

# 2

# **COMPUTER APPLICATIONS**

#### INTRODUCTION

In previous lesson you have studied about computer, its generations, and how it performs various tasks. Computer, not only processes data and makes available information, but it is also able to perform subsequent steps on the basis of processed information. Computers have changed the way people work. Computers handle various tasks in business, education, manufacturing, transportation, and other fields.

In this Lesson, we will cover an overview of applications of computers in various fields, particularly in the field of libraries.



## **OBJECTIVES**

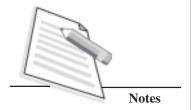
After completing this lesson, you will be able to:

- list uses of computers in various fields,
- define word processing and learn its features,
- use Microsoft Office Word 2007,
- explain Internet and its services,
- search Internet to find information, and
- use e-mail to send and receive messages.

Let us begin by learning the use of computers.

#### 2.1 USE OF COMPUTERS

The value of computer lies in its ability to perform certain basic tasks quickly and



accurately. These tasks include:

- solving numerical problems;
- storing and retrieving information; and
- creating and displaying documents and pictures.

#### **2.1.1 Solving Numerical Problems**

A most important and difficult task performed by computers is the solution of complicated problems involving numbers. Computers can solve such problems at amazingly high speed. In many cases, solutions show how certain things work, behave or happen. Scientists and Engineers rely on computers to solve the complicated sets of equations that they use to make predictions.

In economics and finance, computers solve equations to make predictions about money. Some of the most widely used computer programs are those which rely on simple equations. Such programs help people and businesses to work out their taxes, create budgets, and calculate value of their investments.

## 2.1.2 Storing and Retrieving Information

People use computers to store large quantities of information. In the context of libraries, information stored in computers is called a database. Databases can be enormous, for example, a large library's entire collection might be contained in a single database. A computer can search a huge database quickly to find specific piece of information. In addition, information can be changed easily and quickly. The efficiency with which a computer can store and retrieve information makes it a valuable tool not only in libraries but in a wide range of professions.

#### 2.1.3 Creating and Displaying Documents and Pictures

Computers can store huge quantity of data which can be easily manipulated. Word processing programs make it easy to change text that has been typed into a computer. For example, you can quickly correct typing or spelling mistakes. Words, sentences, and entire sections of a document can be added, removed or changed and printed. Business people, journalists, scientists, lawyers, secretaries, and students are among those who benefit from word processing. Computers are also important in the publishing industry. For example, most books, magazines and newspapers are typeset by computers. Computer graphics is use of computers to make pictures that almost look like photographs. Computer graphics are also used to create electronic video games. Computer programs that perform computer-aided-design (CAD) are important in many fields, particularly engineering and architecture. Computers can also produce figures by converting information into pictorial form. For example, computers enable business people, economists, scientists, and students to plot graphs, etc. In a technique called computerized tomography, or the CT scan, a computer uses X-ray data to construct an image of a body part on a screen. Doctors use these images to diagnose diseases and disorders.

You have observed how computers are useful in various fields. Let us study some of the computer applications in library.

#### 2.1.4 Application of Computers in Libraries

Libraries use computers to automate their house keeping operations such as acquisition, cataloguing, circulation and serials control. Students can search the computerized catalogue in the library to find books and other resources of the library. Some college and university libraries maintain their websites, where they upload and maintain their OPAC (Online Public Access Catalogue). Students and teachers can utilize this to search books and resources available in the library from anywhere and at any time using Internet. Students can also reserve a book, make suggestions for purchase of a book, and renew online the borrowed book from the library. Using computers, libraries can provide access to electronic publications such as e-journals, e-databases to which library is subscribing. Many libraries are offering reference services in online mode, where user can communicate with the librarian from remote location face-to-face as is done in traditional reference service. Many libraries provide a list of Frequently Asked Questions (FAQ) and their answers on their websites, which users can access anytime from anywhere using Internet.



