

# 1

## **e-TYPEWRITING**

### **1.1 LET'S START**

Computers have moved into every corner of our daily lives. Computers are at work in departmental stores, homes, offices, hospitals, banks, theaters and even coffee shops. They have become so fundamental to our modern society that without them, our economy would grind to halt. In the last few decades, computers have completely altered business practices all around the world.

We are living in information age and with the concept of Virtual and Paperless Office prevalent in today's office environment, all the office procedures i.e. mail handling, processing, storage and retrieval of data, etc. are handled by computer. Therefore, it has become imperative to use computers in the most efficient and effective manner. One of the ways to optimize the usage of computers is to learn and type on computer keyboard speedily and accurately. e-Typewriting followed with Touch Method familiarizes with the mechanism of accurate and speedy typewriting on a computer so that more work can be done with less energy and time.

### **1.2 OBJECTIVES**

At the end of this lesson, you will be able to:

- know the meaning and importance of e-Typewriting
  - differentiate between typewriting and e-Typewriting
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- understand the basics of computers
- practise the procedure of starting and shutting down of computer
- enlist various types of storage devices
- explain the various ways of safety and security of data in a computer

### **1.3 LEARNING COMPETENCIES**

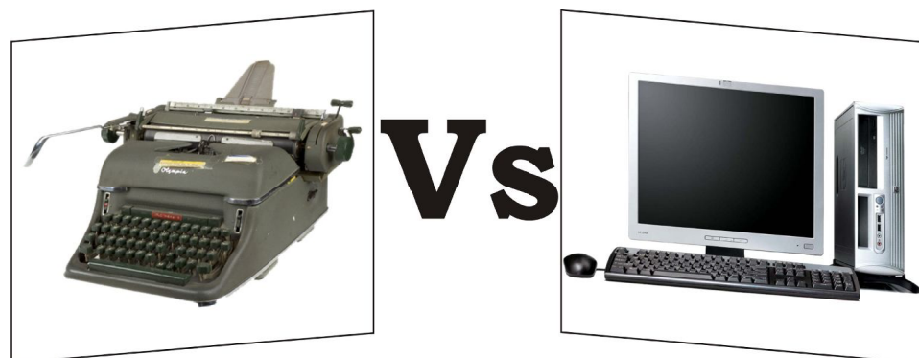
At the end of this lesson, you will be able attain the following competencies to have:

- basic knowledge of computer system
- familiarity with e-typewriting
- ability to start and shut down computer system
- knowledge of various safety and security techniques

### **1.4 e-TYPEWRITING – MEANING AND IMPORTANCE**

The art and technique of typing on computer is known as e-Typewriting.

As computers have become an integral part of our professional and personal lives, acquiring of computer skills has become as important as reading and writing skills. It has become increasingly essential for everyone to use computer keyboard efficiently so as to make optimum use of computers. Mastery of the keyboard particularly becomes much more important for professionals who spend a lot of time on working with computers. Operating the keyboard efficiently also gives a great boost to one's confidence and self-esteem besides providing effectiveness to the jobs on hand. Though the manual typewriters have been replaced with computers yet the need to acquire high typing speed by the users cannot be under-emphasized.



**Fig. 1.1 : Typewriter v/s Computer**

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Computer is much more powerful than a manual typewriter. As compared to typewriting on a manual typewriter, e-Typewriting has the following advantages:

- e-typewriting reduces the fatigue of the computer operator and output is increased.
- Feather touch and not hard strike is required to operate the keys of computer keyboard.
- Since the carriage moves automatically to the next line, there is no need for the hands to leave the keyboard.
- There is uniformity of typed matter. So, quality of work is better.
- Editing of text is easy. There are cut, copy, paste, redo, undo etc. options for the purpose.
- One can justify margins in e-Typewriting due to word wrap feature of computer which was not possible on a typewriter.
- Different type fonts and font sizes are available on computer.
- Spelling and grammatical errors can be easily detected and corrected.
- Automatic centralization of headings and underscoring features are available on computer.
- Special mathematical and other signs can be typed.
- No extra strain is required for making multiple copies.
- Typed matter can be saved and used for future reference.
- Coloured print of the matter can be taken.
- With the help of internet, typed material, graphics etc. can be e-mailed to other users.
- e-Typewriting has brought about revolution in the concept of Paperless and Virtual office.

