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COMPUTER EDUCATION
[An Institute of Professional I.T Studies]

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STUDENTS DETAILS

Name of Students	:	…………………………………………………………
DOT-NET Roll No.	:	…………………………………………………………
Date Of Joining	:	…………………………………………………………
Name of Course	:	…………………………………………………………
Batch Timing	:	…………………………………………………………

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FUNDAMENTALS OF COMPUTER

COURSE CONTENTS

COMPUTER KEYBOARD

OPERATING SYSTEMS

FUNDAMENTALS OF COMPUTER

```
                        COMPUTER
                    /              \
            SOFTWARE              HARDWARE
                                        → Keyboard
                                        → Mouse
                                        → CPU
                                        → Monitor

   System          Application      Utility
   Software        Software         Software

WINDOWS95, 98,   Ms Word, Excel,   Drivers of
2000, ME, XP, VISTA,  Power Point,  Devices
Windows 7,       Access, Tally, Etc.
Windows 8
```

DEFINITION OF COMPUTER:-

A computer is an electronic device which is used for processing data. The data is fed as an input to the computer, stored and then processed as per the instructions provided, so as to generate an output.

Computers are used in many fields such as business, science, engineering, medical, banks, training and education.

DEVELOPMENT OF COMPUTER:-

The year 1823 could be considered a golden year in the history of computer science. It was in 1823, when an Englishman, **Prof. Charles Babbage,** a professor of mathematics at Cambridge University.

TYPES OF COMPUTER:-

1. **Super Computers**- Super computers are one of the fastest computers currently available. These are very expensive and are used for special applications. Eg- weather forecasting requires super computer.

2. **Mainframes**- Mainframe is a very large and expensive computer capable of supporting hundreds, or even thousands, of users simultaneously.

3. **Minicomputer**- A minicomputer is a multiprocessing system capable of supporting from up to 200 users simultaneously.

4. **Workstation**- It is a type of computer used for engineering applications (CAD/CAM), desktop publishing, software development, and other types of applications that require a moderate amount of computing power and relatively high quality graphics capabilities.

5. **Personal Computer**- It can be defined as a small, relatively inexpensive computer designed for an individual user. Types of personal computers are-

   a. **Desktop-** A desktop computer is a personal computer placed at a single location for regular use. It fits conveniently in an individual workspace.

   b. **Laptop-** A laptop computer is a portable personal computer light and small enough to sit on a person's lap. A laptop computer can be powered by battery or plugged into the wall. The main utility of a laptop computer is that it allows a person to travel with their computing resource.

c. **Notebook-** A notebook computer is a battery- or AC-powered personal computer generally smaller than a briefcase that can easily be transported and conveniently used in temporary spaces such as on airplanes, in libraries, temporary offices, and at meetings. A notebook computer, sometimes called a laptop computer, typically weighs less than 5 pounds and is 3 inches or less in thickness.

d. **Hand-held computer-** A portable computer that is small enough to be held in one's hand. Although extremely convenient to carry, handheld computers have not replaced notebook computers because of their small keyboards and screens.

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e. **Palmtop-** A personal digital assistant (PDA), also known as a Smart Phone, is a mobile device that functions as personal information. A computer that has a small screen and compressed keyboard and is small enough to be held in the hand, often used as a personal organizer.

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THE COMPUTER SYSTEM:-

HARDWARE- All the physical components of the computer that you can touch and see, together form computer hardware. These are of different types:

❖ **Central Processing Unit-** Used for processing.

❖ **Input Devices-** Used for giving input to computer.
  - **Keyboard-** Used to enter text information into the computer.

  - **Mouse**- It is a pointing device.

  - **Scanner**- It is a device that produces a soft copy of the printed page.

- **Digital Camera-** A digital camera stores data digitally and can be transferred on computer.

- **Barcode Reader**- It is a device which is used to read the code from the products which are usually in the form of Bars.

- **Light Pen**- It allows the user to point to displayed objects or draw on the screen in a similar way to a touch screen but with greater positional accuracy.

o **MICR- Magnetic Ink Character Recognition** is a character recognition technology used primarily by the banking industry to facilitate the processing and clearance of cheques and other documents. The MICR encoding, called the MICR line, is located at the bottom of a cheque or other voucher and typically includes the document type indicator, bank code, bank account number, cheque number and the amount, plus some control indicator.

o **Joysticks-** An input device that looks similar to a control device you would find on an arcade game.

o **Touch Screen-** A screen which gets its input directly by touching it.

❖ **Output Devices-** The devices which are used to display the data to the user either in the form of hard copy or soft copy are called output devices.

- **VDU (Visual Display Unit)-** It is also called monitor. It is used to get the data in the form of soft copy.

- **Printer-** It produces a hard copy of the page you created on computer.

- **Projector-** The devices which are used to display the data to the user either in the form of hard copy or soft copy are called output devices.

- **Speakers**- They produces sound as output.

- **Microphone**- A microphone can be attached to computer to record sound.

- ❖ **Storage Devices**- These are used in the computers to store the data.
  - Hard Disk
  - Memory Cards

  - Floppy Disk
  - CD/ DVD

- Magnetic Tapes

- Pen Drive

SOFTWARE- The term software describes the programs (instructions) that we run on our system. Software is classified into:

- **System Software**- Software that controls the hardware components of the computer system. Eg- Operating systems.
- **Application Software**- Software that are used in day-to-day life and are run through system software (operating system). Eg- MS-Office, Banking Software, Adobe, Games, etc.
- **Utility Software**- Software that has its orientation more towards facilitating the use of computer and the various application softwares. Eg- Calculator, Calendar, etc.