## **INTEXT QUESTIONS 2.1**

#### Select the correct option

- 1. Which of the following is a basic task performed by a computer?
  - a) Making phone calls
  - b) Searching Internet
  - c) Playing computer games
  - d) Storing and retrieving information
- 2. Which of the following is not an application of computers in librearies?
  - a) OPAC
- b) Access to e journals
- c) CT Scan
- d) FAQ

## 2.2 WORD PROCESSING

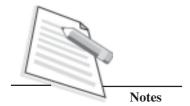
Word processing is an Application Software. It is a way of producing documents in effective and efficient manner. Word processor enables you to create, edit and save documents for immediate use and store them for future retrieval and reference. You can edit and give a variety of layout to the document. Word processor helps you to write letters, memos, reports, articles or even books. Word processors vary considerably, but most of them support several features as below.

#### 2.2.1 Features of Word Processing

- Create and save a document in a customized templates for future use
- Merge documents
- Efficient Mode of Text Editing: Allows insert or delete text anywhere in the document.



Notes



- Facility of Cut, Copy and Paste
- Search and Replace Text
- Page Size and Margins: Allows to define various page sizes and margins.
- Word Wrap: Word processor automatically moves to the next line when the
  text in the previous line reaches the specified margin. When you change the
  margin it will again readjust the text.
- **Print:** Allows you to print a copy of the document.
- Autocorrect
- Auto format a document
- Create simple tables
- Export documents

There are a large number of word processing software packages available for use. Some of the commonly used packages are:

- Microsoft Office Word (MS-Word)
- Word Star
- Word Perfect

Word Star and Word Perfect work in DOS environment and MS- Word works in WINDOWS environment. Most of the computers use Windows Operating System, Microsoft Word, which is part of MS-Office, becomes the natural choice for the users. It is used by maximum number of users worldwide.



## **INTEXT QUESTIONS 2.2**

## **Sate True or False**

- 1. Word processing is a system software.
- 2. There is facility to cut, copy and paste text in every word processing package.
- 3. MS-Word is used by maximum number of users worldwide.

#### 2.3 MICROSOFT OFFICE SYSTEM 2007

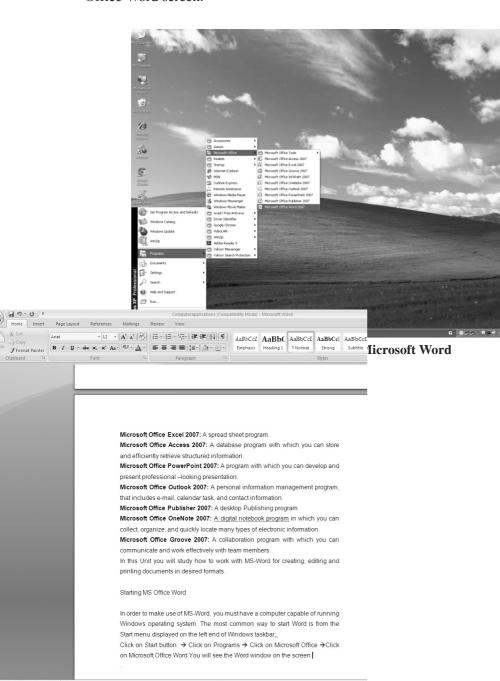
MS-WORD is a part of bigger software package, namely MS-OFFICE System. Microsoft Office System 2007 is a collection of eight most common desktop programs. **Microsoft Office Word 2007 is one of the** word processing programs.

## 2.4 MICROSOFT OFFICE WORD 2007

In order to make use of Microsoft Office Word (MS-Word), you must have a computer with Windows operating system. The most common way to start Word is

from the Start menu displayed on the left end of Windows Taskbar.

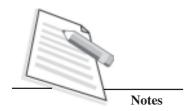
Click on Start button move the pointer to Programs. On the Programs sub-menu move the pointer up until Microsoft Office System is highlighted. On the Microsoft Office System submenu, move the pointer down until Microsoft Office Word 2007 is highlighted, then click on Microsoft Office Word, you will see the Microsoft Office Word screen.



tart 🕞 🗿 🗭 » 🔟 Computerapplical

**Notes** 

Fig. 2.2: Word document



#### 2.4.1 Microsoft Office Word Screen

On the upper left side of the screen is Microsoft Office Button. On the right of Microsoft Office Button is Quick Access Toolbar. By default this toolbar displays Save, Undo and Repeat commands. The Title bar displays the name of active document. It also displays control menu icon on its right hand side corner. Control menu has Minimize, Maximize, and Close buttons to minimize, maximize and close the window.