## **1.5 BASICS OF COMPUTERS**

A computer is an electronic device that consists of hardware and software to store, retrieve and process data. The term hardware describes the physical parts of computer which we can physically touch or see such as CPU, monitor, keyboard, mouse and other physical parts. Software is set of instructions that instructs the hardware what to do. It guides the hardware how to accomplish each task. One of examples of software is Operating System.

An Operating System (OS) is the most important software that runs on a computer which manages all other software and hardware units on the computer. It also allows to communicate with the computer. In simple words,

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we can say that it is an interface between user and hardware. Examples of OS are: DOS, Microsoft Windows 9x, Windows 7, Macintosh, Linux, UNIX etc.

**Note:**

At the time of buying a Software, ensure that it must be registered and have a Licence Number. It helps to prevent unauthorised use of software and takes care of seller's rights.

### **1.5.1 Characteristics of Computer**

The basic characteristics of computer are given as under:

- **Speed:** A computer can perform Millions of Instructions Per Second (MIPS) which means the computer processes an instruction in microseconds and nanoseconds.
- **Storage:** Enormous amount of data can be stored electronically in considerable less space, and retrieved in a fraction of time.
- **Accuracy:** A computer's high-speed processing is also accompanied by highly accurate performance.
- **Versatility:** It can perform different types of logical tasks which are programmed according to specific needs of different fields.
- **Diligence:** Computers are highly consistent unlike human beings who have limited physical and mental abilities. They do not get bored or feel tired. Like humans, they do not suffer from lack of concentration after doing a monotonous job. A computer can tirelessly perform the similar operations hundreds of times in exactly the same way and does not make mistakes due to boredom.

### **1.5.2 Advantages of Computers**

Some of the advantages of computers are given as under:

- Computers can automate various tasks, once they are given logical sequence.
  - Computational and calculation works have become easy to perform, thus saving a lot of energy and time.
  - With Storage of data and files, the information can be used for future reference.
  - Automatic correction of spellings and grammar to get error-free results is possible with computers. Formatting of documents is another option available to us.
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- Use of Internet to access any information is one of the most important advantages of computers .
- Communication networks are possible.
- It is a source of entertainment and widely used by the film industry.
- Due to on-line filling of forms, services of various service sectors like banking, insurance, education etc. can be accessed.
- Paperless Office and Virtual Office concept being enjoyed by professionals has enhanced overall efficiency and effectiveness of work.
- A computer can work on several languages once programmed to do so.

### **1.5.3 Disadvantages of Computers**

As a machine, a computer also has some limitations. Some of these limitations are listed below:

- A computer cannot work on its own, i.e., if we do not give particular instructions to perform a job, it cannot generate information on its own.
- A computer does not have any self decision-making capability. It takes decisions according to the programmed logical steps provided to it.
- Though computers store data and provide security to the data but there is always a fear of theft and misuse of data.
- It may have health risks and e-waste has negative impact on environment.
- Additional efforts are required to learn the use of computers and develop software. Change of software, if needed, also requires lot of efforts.
- Indiscriminate use of computers for communication may threaten personal bonding in an organization.

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### **INTEXT QUESTIONS 1.1**

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1. Define an Operating System.
  2. Write any two points which indicate that e-typewriting is superior to manual typewriting.
  3. Fill in the following blanks:
    - (a) Computers can \_\_\_\_\_ various tasks, once they are given logical sequence.
    - (b) Typed matter can be saved in \_\_\_\_\_ and used whenever desired for future reference.
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- (c) If we do not give particular instructions to perform a job, a computer \_\_\_\_\_ generate information on its own.
  - (d) The term \_\_\_\_\_ describes the parts of a computer which you can physically touch or see.
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### 1.5.4 Starting and Shutting down of Computer