MEMORY OF COMPUTER:-

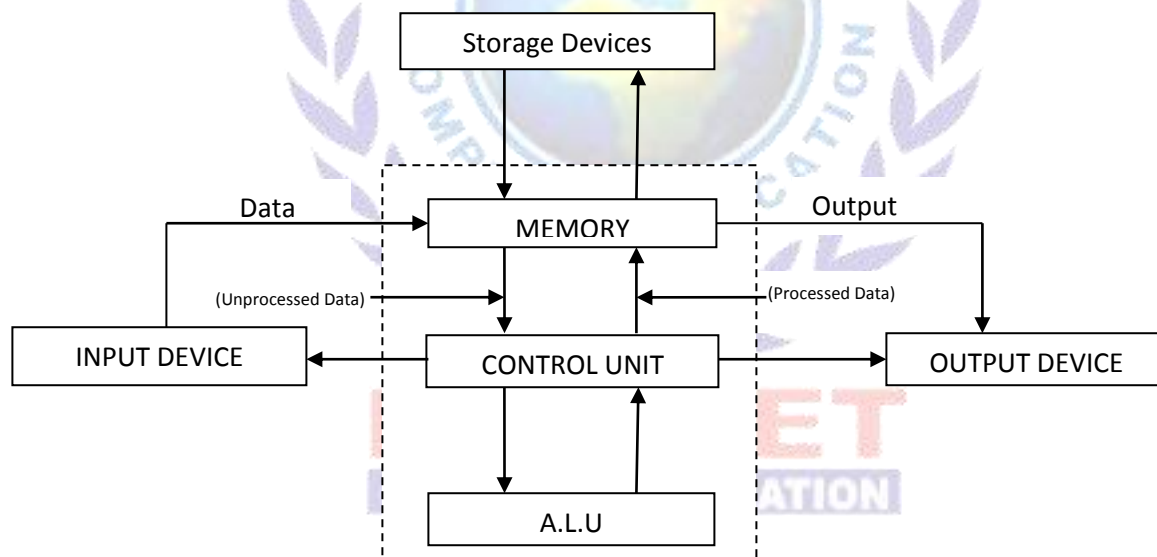The memory is a storage device. There are two types of memory:

1. Primary Memory- It resides inside the computer and is also known as main memory. Data is stored in primary memory temporarily while CPU performs the operations. Eg- RAM (Random Access Memory), ROM(Read Only Memory).

2. Secondary Memory- It resides outside the computer and normally used for storing data permanently. Eg- Hard Disk, Optical Disk, etc.

Memory is measured in the form of bits and bytes.

1 byte	=	8 bits
1KB (KiloByte)	=	1024 bytes
1MB (MegaByte)	=	1024 KB
1GB (GegaByte)	=	1024 MB
1TB (TeraByte)	=	1024 GB

ARCHITECTURE OF COMPUTER:-

Architecture of computer relates to the internal processing of computer. Firstly, data is fed in the computer through any input device. The data then goes to memory of computer, then to control unit which basically processes the data. (It changes the data to binary language.) If it is an arithmetic data, it goes to A.L.U (Arithmetic Logical Unit). Then data is again transferred to control unit, then memory unit and gives the result as output.

```
                    ┌──────────────────┐
                    │  Storage Devices │
                    └──────────────────┘
                          ↓    ↑
    Data         ┌──────────────────┐        Output
 ─────────────→  │      MEMORY      │ ──────────────────
                 └──────────────────┘
 (Unprocessed Data) →    ↓    ↑    ← (Processed Data)
 ┌───────────────┐  ┌──────────────────┐   ┌─────────────────┐
 │ INPUT DEVICE  │ ←│  CONTROL UNIT    │→  │  OUTPUT DEVICE  │
 └───────────────┘  └──────────────────┘   └─────────────────┘
                          ↓    ↑
                    ┌──────────────────┐
                    │      A.L.U       │
                    └──────────────────┘
```

# COMPUTER KEYBOARD

Keyboard Fingering:

Computer typing is most important for every computer user who wants to work on the computer because if you have good computer typing speed or your finger set in a computer keyboard then you can do any work very quickly. So if you are doing any computer course like 6th (DCA) course or 12th month (ADCA) course you have to do typing on a daily basis at least 10 to 15 minutes.

If you do regular 15 minutes typing on a computer then you will get your typing speed 30 wpm to 40 wpm within 6th month or 40 - 50 wpm within a 12th-month course.

Typing speed is more helpful for you whenever you go for a job interview like a computer operator, data entry operator or a programmer etc.