#### a) Ribbon

Below the title bar is **Ribbon**, which makes all the capabilities of Word available in one area. Commands represented as buttons on the **tabs** make up the Ribbon. Ribbon has 7 tabs – **Home, Insert, Page Layout, References, Mailings, Review and View.** These tabs give access to all the commands available in the Word. On each tab, buttons are organized into **groups.** On the right end of the ribbon is **Help** button which is indicated by "?". Using this, you can get on-line-help for any function.

**Home tab** is active by default. On Home tab the commands or buttons are organized into 5 groups viz. **Clipboard, Font, Paragraph, Styles, and Editing.** 

Click the **Insert tab** and explore its buttons. Buttons related to all the items you can insert are organized into seven groups: **Pages**, **Tables**, **Illustrations**, **Links**, **Header & Footer**, **Text and Symbols**.

Click the **Page Layout tab** and explore its buttons. Buttons related to the appearance of your document are organized into five groups on this tab: **Themes, Page Setup, Page Background, Paragraph, and Arrange.** 

Click the **References tab** and explore its buttons. Buttons related to items you can add to long documents such as reports, are organized into six groups on this tab: **Table of Contents, Footnotes, Citations & Bibliography, Captions, Index and Table of Authorities.** 

Click the **Mailings tab** and explore its buttons. Buttons related to mass mailings are organized into five groups on this tab: **Create, Start Mail Merge, Write and Insert Fields, Preview Results and Finish.** 

Click the **Review tab** and explore its buttons. Buttons related to proofing, commenting and changing documents are organized into six groups on this tab: **Proofing, Comments, Tracking, Changes, Compare, and Protect.** 

Click the View tab and explore its buttons. Buttons related to changing the view or display of the documents, are organized into five groups on this tab: **Document View, Show/Hide, Zoom, Window, and Macros.** 

## b) Document window

In the document window, you will be typing or inserting the textual or graphical content of the document. The insertion point is a vertical bar called **Cursor**. The document window allows you to work with two documents simultaneously. When more than one document is open, each document has its own window.

#### c) Ruler Bar

It is used to adjust margins and indents of the document.

#### d) Scroll Bar

It is used to move around the document.

#### e) Status Bar

This bar displays the information about the active document in which user is working.

#### f) To Display a Document in Different Views

In Word, you can view a document in following five different ways:-

- Print Layout view
- Full Screen Reading view
- Web Layout view
- Outline View
- Draft view

To See Different Views of a Document

- a) On the **View tab**, in the **Document Views** group, click the button for desired view, or
- b) Click a **view button** on the **View Toolbar** at the right-hand side of the Status bar.

## g) Zooming the View

The zoom feature of the Word allows you to increase the size of the text to make it easy to read. The zoom percentage can be set between 10% to 500%.



## **INTEXT QUESTION 2.3**

#### Fill in the blanks:

1.	The Microso	oft Office word is a
2.		is used to move around the document
3	Ribbon has	tahs

#### 2.4.2 Working with Word Document

When you first start Word, a new blank document called document window appears on the screen. The insertion point, the Cursor, keeps on moving towards right while typing, and once it reaches the right indent, it automatically shifts to the next line. This feature is called Word Wrap. Enter key is pressed only when you start a new paragraph.



Notes



## 2.4.3 Creating a New Document

Click the **Microsoft Office Button** the commands related to managing documents such as creating, saving, and printing is available from the menu that opens. This menu known as the **Office menu**, takes the place of **File menu** which appeared in previous versions of Word. The commands on the left are for tasks related to document as a whole. After you have worked with a document, its name appears in the Recent Documents list so that you can open it again quickly. At the bottom of the Office menu there are buttons for changing program options and for exiting the Word.