START – For normal starting process of Desktop Computer, switch on the UPS and press the power button of System Unit. At the bottom of the Screen, there is Taskbar which has Start button. There are other icons on the Desktop Screen viz. My Computer, Recycle Bin, My Documents etc. The screen

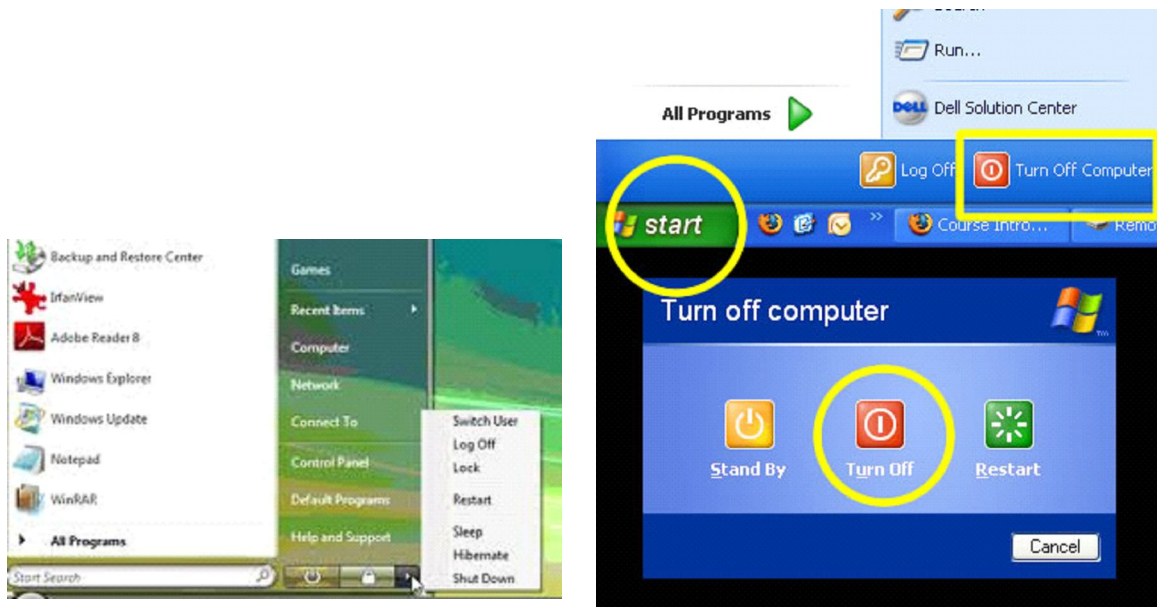


Fig. 1.2 : Screenshot of Desktop

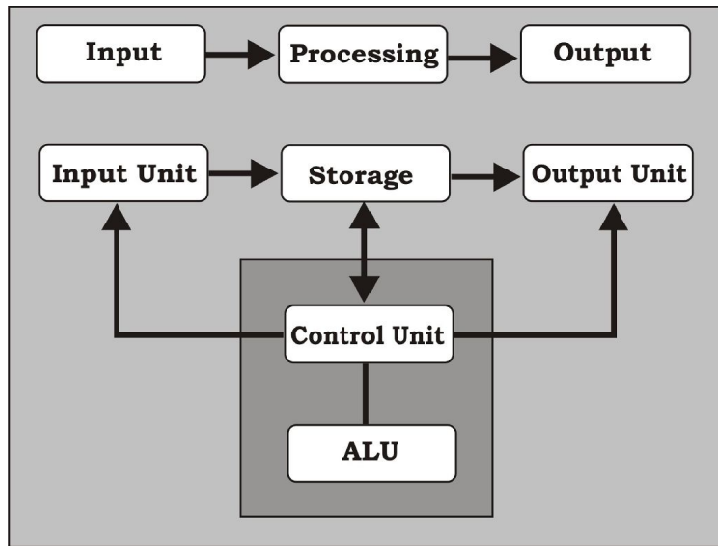
appears according to the Operating System of the computer. However, in case of Laptop, just switch on the Start Button and the requisite screen will appear.

SHUT DOWN – In case of MS Windows, go to Start button on Taskbar (the circle with the windows logo on it), go to the right and select shut down.