So, now I will tell you How to learn Computer typing in 6 hours with 6 typing exercises? YES! It is possible that you can learn English typing within 6 hours, If you understand keyboard fingering map so, just go through these 6 exercises like as –
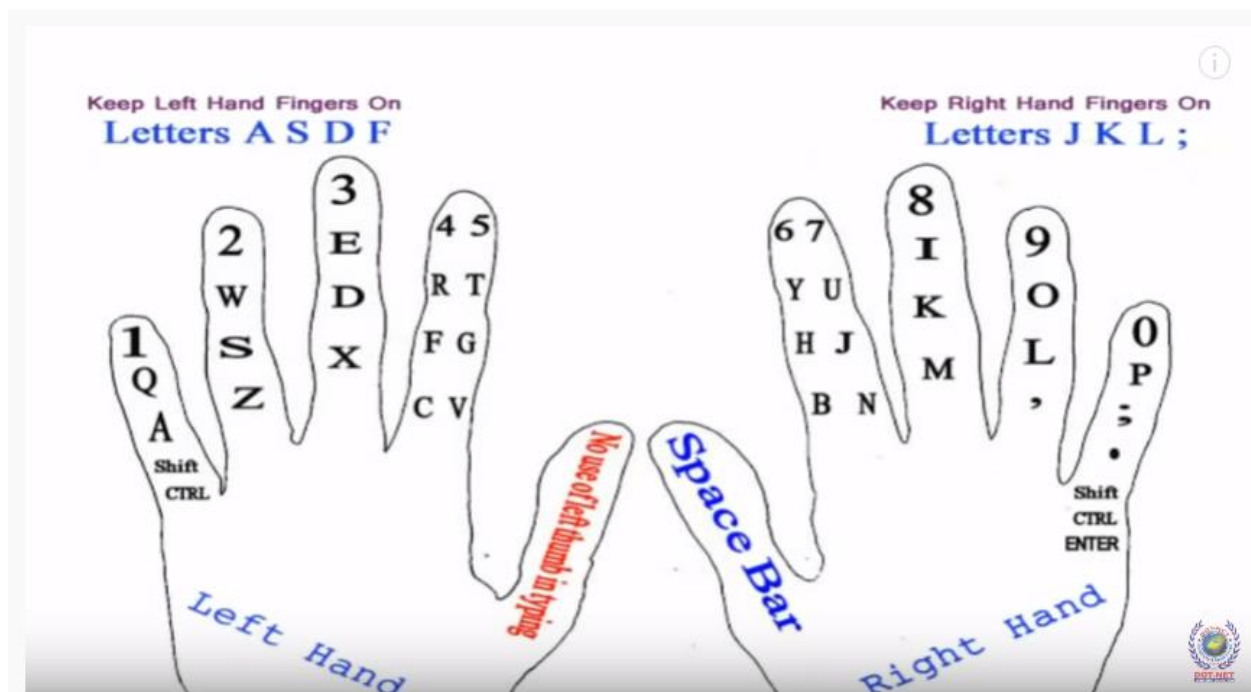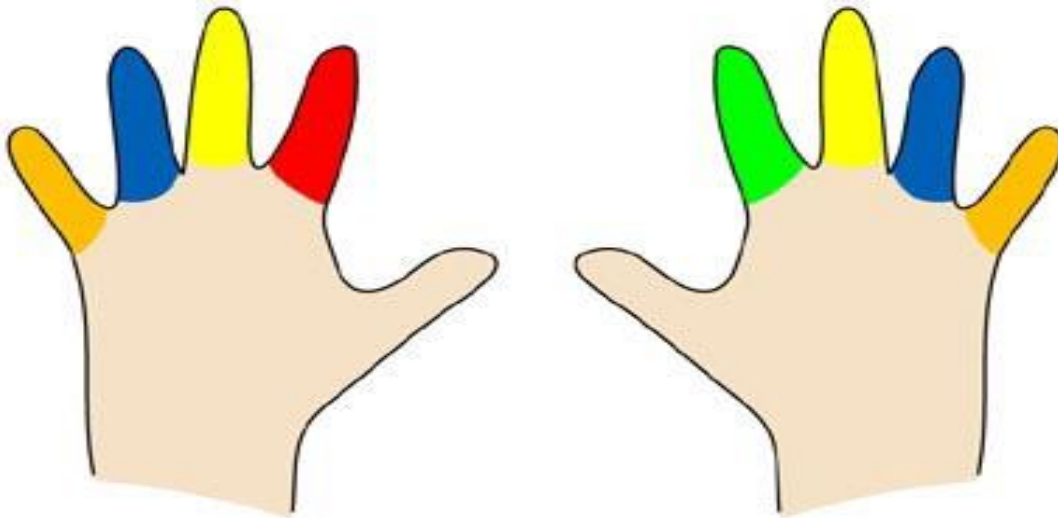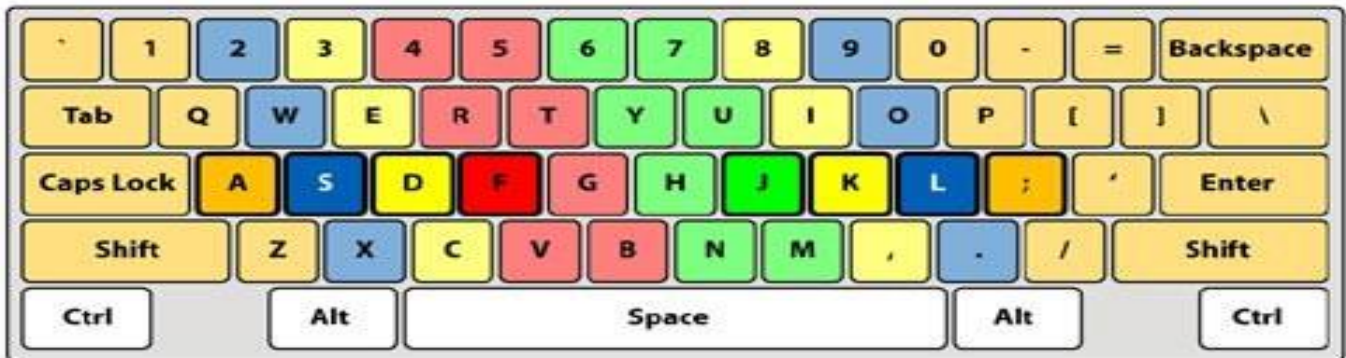
Six Steps of typing to set fingers on keyboard –

1. ASDFG;LKJH *(Practice it for one hour)*
2. QWERTPOIUY *(Practice it for one hour)*
3. ZXCVB.,MN *(Practice it for one hour)*
4. ALL ABOVE LIKE- (*ASDFG;LKJHQWERTPOIUYZXCVB.,MN)*
5. A to Z LIKE – (*ABCDEFGHIJKLMNOPQRSTUVWXYZ)*
6. THE QUICK BROWN FOX JUMPS OVER THE LITTLE LAZY DOG.

The fingers on your left hand should be placed over the A, S, D, and F keys and the fingers on your right hand should be placed over the J, K, L, and ; keys. These keys are considered the home row keys. Your thumbs should either be in the air or very lightly touching the spacebar key.

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Keyboard finger position
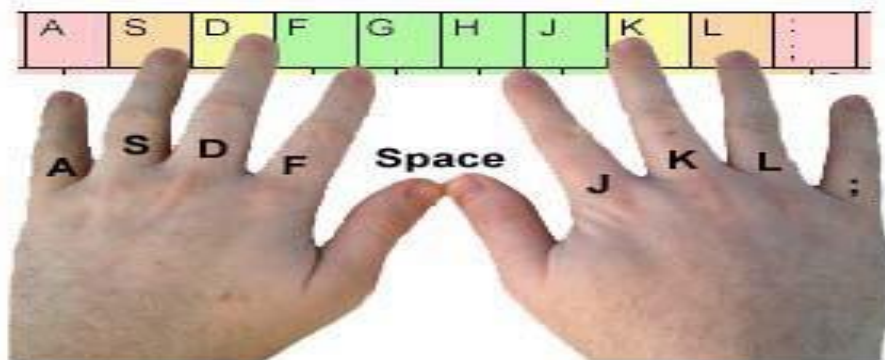
Now just open MS WORD in your computer start typing all these six exercises one by one and do practice them for at least one hour on a daily basis. After 2 or 3 months you will see the major difference in your typing speed (WPM) and Accuracy. You can also then practice on the TYPING MASTER TOOL and give the tests also for the betterment of yourself.

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What fingers press each key on the keyboard?

A	S	D	F	J	K	L	;
~ `	@ 2	# 3	$ 4	^ 6	* 8	(9	) 0
! 1	W	E	% 5	& J	I	O	P
Tab	S	D	R	Y	K	L	; :
Q	X	C	T	U	< ,	> .	? /
Caps			F	H			- _
A			G	J			[{
Left Shift			V				" '
Left Ctrl			B	N			Right Shift
Z				M			+ =
Fn Key							] }
							Delete
							\	
							Enter
							Right Ctrl

Spacebar (Alt Key | Windows Key | Option Key)

Other keyboard safety tips

While keeping your palms raised while typing, there are also other tips you can follow to help prevent pain while you type. Keep the following suggestions in mind every time you type.