Fig.2.3: Dialog box to pen recent document

## 1) To Open a New Document

Click on the **Microsoft Office Button** Click on **New** and then in the New Document window, double click Blank Document.

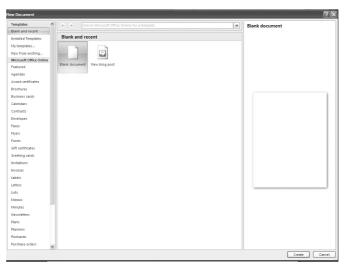


Fig. 2.4: Dialog box to open a new Word document

#### 2) To Open an Existing Document

- a) Click on the Microsoft Office Button Click on Open
- b) Change folder (select your Folder)
- c) Click on the file and click on Open button.

#### 3) To Save a Document for the First Time

- a) On the **Quick Access Toolbar**, click the Save button or click **Save As** on the Office menu.
- b) Navigate to the location where you want to save the file, type a name for the document in the File name box, and then click Save.

#### 4) To create a New Folder While Saving a Document

- a) In the Save As dialog box, click the New Folder button.
- b) Type the name of the new folder, press enter key and then click **Open.**

#### 5) To Print a Document

Three options are available for printing a document namely, **Print Preview**, **Quick Print** and **Print**.

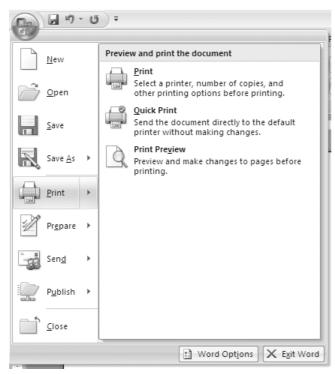


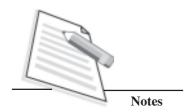
Fig. 2.5: Dialog box to print a document

#### To Close a Document

On Office menu click on Close button



**Notes** 





# **IN-TEXT QUESTIONS 2.4**

## Match the following:

- a) Print layout view
- (i) Increasing size of text

b) Save button

(ii) View tab

c) Zooming

(iii) Open an existing document

d) Open button

(iv) Saving a document

## 2.4.4 Editing a Document

While typing from the keyboard, you are likely to make mistakes. Correcting these mistakes is called Editing.

#### 1) To Delete Selected Text

Press **Delete** key or **Backspace** key of the keyboard.

## 2) To Copy, Cut or Paste selected Text

- a) On the **Home** tab, in the **Clipboard groups**, click the **Copy** or **Cut** button.
- b) Click where you want to paste the text, and then in the **Clipboard group**, click the **Paste** button.



Fig. 2.6:Paste button

#### 3) To undo an Action

On the Quick Access Toolbar, click the Undo button.

#### 4) To Find Text

- a) On the **Home tab**, in the **Editing group**, click the arrow of the **Find button**.
- b) On the **Find tab** of Find and **Replace dialog box**, specify the text you want to find, and then click Find Next.

## 5) To Replace Text

- a) On the **Home tab**, in the **Editing group**, click the arrow of **Replace** button.
- b) On the **Replace tab** of the **Find and Replace dialog box,** specify the text you want to find and the text you want to replace it with, and then click Find Next.
- c) Click **Replace** to the first instance of the text, **Replace All** to all instances, or Find Next to leave that instance unchanged and move to the next one.

## 6) To Check Spelling and Grammar

- a) On the Review tab, in the Proofing group, click the **Spelling and Grammar button.**
- b) In the **Spelling and Grammar dialog box,** click the appropriate button to correct the errors Word finds or to add words to the custom dictionary or AutoCorrect list.