Sometimes computers do not start by following the prescribed procedure. At this time, one has to check all cables to ensure that they are not loosely connected and plugs are tight.

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### 1.5.5 Block Diagram of a Computer



**Fig. 1.3 : Block diagram of Computer**

A computer is a machine which accepts data, processes it and returns new information as an output.

i.e. Data → Processing → Information

A computer system has mainly following components:

1. **Input Unit** - Information and programs are entered into the computer through Input devices such as the keyboard, mouse, scanner, web camera, MICR etc.
2. **Processing Unit** - The CPU or Central Processing Unit contains the Control Unit which directs the operations of all other parts of the computer. The Central Processing Unit (CPU) is also known as the “brain” of a computer.
3. **Output Unit** – The results generated by the computer are given out through Output devices such as monitor, printer, speaker etc.
4. **Memory Unit** – It is used to store the data. This unit contain –
  - a) **Primary storage** (or main memory or internal memory) is the only one directly accessible to the CPU. As the RAM types used for primary storage are volatile (cleared at shut down), a computer containing only such storage would not have a source to read instructions from, in order to start the computer. A non-volatile technology used for this purpose is called ROM, for read-only memory.

- b) Secondary Storage (also known as external memory or auxiliary storage), is not directly accessed by the CPU. The computer uses input/output channels to access secondary storage. Secondary Storage does not lose the data when the device is switched off i.e. it is non-volatile.

The most common secondary storage devices are: Hard Disk, DVD – RW or R, CD – RW or R, Pen Drives, Internet Hard Drive, Memory cards etc.

After Flash Memory, BLU RAY DISC (BD) is latest storage device, so called, as it uses blue violet laser technology to store data

### **1.6 SAFETY AND SECURITY OF DATA**

Data safety and security means ensuring that data is safeguarded from any possible misuse and loss so that its integrity and confidentiality is maintained. Access of data is to be suitably controlled and privacy of data maintained. Thus, safety and security of data include:

- maintaining confidentiality of information and respecting privacy of users
- ensuring access control to only authentic users
- availability of data at a given time
- ensuring non-repudiation i.e. senders of messages cannot deny the fact.

All potential threats which may violate safety and security of data are to be taken care of and prevented. If not prevented and unchecked, it may damage or delete data, spy on data, deliver unwanted data etc.

#### **REMEMBER:**

#### **COMMON THREATS TO A COMPUTER SYSTEM**

- PC Intrusion (damaging resources of computer system)
- Computer Virus viz. Worms and Trojan Horses (codes which may damage documents or files)
- Spyware (do spying and track user's behavior)
- Password Hacking (guessing of password for unethical use)
- Phishing (acquiring of confidential information by fraudulent process)
- Spamming (sending of bulk mail by identified or unidentified source)
- Adware (delivering of unwanted data to a computer system)



Login Password, authentication and anti-virus software techniques are normally used by administrators to ensure safety and security of data, which are discussed below:

### **Login Password**

There can be different methods of logging in to a computer system and that may be via image, fingerprints, eye scan, password (oral or textual input), etc. With the help of Login Password, a user presents certain specific credentials and then can have access to a computer system by identifying and authenticating the same. It is a common practice to put a password-protected screensaver which gets activated automatically after setting pre-defined period of inactivity. The screensaver is to be unlocked to gain access to the system.

### **Authentication**

It is the act of confirming the identity of a person or software program. Authentication is access control to a system and is supposed to be used only by authorized users and exclude the unauthorized. Common examples of authentication include password, photo ID, ATM, internet banking, etc.

### **Use of Anti-Virus**

Anti-virus software is a software which is used to prevent, detect, and remove any malware threat and provide security to the computer system. The examples of malware are computer virus, spyware, Trojan horses, etc. which may corrupt the data and files of computer system. Various products and services are available in the market to fight, prevent and remove malware threats. Anti-virus software can also predict what a file will do by analyzing what it does to see if it performs any malicious actions. It is common practice to check external drives to detect any malware which may be present with an anti-virus software before copying or downloading the data from them.