- Keep your keyboard home row height as close to elbow level as possible.
- Center the spacebar with your body.
- Do not angle or bend your wrists. While typing keep your wrists elevated and as straight as possible.
- Avoid hunt-and-peck typing as it causes strain on the neck from having to look down at the keyboard often.
- Don't use more force than needed to press the keys.
- When you are not typing make sure to rest your arms and hands. However, never rest your arms, hands or wrist on a sharp edge.
- Take a break from typing every 20 to 30 minutes. If you have a hard time remembering when to take a break, set a timer or drink lots of water, forcing you to go to the bathroom more often.
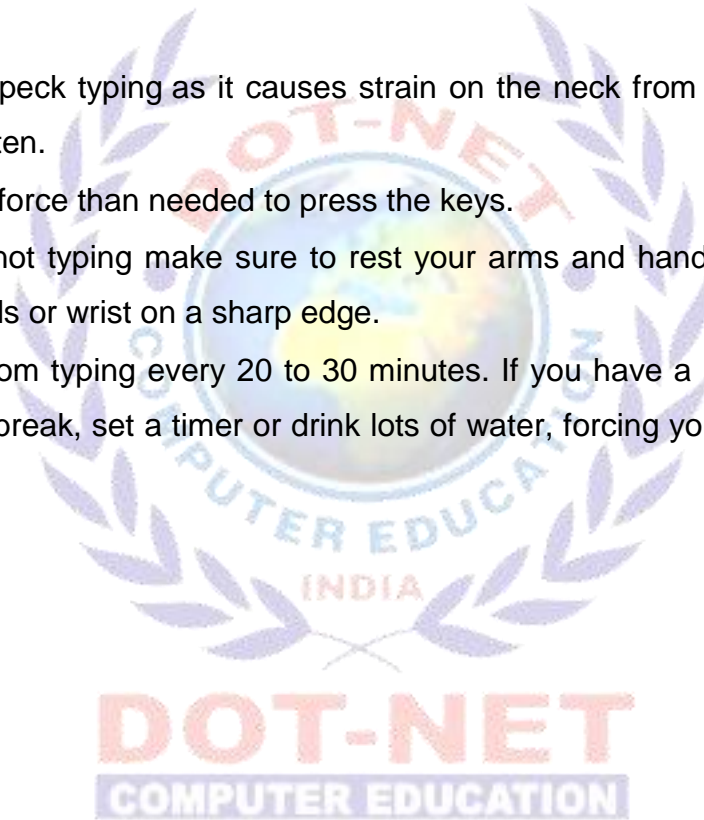
OPERATING SYSTEMS

What is an Operating System?

The operating system is the core software components of your computer. It performs many functions and is, in very basic terms, an interface between your computer and the outside world. In the section about hardware, a computer is described as consisting of several component parts including your monitor, keyboard, mouse, and other parts. The operating system provides an interface to these parts using what is referred to as "drives". This is why sometimes when you install a new printer or other piece of hardware, your system will ask you to install more software called a drive.

Types of Operating System

There are four types of operating systems.

1. DOS
2. Windows
3. Unix
4. Linux

Microsoft Windows Operating Systems

The most common is the Microsoft suite of operating systems. They include from most recent to the oldest:

- **Windows 8 -** This is the newly version of windows operating systems by Microsoft. A version used by many businesses on workstation. It has the ability to work in Desktop / Laptop and Mobile Technology.

-

- **Windows 7 -** The windows 7 is second newly version of windows operating systems by Microsoft. A version used by many businesses on workstation. It has the ability to become a member of a corporate domain.

- **Windows Vista-** A version used by many businesses on workstation. It has the ability to become a member of a corporate domain.

- **Windows XP -** A lower cost version of Windows XP Which is for home use only and should not be used at a business.

- **Windows 2000 -** A better version of the Windows NT 0operating system which works well both at home and as a workstation at a business. It includes technologies which allow hardware to be automatically detected and other enhancements over Windows NT.

- **Windows ME -** An upgraded version from windows 98 but it has been historically plagued with programming errors which may be frustrating for home users.

- **Windows 98-** This was produced in two main versions. The first Windows 98 version was plagued with programming errors but the Windows 98 Second Edition which came out later was much better with many errors resolved.

- **Windows 95-** The first version of Windows after the older Windows 3.x version offering a better interface and better library functions for programs.

Parts of Windows Operating System:

1. Desktop
2. My Document
3. My Computer
4. Recycle Bin
5. Paint
6. Notepad
7. Word pad
8. Explore
9. Search

1.The Desktop

The Desktop is the work area on a Windows screen where you are make to work. It is called the Desktop because Windows uses you whole screen in a way that is similar to the way you use the top of your desk. As you work in Windows, you move items on the Desktop, retrieve and put away items and perform many other day-to-day task.

Desktop

Icons

Start Menu

Task Bar

✎ Icons and their Types

An icon is a graphic object that shows a program or a file on your monitor. The different types of icons are described in the successive sub-sections.

✎ System Icons

System icons are displayed along left edge of the screen. These objects are created automatically by Windows XP during it s installation. The five system icons are explained in the following table.

⍊ **Shortcut Icons**

These are the icons with small arrows in the lower left corner. A shortcut icon provides easy access to some objects on your system, such as a program, a document, or a printer, etc. The shortcut icon only contains information about the location of the object but not the object itself.
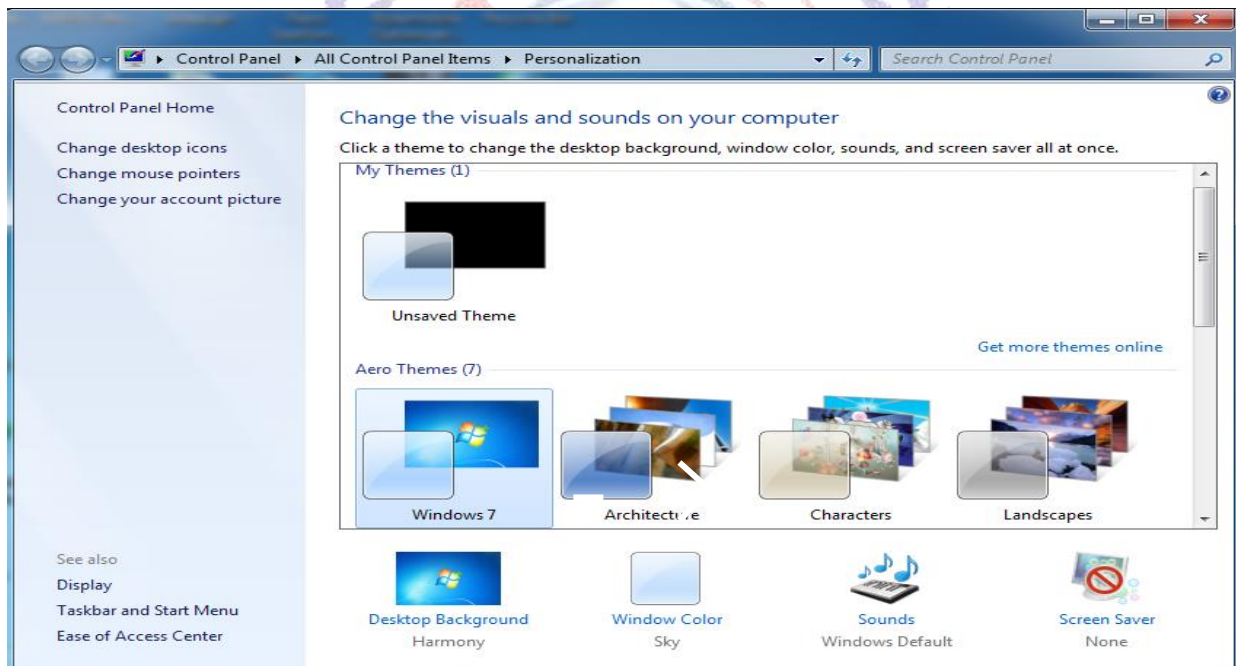
⍊ **Program, folder and Document Icons**