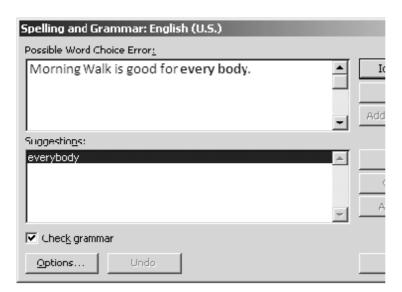


Fig.2.7:Spelling and grammer dialog box

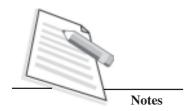
## 2.4.5 Formatting Documents

The term formatting refers to changes you make in your document's appearance. Formatting is an important part of all the documents you prepare. There are three types of formatting in Word:

- Character Formatting (Application to selected text),
- Paragraph Formatting (Application to entire paragraph), and
- Page Formatting (Application to entire page).



**Notes** 



#### a) Character Formatting

Here font size and colour of the text can be formatted.

#### b) Paragraph Formatting

With Paragraph Formatting, Alignment, Indent, Line Spacing and Paragraph spacing can be set. In Word one can quickly create bulleted and numbered lists to make a document easier to read and understand. Border and Shading can be applied to a single paragraph, group of paragraphs or around graphics.

## c) Page Formatting

Header and Footer option is used to put repetitive information in the top and bottom margins of a document. To insert page numbers to your document, click on the **Insert** tab Go to **Header and Footer** group and then, click on the **Page Number** arrow.



#### **Activity 2.1**

1. Create a document of five pages using Microsoft Office Word. Select a paragraph in the document, change its background to blue and put a border around the paragraph.



## **INTEXT QUESTIONS 2.5**

#### Name the following:

- 1. Three types of formatting in word
- 2. To undo an action.
- 3. To Replace text.

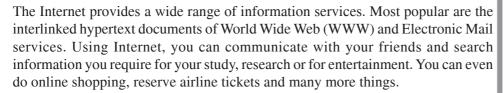
#### 2.4.6 Using MS-WORD Help

- To find out about any item on the screen you can display a Screen Tip. For example, to display Screen Tip for a button, point to the button without clicking it. The Screen Tip gives the button's name, the associated shortcuts if there is one, and a description of the associated action.
- You can click the Help button in the upper-right corner of the program window to display the Help window.
- If your computer is connected to the Internet, information is available from Microsoft Office Online. (http://www.microsoft.com/msprss/ support/search.asp)

In the subsequent sections you will study about Internet and its various services.

#### 2.5 INTERNET

Internet is a worldwide system of interconnected computer networks to serve billions of users worldwide. Internet is a global data communication system. It is a hardware and software infrastructure that provides connectivity among computers. It is a network of networks that consists of millions of private, public, academic, business, and government networks of local to global scope that are linked by a broad arrays of electronic and optical networking technologies.



Internet was originally created in 1960s for US government's military tasks and it was named ARPANET. Its commercialization started in 1990s. The Internet has no centralized governance in either technological implementation or policies for access and usage. Each individual network sets its own standards. However, to maintain interoperability, two principle name spaces in the Internet, namely, the Internet Protocol (IP) address space and Domain Name System (DNS) are administered by Internet Corporation for Assigned Names and Numbers (ICANN), headquartered in Marina Del Ray, California, USA.

For safe movement of data, there are set of rules, which govern sending and receiving of data on the Internet. These rules are implemented in two parts in the network software and are called Transmission Control Protocol (TCP) and Internet Protocol (IP). These two are collectively called TCP/IP. The IP in TCP/IP is a mechanism for providing unique addresses for computers on the Internet.

Common method of Internet access in home includes dial-up, landline broadband, Wi-Fi, satellite, and 3 G/4G technology cell phones. Public places to use the Internet are Cyber café, airport halls and coffee shops, where you can access internet by paying charges.

## 2.5.1 Services of Internet

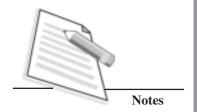
- World Wide Web
- E-mail
- Cloud computing

#### 2.5.1.1 World Wide Web (WWW)

World Wide Web, also called Web, is a collection of Web sites on the Internet. A Web site has collection of web pages linked to one another to form a global 'web' of information. Web pages present information on variety of topics. These pages may include text, images, sounds and even video clips. All these pages are linked to each other or even to section within a Web page. These links are known as Hyper Links. All this information is presented in very attractive and entertaining way.