### ***DOs and DONTs:***

#### **SAFETY AND SECURITY OF DATA**

- Download important data at the end of every day.
  - Use anti-virus software.
  - Thoroughly read agreements before installation of any software.
  - Scan your computer system regularly.
  - Keep your e-mail id confidential.
  - Do not ignore security alerts.
  - Block all Cookies.
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Large companies are also using some of the following techniques to ensure security of their data :

- a) **Data Warehousing** : Back up of all the important and useful data can be saved in Data Warehouses. Use of Data Warehouses saves business organizations from huge data loss due to unforeseen circumstances viz. natural calamities, bomb blasts, accidents, mass data corruption etc.

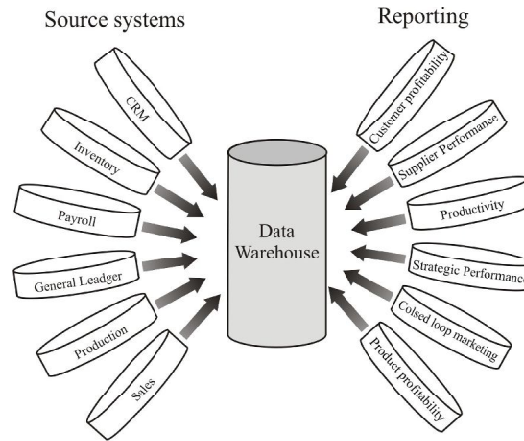


Fig. 1.4 : Data Warehousing

- b) **Data Encryption**: It means transforming plain text into coded form which is non-readable to a layman. Conversion of data into encrypted form while storing in the 'Data Warehouses' ensures safety of data. If anyone wants to use the data, the data stored is to be first decrypted by using security password and a decoding algorithm. In this way, only the authorized staff can have access to the data.

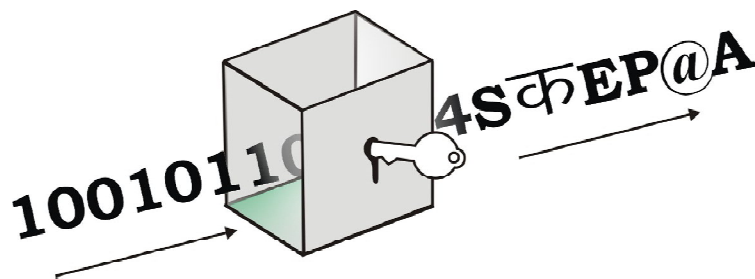


Fig. 1.5 : Data Encryption

- c) **Data Masking**: Data Masking of structured data is the process of obscuring (masking) specific data within a database table or cell to ensure that data security is maintained and sensitive information is not exposed to unauthorized persons.
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**Fig. 1.6 : Data Masking**

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### **INTEXT QUESTIONS 1.2**

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1. State 'True' or 'False' for the following statements:
  - (a) Anti-virus software is a software which is used to prevent, detect and remove any malware threat and provide security to the computer system.
  - (b) Output devices are termed as Brain of the computer.
  - (c) Data Encryption transforms plain text into coded form which is non-readable by a layman.
  - (d) The computer uses input/output channels to access secondary storage.
2. Fill in the following blanks:
  - (a) A non-volatile technology used for primary storage purpose is called \_\_\_\_\_.
  - (b) \_\_\_\_\_ is the act of confirming the identity of a person or software program.
  - (c) Large companies use \_\_\_\_\_ of structured data within a database table or cell to ensure that data security is maintained and sensitive information is not exposed to unauthorized persons.
  - (d) \_\_\_\_\_ means transforming plain text into coded form which is non-readable to a layman.

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### **1.7 LET'S SUM UP**

In this lesson, you have learnt that **e-Typewriting** is the art of typing on computer scientifically. As compared to typewriting on a manual typewriter,

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e-typewriting has certain advantages viz. e-typewriting reduces the fatigue of the computer operator and output is increased, feather touch is required to operate the keys of computer keyboard, since the carriage moves with the depression of a key there is no need for the hands to leave the keyboard, there is uniformity of typed matter. So, quality of work is better, editing of text is easy, justified margins in e-typewriting due to word wrap feature of computer, different types of fonts and font sizes are available on computer, automatic centralization of headings and underscoring features are available on computer which are not available on manual typewriter, special mathematical and other signs can be typed, typed matter can be saved on secondary storage devices and used whenever desired, coloured print out of the matter can be taken and with the help of internet, typed material, graphics etc. can be e-mailed.