These are non-system icons without arrows and they represent the actual objects they describe.

How to Manage Desktop.

If you want to do some changes on the Screen and you want to give some effect then you can use desktop properties.

*Right click on Mouse Button and select properties option*

2. My Documents

This is represents a folder that is used by many programs as a for stating the documents. This is used for store files and folders.

3. My Computer

My computer icon lets you browse through all the resources attached to your PC. When you click on my computer icon, a Windows Explorer open Windows Explorer is a program that Windows uses to display folder contents. This windows includes icons for each of the computer's disk drive (floppy disk, Hard disk , CD-ROM etc.)
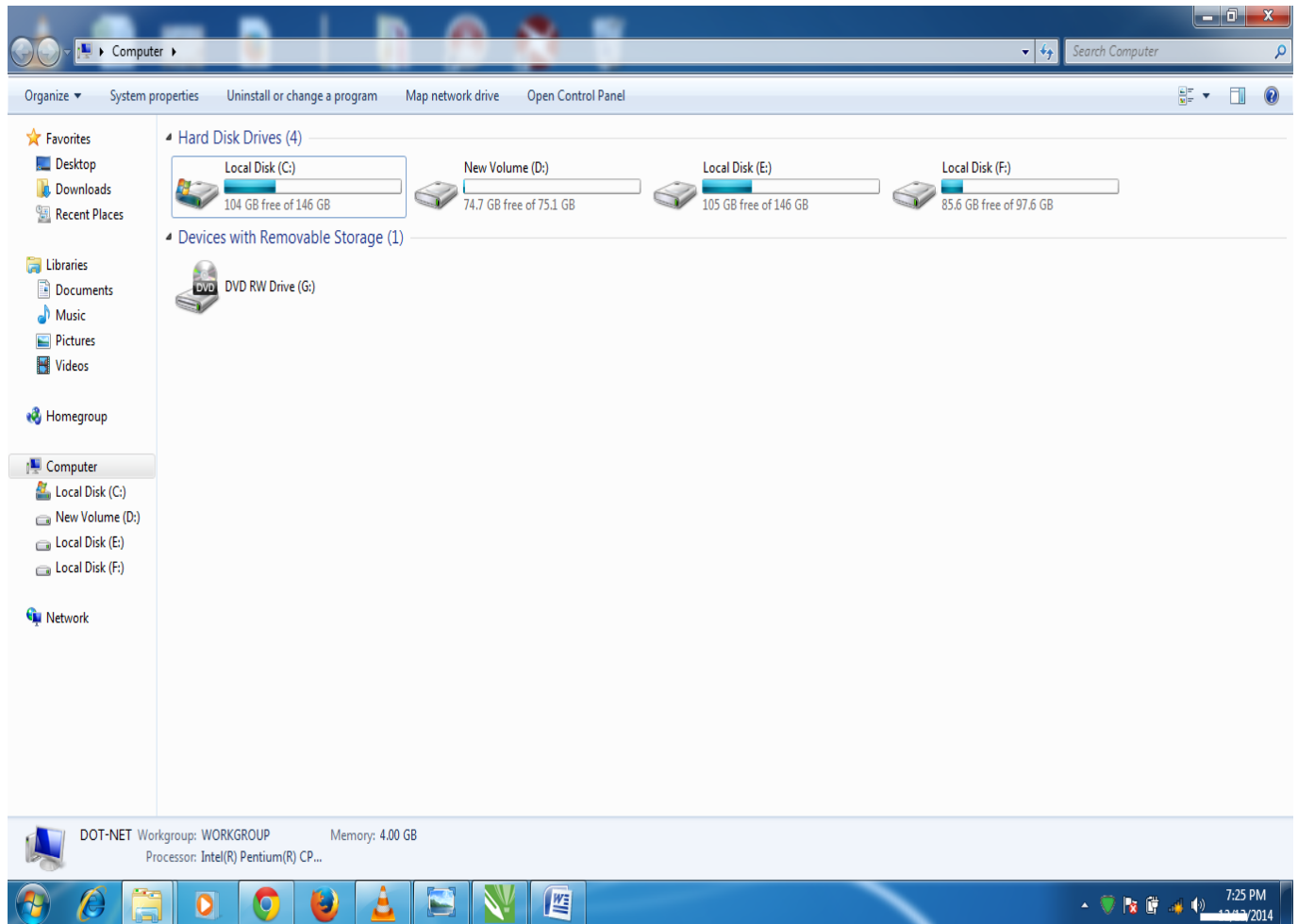

4. Recycle Bin

Files and folder deleted from your hard drive are not actually deleted but transferred to the Recycle Bin. The Recycle Bin icon appears on the desktop and looks like a waste paper basket. When you open the icon, a Folder window opens, displaying the files and folder that have been deleted since the Recycle Bin was last empting. In effect, the Recycle Bin works like a folder.

5. File Management through Windows Explorer

File and folder are two of the most fundamental concepts of the Windows operating system. You create and organize files and folder as soon as you save your work in a PC.
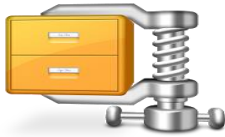
File

A file is any collection of related information that is given a name and stored on a disk so that i can be read and manipulated whenever required.

(A file can contain any kind of information: a program or application or a document; a part of a document, such as a table or a graphic; a sound or a piece of music, etc.)