**Notes** 



The WWW offers information on any topic you want. Whatever the topic, the Web always has some Web sites on that topic. The Web is a source of information for companies, business houses, educational institutions, government departments and even individuals. The Web gives you the latest news of any event in any corner of the world. Often news is available on it before that is broadcast by any other media. Many educational institutions in India and abroad put useful information on the Web, such as their activities, courses offered, fee, and other details. You can do online shopping, play games, watch movies, listen to music, and many more things on the web.

#### a) Web Browser

The software required to access and view any information on the Web is known as Internet browser or Web browser. Microsoft Internet Explorer and Google Chrome are the most popular Web browsers. The process of using browser to view information on the Internet is known as Browsing or Surfing.

#### b) Web Server

It is a large computer that stores one or more Web sites. When you want some information on the Internet, Web server 'serves' you the relevant Web pages on your computer.

#### c) URL (Uniform Resource Locater)

The address of a Web site on the Internet is known as URL. To access any Web site on the Internet you have to know its address. For example URL of NIOS is:-

http://www.nios.ac.in

Let us see, what each item in this address stands for

- 1. **Protocol:** Most Web addresses begin with http:// (Hyper Text Transmission Protocol). This protocol (procedure) transmits web pages from the Web server to your computer. The letters http are always followed by a colon and two forward slashes (//).
- 2. Web: WWW stands for World Wide Web. Web addresses have www after http:/
- **3. Host**: This is the name of the Web site. In this example nios is the name of the host.
- **4. Type of site**: This part of the Web address tells you the type of site, a particular web site is. In present case .ac stands for academic site and .in stands for India.

There are other types of sites also, such as:-

**com**: commercial organizations.

gov: government organizations

net: network organizations.

edu: educational institutions.

mil: military organizations.

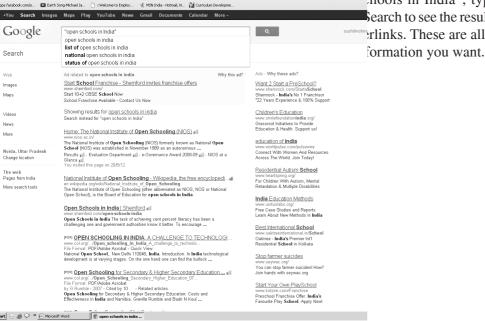
**org:** organization other than commercial or Educational. It is non-profit organisation

**5. Domain Name**: The host and the type of site, together is called domain name. In this case domain name is nios.ac.in.

#### Searching the web

There are billions of pages stored on the Web and it is very difficult to find right information you want. Nevertheless, the web has some special search tools that help you to search exact information quickly and easily. These tools are known as Web search engines. A search engine is a site on the WWW, with the help of which you can search for other websites. It searches on the basis of keywords that you give. It matches your information (keywords) to the web pages listed in its index and then displays only those sites that are relevant and match your keywords.

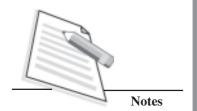
There are many web search engines available. They can be grouped depending on how they work. For example, if you are looking for a job, you need to use job search engine like www.monster.com. If you want to shop online, then you need to use www.shopzilla.com or www.flipcart.com. There are over 2500 search services available on the Internet. Two most popular search engines are www.google.com and www.yahoo.com.





Notes

Fig. 2.8: Search results for open school in India





## **Activity 2.2:**

Log on to the Internet. Search the National Institute of Open Schooling(NIOS) and list the type of courses offered by the NIOS.



## **INTEXT QUESTIONS 2.6**

#### Fill in the blanks:

- Example of web browsers is \_\_\_\_\_\_.
- 2. www is acronym for \_\_\_\_\_
- 3. The address of a website on the Internet is known as

#### 2.5.1.2 Electronic Mail

Electronic mail, commonly known as e-mail, is a method of sending digital messages, notes or letters from one person to another or to many people at the same time via Internet. E-mail is faster and less expensive as compared to normal postal services. You can also attach a file, graphics, images or even video along with the messages. E-mail is the fastest and the most economical way of sending messages to a number of people across different countries.