A computer is an electronic device that consists of hardware and software to store, retrieve and process data. The term hardware describes the parts of your computer which you can physically touch or see such as monitor, disk drives, microprocessor and other physical parts. Software is any set of instructions that tells the hardware what to do. An Operating System (OS) is the most important software that runs on a computer and manages all of the software and hardware units on the computer. Basic characteristics of computer are speed, storage, accuracy, versatility, diligence, reliability etc.. A computer system has mainly four components viz. Input unit, Processing Unit, Output Unit and storage unit. There are primary and secondary storage devices to store the data in computer. Safety and security of data can be obtained by Login Password, Authentication and Use of anti-virus software. Large companies use Data Warehousing, Data Encryption and Data Masking techniques to ensure security of their data.

***Employability Skills : Practical Work Tasks***

1. *Create any five files giving it the different names viz. Inquiry, Quotation, Sales, Collection and Complaints.  
(b) Give a password to each file.*
2. *As Ms. Tina wants to restrict use of computer, give a password protected screensaver to her computer and write the various steps.*
3. *You want to ensure security and safety of data in your computer. Practice installation of any anti-virus software in a computer and observe the various steps followed.*
4. *Mr Karan always run anti-virus software and scans his computer for any threats whenever any USB is used in his computer. What procedure he would follow while scanning his computer?*

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**1.8 TERMINAL QUESTIONS**

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1. e-typewriting enjoys certain advantages over manual typewriting. Mention any eight such advantages.
2. Explain the basic characteristics of a computer system.
3. Differentiate between primary and secondary storage devices.
4. What are the various ways of logging in to a computer system?
5. Write short notes on:
  - (a) e-Typewriting
  - (b) Use of anti-virus software
6. What are the various techniques used by large companies to ensure security of their data ?

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**1.9 ANSWERS TO INTEXT QUESTIONS**

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**1.1**

1. An operating system is the software which runs on a computer to manage all its software and hardware units.
  2. Any two out of the following:-

e-typewriting reduces the fatigue of the computer operator and output is increased, feather touch is required to operate the keys of computer keyboard, since the carriage moves with the depression of a key, there is no need for the hands to leave the keyboard, there is uniformity of typed matter. So, quality of work is better, editing of text is easy, justified margins in e-typewriting due to word wrap feature of computer, different type fonts and font sizes are available on computer, automatic centralization of headings and underscoring features are available on computer which are not available on manual typewriter, special mathematical and other signs can be typed, typed matter can be saved in memory etc.
  3.
    - (a) automate
    - (b) memory
    - (c) cannot
    - (d) hardware
-

**1.2**

1. (a) True  
(b) False  
(c) True  
(d) True
2. (a) ROM  
(b) Authentication  
(c) Data Masking  
(d) Data Encryption

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**1.10 GROUP ACTIVITY AND PROJECT WORK**

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1. Improved versions of word processing packages, storage devices and anti-virus software are introduced in the market every now and then.

Make a group of four. Survey your nearby market and explore information on websites to find out the following:

- a) Features of any two models of latest Personal Computer, Laptop, Notebook and I pad.
- b) Name any four companies selling anti-virus software and features of the software.

Prepare a Project Report on the information collected.

2. Each student should write the configuration of his/her computer.

Make a group of five and compare the configurations.

Suggest any changes, if required, in hardware components of your computer to secure the best performance.

**TRY IT OUT**

1. Information on 'Smart Office' and 'How a Virtual Office Works' may be collected with the help of internet.
  2. The students may go to nearby organizations and observe various paperless office procedures.
  3. Is it possible to customize desktop configuration? If yes, How?
  4. Arrangement of the icons on Desktop can be done according to user's convenience. Perform the activity as per your choice.
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