Folder

As you work in windows you would see that hard disk contains hundreds of files even before you start creating your own files. It would be impossible to keep track of all these files if they are not arranged properly. (A folder is a special kind of file that contains a list of other files or subfolders. The files on the list are said to be in the folder.

- ✍ **How create a Folder**

  In the Windows Explorer click the **F**ile menu and choose **N**ew. Alternatively, right click an empty area of the desktop and choose **N**ew

- ✍ **Deleting Files and Folder**

  - Select the object to be deleted in Folder or Windows Explorer
  - Window
  - Click the Delete button on the toolbar.
 - Click yes in the dialog box.

6. Paint

MS-Paint is a graphical program that can be used for drawing picture. MS-Paint is bit-mapped program. Its drawing consists of a series of dots called pixels that can be controlled by you.

Starting MS Paint

To start the paint program do this:

- Click the Start button, highlight Programs and choose Accessories.
- From the Accessories group click Paint.
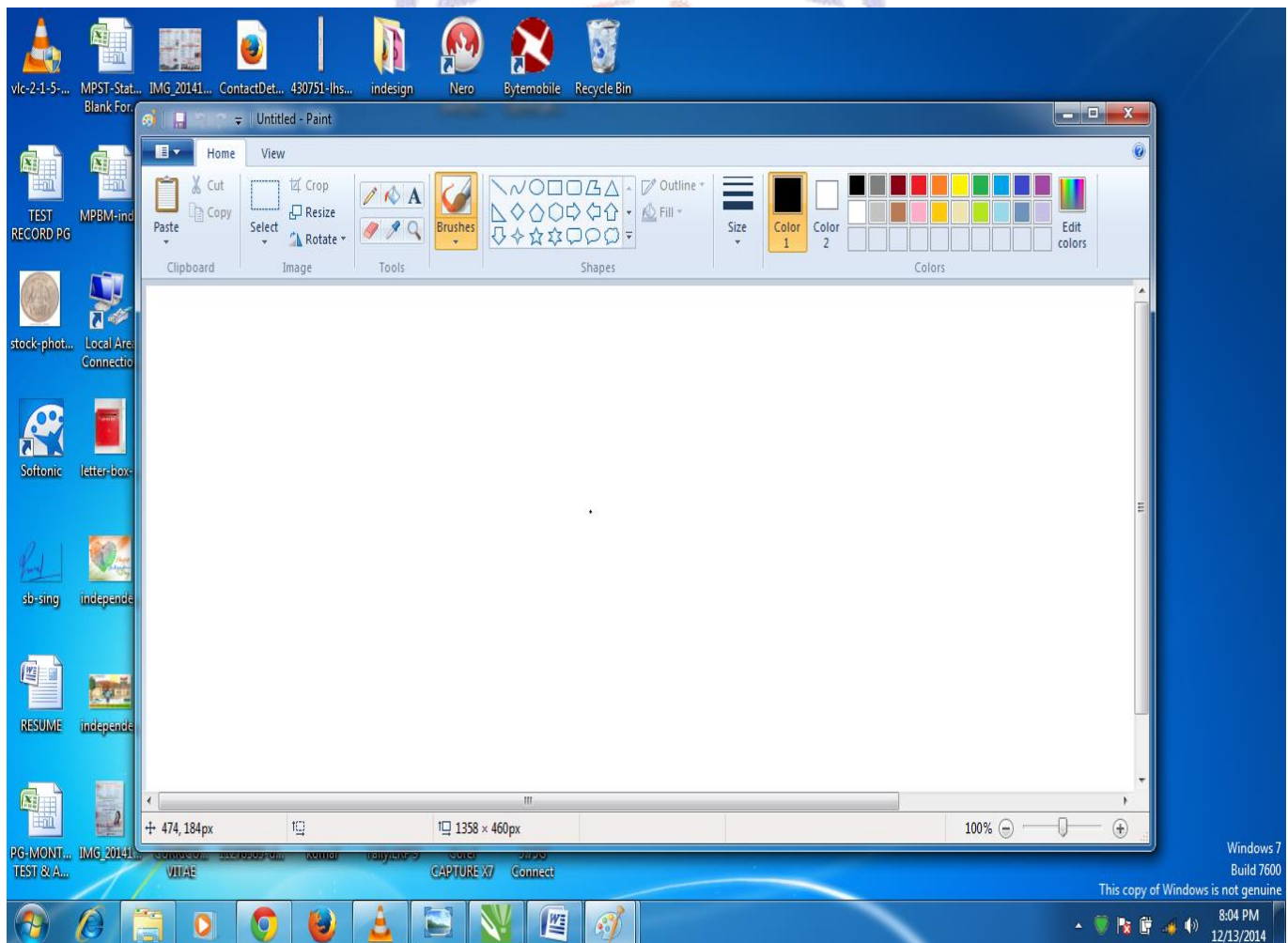
7. Notepad

The notepad is also one of the products in Accessories group it can be used for writing notes, e-mails messages, etc. It is useful for editing and storing all textual data.

To start Notepad, do this:

a) Click the Start button, highlight Programs menu item and choose Accessories.

b) Form the Accessories group, click Note Pad.

c) To open a new file in the Notepad, open the File menu and choose New.