There are a number of web sites providing free e-mail services. Some of them are Gmail.com, Yahoo.com, Hotmail.com, Rediffmail.com, etc. You have to register with them to use their e-mail service.

#### E-mail Address

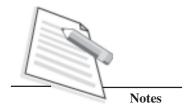
When you register with any of the sites providing e-mail services, you are given an e-mail Id which you can use to send and receive the messages. The E-mail Id is like an address, which provides all the information required to get a message to the recipient from anywhere in the world. Consider the following e-mail ID.

saroj@yahoo.com or sunita@gmail.com

In the above examples, "saroj" and "sunita" are the names of users and Yahoo and Gmail are names of two mail servers called Host, .com specifies the type of site. In this case .com stands for commercial site. The host and type of site together is called domain name. The user name is always followed by the ampersand symbol @ (pronounced at). It separates the user name from the rest of the e-mail address. Any e-mail messages sent to you are first stored on your mail server. When you want to read an e-mail, you have to receive it from the mail server to your computer. For this, you have to log on to your mail server. After logging on, you have to fill in your e-mail ID and the password. Your mail box opens and you can receive and send e-mail messages to your friends. (Fig. 2.10)







Disadvantages of Cloud Computing are:

- Requires a constant Internet connection
- Does not work well with low-speed connections
- Can be slow
- Stored data might not be secure
- Stored data can be lost

Many of the activities loosely grouped together under cloud computing have already been happening and centralised computing activity is not a new phenomena. Well known examples of cloud computing are Amazon's Elastic Compute Cloud (EC2) and Simple Storage Solution (S3).



## **INTEXT QUESTION 2.7**

#### Fill in the blanks:

- 1. Electronic mail is commonly known as \_\_\_\_\_\_.
- 2. The user name in an e-mail address sunita@gmail.com is \_\_\_\_\_.
- In Cloud Computing, the users can put their data on the \_\_\_\_\_\_ instead of on their own desktop PCs and/or on their own servers.



#### **Activity 2.2**

1. Log on to the Internet. Search the National Institute of Open Schooling (NIOS) website and list the type of courses offered by the NIOS.



## WHAT YOU HAVE LEARNT

- The efficiency with which computer store and retrieve information makes it a valuable tool in a wide range of fields.
- Computers applications have a valuable role in libraries.
- Word processing is an application software that helps to create, edit and save documents.
- MS-word is the most popular word processing program.
- Internet is a global data communication system that provides connectivity among computers.
- Internet and its services, i.e., world wide web (www) and e-mal are very popular.

• The internet services make available a variety of information and enable new forms of social interaction.



## **TERMINAL EXERCISE:**

- 1. Write an essay on computer and its impact on our day-to-day life.
- 2. Describe in brief the applications of computers in various fields.
- 3. Discuss in brief the Internet and its services like World Wide Web and E-mail.



# ANSWERS TO INTEXT QUESTIONS

2.1

- 1. (d)
- 2. (c)

2.2

- 1. False
- 2. True
- 2. True

2.3

- 1. Word Processing Program
- 2. Scroll Bar
- 3. Seven

2.4

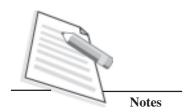
- a) (ii)
- b) (iv)
- c) (i)
- d) (iii)

2.5

- 1. Character, Paragraph and Page Formatting
- 2. Undo Button
- 3. Replace Button



Notes



2.6

- 1. Microsoft Internet Explorer, Google chrome etc
- 2. World Wide Web
- 3. URL

2.7

- 1. E-mail
- 2. Sunita
- 3. Platform

## **TERMS:**

The terms covered in this lesson which require further explanation are given below in an alphabetic order. The learner is required to explain each term.

Button:
Cursor:
Dialog box:
E-mail:
Group:
Host:
HTML:
Hyperlink:
Icon:
Internet:
Log on:
Mail box:
Mail Server:
Menu:
Network:
Online:
Ribbon:

Tab: