shared programs, files, and the network operating system. Servers allow access to network resources to all the users of the network.

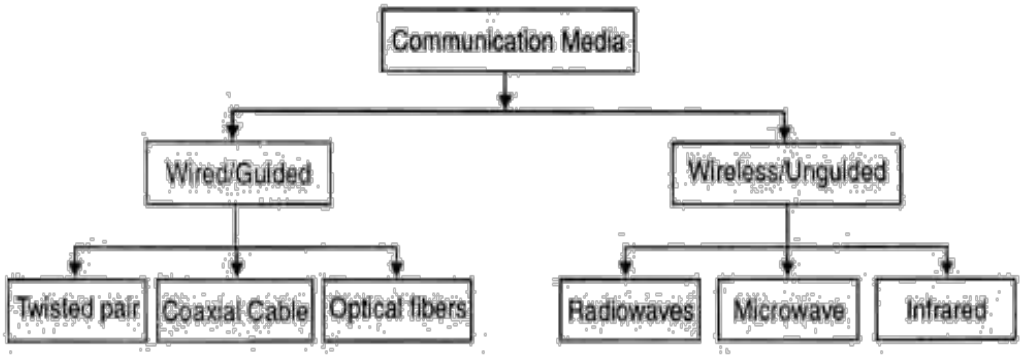
Clients:

Clients are computer devices which access and uses the network as well as shares network resources. They are also users of the network, as they can send and receive requests from the server.

Transmission Media:

Transmission media is a pathway that carries the information from sender to receiver. We use different types of cables or waves to transmit data. Transmission media is broadly classified into two types.

1. **Bounded media (wired)**
2. **Unbounded media (wireless).**



Access points

In computer networking, a wireless access point, or more generally just access point, is a networking hardware device that allows other Wi-Fi devices to connect to a wired network. The AP usually connects to a router as a standalone device, but it can also be an integral component of the router itself

Network Interface Card:

A network interface controller is a computer hardware component that connects a computer to a computer network. Early network interface controllers were commonly implemented on expansion cards that plugged into a computer bus

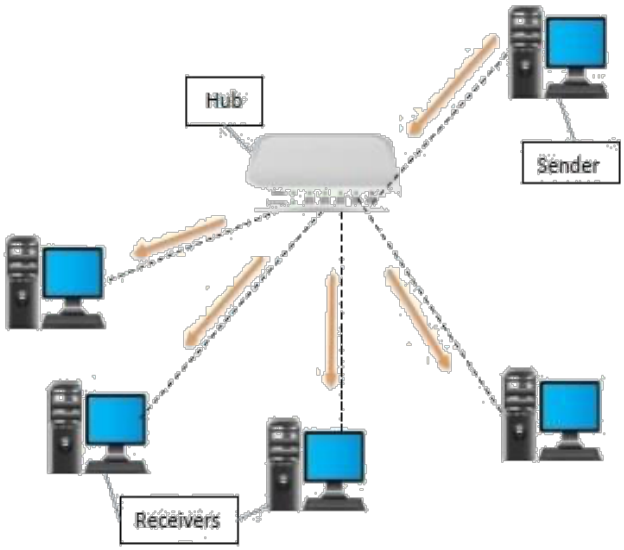
Protocol:

A protocol is the set of defined rules that allows two entities to communicate across the network. Some standard protocols used for this purpose are TCP,IP, UDP, FTP, etc.

Hub:

A hub is a networking device which is used to connect multiple devices in a network. They are generally used to connect computers in a LAN.

A hub has many ports in it. A computer which intends to be connected to the network is plugged in to one of these ports. When a data frame arrives at a port, it is broadcast to every other port, without considering whether it is destined for a particular destination or not



.

LAN Cable:

Local Area Network(LAN) cable is also called as Ethernet or data cable. It is used for connecting a device to the internet.

OSI:

OSI stands for Open Systems Interconnection. It is a reference model which allows you to specify standards for communications.

Unique Identifiers of Network

Below given are some unique network identifiers:

Hostname:

Every device of the network is associated with a unique device name, which is called hostname.

IP Address:

IP address is a unique logical address assigned to a machine on the network. An IP address exhibits the following properties:

- IP address is the unique address assigned to each host present on Internet.
- IP address is 32 bits (4 bytes) long.
- IP address consists of two components: network component and host component.
- Each of the 4 bytes is represented by a number from 0 to 255, separated with dots. For example 137.170.4.124

DNS Server:

DNS stands for Domain Name System**.** It is a server which translates URL or web addresses into their corresponding IP addresses.