d) To open an existing file, open the File menu and choose Open command. In the open dialog box, that appears, specify the name and location of you want to open. Click Ok.
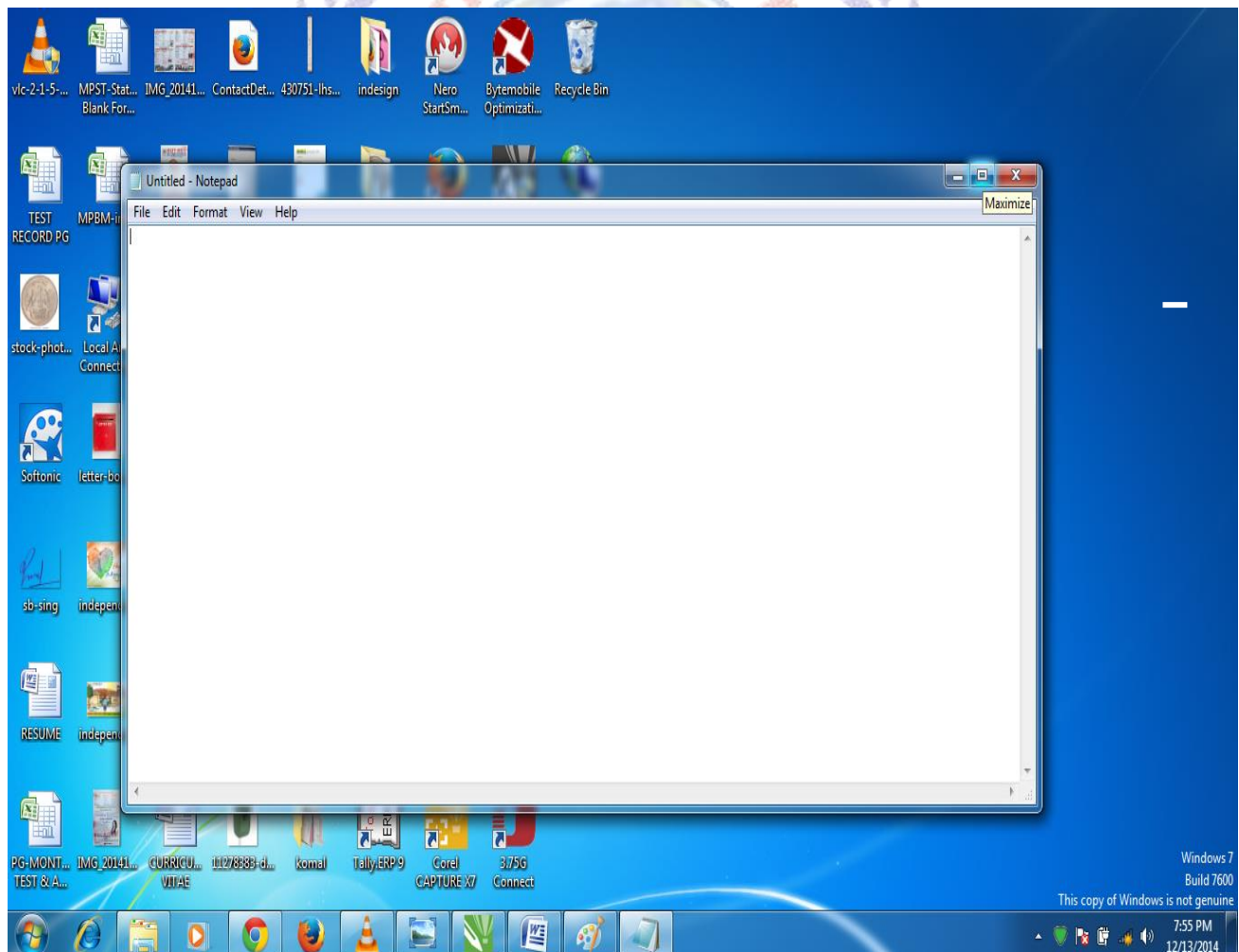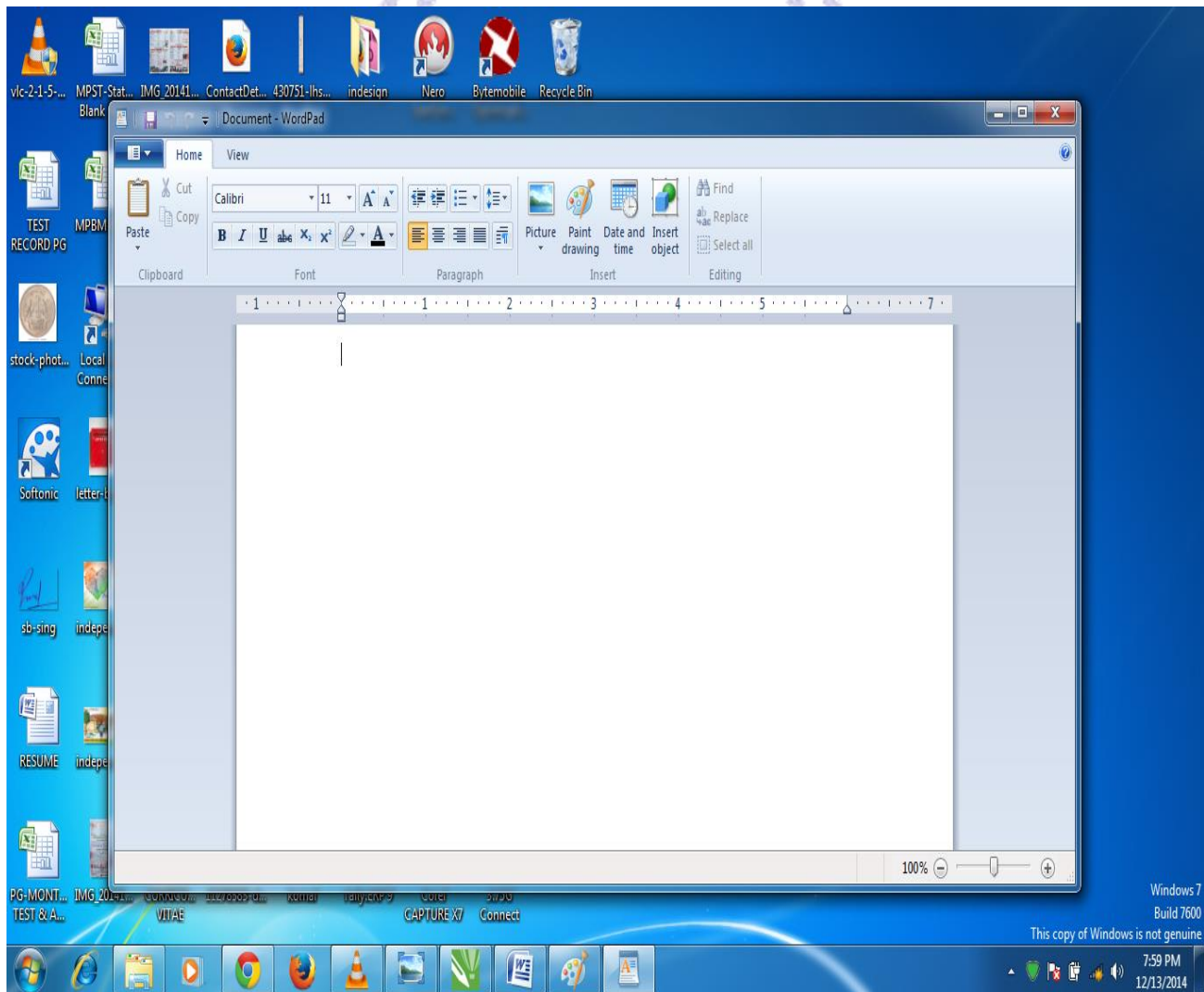
8. WordPad

Word Pad is a word Processor inbuilt with Windows XP. It has less word processing facilities then word 2000.

To start WordPad do this:

a) Click the Start button, highlight Programs menu item and choose Accessories.
**b)** From the Accessories group click WordPad**.**

9. Explore:-

This option is used for shift the File and Folder one location to another location.

How to use explore

a) Right click on start menu
b) Go to Explore option
c) Select the File and Folder one location with Right button
d) Drop the File and Folder another location.

Search :- This option is used for search the File and Folder.

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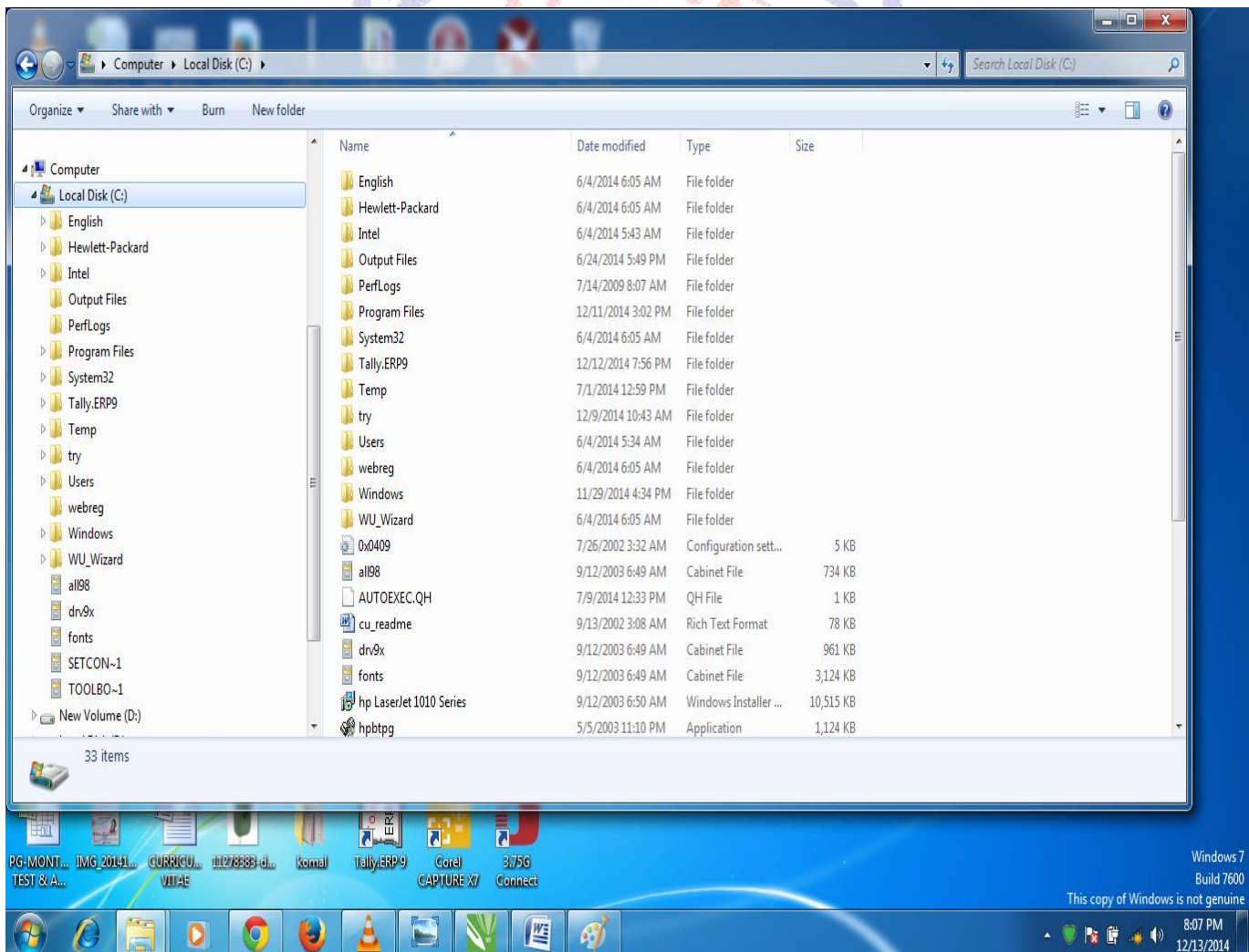
DOT-NET GUIDE LINE FOR STUDENTS

DOT-NET always tries to give better education for our student, not only in the field of computer but we also develop our students how to fight competition in the professional life. We also provide them jobs after complete the course.

TEACHING METHODOLOGY: - **DOT-NET** provides 7 Hrs. Class within 6 days in a week like as:

- ✓ **5 Day Practical** *(1 Hrs. a day)*
- ✓ **1 Day Theory** *(2 Hrs.)*
    - o *30 Min. Subjective of Computers*
    - o *30 Min. Quarry Sessions*
    - o *30 Min. Personality Development*
    - o *30 Min. Presentations*

STUDY MATERIAL: - **DOT-NET** provides study material as **NOTES** with every module as per **DOT-NET** Course Layouts. The every student has to buy this with start of new modules. This notes books will necessary to buy every student.

MONTHLY TEST: - **DOT-NET** management are very serious about our student's performance so we take monthly test like as:

- ✓ Practical Test   : 40 Marks
- ✓ Theory Test   : 40 Marks
- ✓ Oral Test   : 20 Marks
- ✓ After complete of course we will provide Mark sheet with your Certificate.
- ✓ Students will have to attend at least 5 monthly tests compulsory if the course is for 6th months or 11 monthly tests compulsory if the course is 1 year.

ANNUAL AWARDS FUNCTION: - **DOT-NET** provides our students *"Best Students of the Year Award"* in Annual Function of the Centre.

Annual Awards Prize

- ✓ Best Student of The Year Award
- ✓ Rs. 500/- Cash
- ✓ Certificate and **DOT-NET** Momentous

DOT-NET will place the photographs Annual winners in **DOT-NET** website (www.dotnetinstitute.co.in)

PLACEMENT: - **DOT-NET** provides the 100% job placement to our students but students have ability to fight the interview, if students are not able to face interview then we will make a batch for such students and give them 10 days job interview training, then place them to companies.

ANNUAL TOUR: - **DOT-NET** arranges annual tour outside of Delhi every year for our students.

FEE DEPOSIT: - **DOT-NET** collects the fee on time so every student has to pay monthly fee on your due date. After three days of due date the *Late Charge Rs.50.00* per day till next 7 days after 7 days we will stop his/her class.