MAC Address:

MAC (Media Access Control Address) is known as a physical address is a unique identifier of each host and is associated with the NIC (Network Interface Card). Length of MAC address is 12 digit Hexadecimal numbers (Which is 6 bytes or 48 bits).

Port:

Port is a logical channel which allows network users to send or receive data to an application. Every host can have multiple applications running. Each of these applications are identified using the port number on which they are running.

F. Awareness to Cyber Security concepts

1. Backup Your Files

Backup refers to the process of making copies of data or data files to use in the event the original data or data files are lost or destroyed.

Why is Backup Needed?

The main purpose is to recover the lost data from an unpredictable event like deletion by mistake or file corruption which in many cases is caused by a virus. An example is **Ransomware**, which encrypts all your data when your computer gets infected and the second is to roll back the data at a specific time you want.

How is this Process Managed at Big Companies?

It is suggested that in bigger companies which have a large volume of data, it is necessary to have a backup administrator, which is one of the most trusted persons in the company because he has access to all the data of that organization and generally deals with the backup routine check and the health of the backup.

Backup Devices

CD and DVD, Blue-Rays − They are used for home/personal usage where people can store their documents, mainly personal or office related documents because they have small capacities varying from 750MB to 50GB.







Removable Devices − They are again for home usage (data, documents, music, photos, movies) which can be a Removable USB or external hard disks. Their capacities lately have increased a lot, they vary from 2 GB to 2 TB.




Network attached storage (NAS) − They are generally devices that are used in small businesses for backup purposes because they offer a centralized manner of backup. All the users can connect through the network to access this device and save data.

They are lesser in cost when compared to other solutions and they also offer a good fault tolerance as they are configured in RAID (redundant array of independent disks). They can be rack or non-rack mounted. They offer a good level of authentication of users and web console managing.



Types of Backups Based on Location

The types of backup can vary on the size of the business, budget and the data importance.

They are divided in two types −

- Local Backups
- Online Backups

Generally local backups store the data in a CD, NA Storages, etc. as there can be a simple copying of files or by using any third party software. One of them in the server is the Windows backup which is included in the Windows Server Edition License.

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Another one is Acronis which is one of the best in the market

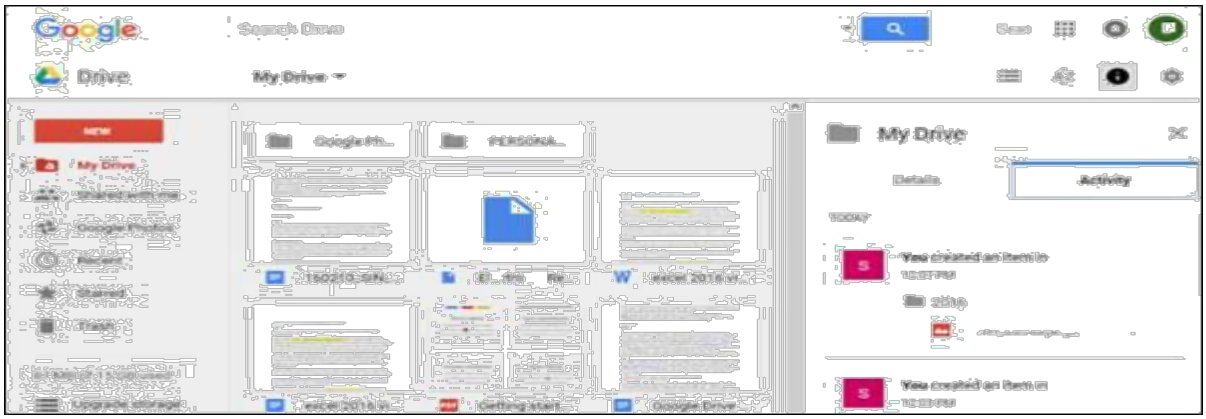
– http://www.acronis.com/en-eu/

Online Backup or Cloud Storage

One of the biggest trend is online storage where the companies and users can store their data somewhere in the cloud, and it is cheaper as well rather than doing it all by yourself. There is also no need for any backup infrastructure and maintenance.

For a personal user it is offered for free by the biggest vendors like Microsoft. It offers One Drive and you can store up to 5GB in their cloud and it has an interface for different Operating Systems.

The second is the Google Drive, which is a product by Google, wherein the files synchronizes automatically.



For small or big companies, mentioned before, online or cloud backup solution are a good solution for them because of the cost and the liability.

The biggest vendors offering such service are Microsoft with AZURE solution which is offering a very high performance and scalability for this solution.

The other is Amazon with it product S3 details about this product can be found on – http://aws.amazon.com/s3/

Most effective backup strategy

The standard best practice for backing up data is known as the 3-2-1 rule. The 3-2-1 backup strategy simply states that you should have 3 copies of your data (one production data and 2 backup copies) .Keep the backup copies on different media. Keep one backup copy offsite. This prevents losing copies of the database in case of an event such as a natural disaster. One of the most common examples of an offsite backup is through the use of the cloud. Another alternative is to keep a physical copy in another secure location.

2. Email Scams

Phishing

Phishing is a scam where criminals typically send emails to thousands of people. These emails pretend to come from banks, credit card companies, online shops and auction sites as well as other trusted organizations. They usually try to trick you into going to the site, for example to update your password to avoid your account being suspended. The embedded link in the email itself goes to a website that looks exactly like the real thing but is actually a fake designed to trick victims into entering personal information.

Email scams

Email is an excellent communication tool. However, email is frequently used to deliver unwanted material which could be annoying and malicious, causing considerable harm to your computer and yourself. This is Spam (or Junk) email. The vast majority of email sent every day is unsolicited junk mail. Examples include:

- Advertising, for example online pharmacies, gambling.
- Get rich quick and work from home schemes.
- Hoax virus warnings.
- Hoax charity appeals.
- Chain emails which encourage you to forward them to multiple contacts (often to bring ‘good luck’).

How spammers obtain your email address

- Using automated software to generate addresses.
- Enticing people to enter their details on fraudulent websites.
- Hacking into legitimate websites to gather users' details.
- Buying email lists from other spammers.
- Inviting people to click through to fraudulent websites posing as spam email cancellation services.
- From names/addresses in the cc line, or in the body of emails which have been forwarded and the previous participants have not been deleted.
- The very act of replying to a spam email confirms to spammers that your email address exists.

How to spot spam

Spam emails may feature some of the following warning signs:

- You don't know the sender.
- Contains misspellings designed to fool spam filters.
- Makes an offer that seems too good to be true.
- The subject line and contents do not match.
- Contains an urgent offer end date (for example "Buy now and get 50% off").
- Contains a request to forward an email to multiple people, and may offer money for doing so.
- Contains a virus warning.
- Contains attachments, which could include .exe files.

The risks

- It can contain viruses and spyware.
- It can be a vehicle for online fraud, such as phishing.
- Unwanted email can contain offensive images.
- Manual filtering and deleting is very time-consuming.
- It takes up space in your inbox.

Use email safely

- Do not open emails which you suspect as being scams.
- Do not forward emails which you suspect as being scams.

- Do not open attachments from unknown sources.
- If in doubt, contact the person or organization the email claims to have been sent by ... better safe than sorry.
- Do not readily click on links in emails from unknown sources. Instead, roll your mouse pointer over the link to reveal its true destination, displayed in the bottom left corner of your screen. Beware if this is different from what is displayed in the text of the link from the email.
- Do not respond to emails from unknown sources.
- Do not make purchases or charity donations in response to spam email.
- Don’t click on ‘remove’ or reply to unwanted email.
- When sending emails to multiple recipients, list their addresses in the 'BCC' (blind copy) box instead of in the 'To' box. In this way, no recipient will see the names of the others, and if their addresses fall into the wrong hands there will be less chance of you or anybody else receiving phishing or spam emails.
- Similarly, delete all addresses of previous parties in the email string, before forwarding or replying.
- If you are suspicious of an email, you can check if it is on a list of known spam and scam emails that some internet security vendors such as McAfee and Symantec feature on their websites.
- Most Microsoft and other email clients come with spam filtering as standard. Ensure yours is switched on.
- Most spam and junk filters can be set to allow email to be received from trusted sources, and blocked from untrusted sources.
- Most internet security packages include spam blocking. Ensure that yours is up to date and has this feature switched on.

3. **Fight Against Malware**

Malware, short for malicious software, is software designed to disrupt computer operation, gather sensitive information, or gain unauthorized access to computer systems. While it is sometimes software, it can also appear in the form of script or code. Malware is a general term used to describe any kind of software or code specifically designed to exploit a computer, or the data it contains, without consent. The expression is a general term used by computer professionals to mean a variety of forms of hostile, intrusive, or annoying software.

Avoid Malware

Following the tips below can help reduce your risk of downloading unwanted malware and spyware: • Keep your security software updated. At a minimum, your computer should have anti-virus and anti-spyware software, and a firewall. Set your security software, internet browser, and operating system (like Windows or Mac OS) to update automatically.

- Don't click on any links or open any attachments in emails unless you know who sent it and what it is. Clicking on links and opening attachments – even in emails that seem to be from friends or family – can install malware on your computer.
- Download and install software only from websites you know and trust. Downloading free games, file-sharing programs, and customized toolbars may sound appealing, but free software can come with malware.
- Minimize "drive-by" downloads. Make sure your browser security setting is high enough to detect unauthorized downloads. For Internet Explorer, for example, use the "medium" setting at a minimum.
- Use a pop-up blocker and don't click on any links within pop-ups. If you do, you may install malware on your computer. Close pop-up windows by clicking on the "X" in the title bar.
- Resist buying software in response to unexpected pop-up messages or emails, especially ads that claim to have scanned your computer and detected malware. That's a tactic scammers use to spread malware.
- Talk about safe computing. Tell your kids that some online actions can put the computer at risk: clicking on pop-ups, downloading "free" games or programs, opening chain emails, or posting personal information.
- Back up your data regularly. Whether it's text files or photos that are important to you, back up any data that you'd want to keep in case your computer crashes.

Detect Malware

- Monitor your computer for unusual behavior.
- Slows down, crashes, or displays repeated error messages
- Won't shut down or restart
- Serves up a barrage of pop-ups
- Displays web pages you didn't intend to visit, or sends emails you didn't write
- New and unexpected toolbars

- New and unexpected icons in your shortcuts or on your desktop
- A sudden or repeated change in your computer's internet home page
- A laptop battery that drains more quickly than it should
- Get Rid of Malware

Follow the tips below if you suspect there is malware is on your computer.

- Disconnect your computer from the Internet.
- Update your security software, and then perform a manual scan of your entire system.
- If the manual scan doesn't locate and remove the infection, you may need to reinstall your operating system, usually with a system restore disk that is often supplied with a new computer. Note that reinstalling or restoring the operating system typically erases all of your files and any additional software that you have installed on your computer.
- After reinstalling the operating system and any other software, install all of the appropriate patches to fix known vulnerabilities.

4. Password Protection

Passwords provide the first line of defense to your business computers and electronic devices. It's important that you use strong passwords that are hard to guess. Understand what makes a strong password, and how to create one.

Use strong passwords to protect your business

If passwords are too simple, hackers can easily guess or gather them, giving cybercriminals free access to your system. Once they're in, you have a major problem. The stronger and more complex your passwords, the safer your network will be from a cyber-attack.

Passwords should:

- Be at least 10 characters long
- Not contain a complete word which easily links to you including your name, company name, family member or pet
- Include a mix of upper-and lower-case letters, numbers and symbols
- Be different from each other and from previous passwords
- Change regularly
- Be kept private

- Be unique and hard to guess

Useful Tips:

- Use the letters of a song, musical or movie title and change some of the characters to make a strong password.
- Use a password manager – this will create and securely store unique passwords for you
- Don’t write passwords down on paper or store a list in a word document – they can be stolen and used to access your accounts
- Select no when a computer offers to automatically remember your password when logging onto a website
- Always give employees different logins (user name and passwords) for your business systems.

Multi-factor authentication (MFA) is an authentication method in which a computer user is granted access only after successfully presenting two or more pieces of evidence (or factors) to an authentication mechanism: knowledge (something the user and only the user knows), possession (something the user and only the user has), and inherence (something the user and only the user is).

Two-factor authentication (also known as 2FA) is a type, or subset, of multi-factor authentication. It is a method of confirming users' claimed identities by using a combination of two different factors:

1) Something they know
2) something they have, or
3) something they are.

Example are to supplement a user-controlled password with a one-time password (OTP) or code generated or received by an authenticator (e.g. a security token or smartphone) that only the user possesses.