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# UNIT 4 INTRODUCTION TO INTERNET

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## 4.1 INTRODUCTION

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In the early days, most people just used the internet to search for information. Today's internet is a constantly evolving tool that not only contains an amazing variety of information, but also provides new ways of accessing, interacting and connecting with people and content. As a result, new terms are constantly appearing as new technologies are introduced.

The first workable prototype of the Internet came in the late 1960s with the creation of ARPANET, or the Advanced Research Projects Agency Network. The ARPANET was used earlier as a networking technology for first electronic mail messaging service. Finally ARPANET became the Internet which works on multiple independent networks with its network architecture design.

Apart from exchange of data, which is a very general term, Internet provides specialized services to its users. In this unit, we will look at various services provided by the Internet and other related topics.

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## 4.2 OBJECTIVES

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After going through this unit, you should be able to:

- define basic internet terminology and
- list various services offered by the Internet.

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## 4.3 INTERNET BASICS

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The Internet is the largest computer network in the world, connecting millions of computers. A network is a group of two or more computer systems linked together. You can use the internet to apply for jobs, play games, do research, watch movies, listen to music, join online classes, stay in contact with friends and family, and run a small business, buy or sell products, and much more.

Following are some basic terms for useful for accessing internet:

### 4.3.1 Types of Networks

The Network allows computers to connect and communicate with different computers via any medium. LAN and WAN are two major types of the network. There are some similarities and dissimilarities between them. One of the major differences is the geographical area they cover, i.e. LAN covers the smallest area and WAN covers an area larger than LAN.

- **Local Area Network**

A LAN is two or more connected computers sharing certain resources in a relatively small geographic location, often in the same building. Examples include home networks and office networks. In a LAN, each node (individual computer) has its own CPU with which it executes programs, but it also is able to access data and devices anywhere on the LAN. This means that many users can share their devices, such as laser printers, as well as data.

- **Wide Area Network**

A WAN connects more than one LAN and is used for larger geographical areas. It is often connected through public networks. A set of devices such as switches and routers are interconnected to form a Wide Area Network.

### 4.3.2 Internet Service Providers

An Internet service provider (ISP) is an organization that provides services for accessing Internet. Internet service providers may be organized in various forms, such as commercial, community-owned, non-profit, or otherwise privately owned.

### 4.3.3 Social Media

Social Media is a kind of interactive website that does not give any information but interact with you while giving you that information. In social media, user interaction is possible by commenting on photo, editing articles in wiki and voting on articles.

### 4.3.4 Social Networking

A Social Networking is an online platform that focuses on building the social network or social relation among the users who share their profiles, interests and activities. LinkedIn, Twitter and Facebook are some popular social networking sites.

### 4.3.5 URL

URL is an address that you need to type to access a website. This usually begins with “www”. URL stands for Uniform Resource Locator. Every web page on the Internet has a unique address known as the Uniform Resource Locator. For example: <http://ignou.ac.in> is the URL of IGNOU website. For locating any document on World Wide Web, you must know its Uniform Resource Locator (URL). You can type address of website in the Address Bar. An **address bar** is the top, long, white box into which you type the website address you want to visit.

### 4.3.6 Website

Website is a location on the Internet where a person or organization has put their information for people to use. Website is a collection of inter linked Web pages that share a single domain name. Websites can be created and maintained by an individual, group, business or organization to serve a variety of purposes. Together, all publicly accessible websites constitute the World Wide Web. **Web Page** is one page of a website which consists of a mix of text and other media.

### 4.3.7 Upload and Download

In the context of the web, upload means to send data from an individual user’s computer to another computer, network, website, mobile device, or some other remotely connected networked location whereas download means to transfer data from a website or network, saving that information on your computer, tablet, or mobile device.

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## 4.4 INTERNET TOOLS AND SERVICES

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Apart from the normal data transfer, internet can provide the following tools and services to the end users.

- World Wide Web (www)
- Web browser
- Electronic mail (email)
- Cloud Storage Drive
- Online Chat
- Telnet and SSH
- File Transfer Protocol
- Search Engines

### 4.4.1 World Wide Web (www)

The World Wide Web or www is a great source of information. This includes most of the public information on the Internet. It is a portion of the Internet which is accessed with a browser. The World Wide Web is simply called as Web.

The World Wide Web is a way of accessing information over the medium of the internet. The Web uses the **HTTP protocol** (hyper text transfer protocol) to transmit data, Email, instant messaging, and uploading and downloading files are things that you do on the internet but they are not the part of the HTTP protocol. The web utilizes special software called **browsers** to access web documents (more commonly known as **web pages**) that are linked to each other via hyperlinks. Web pages contain some or all of the following: text, images, audio, and video.

A **hyper link**, or simply a link, is a reference to data that the user can follow by clicking on it. A hyper link points to a whole document or to a specific element within a document.

A **website** is a set of files residing on a computer (usually called a Web server). You can access the website with software called a Web browser which displays the files as “**pages**” or “**web pages**” on your screen. The pages can contain text, graphics, audio, animation, video and they can be downloaded to your computer. Web pages are written in **Hyper Text Markup Language** (HTML). Many organizations create Websites to enhance education, communications and collaboration within their own organizations.

### 4.4.2 Web browser

It is a software program that allows you to view web pages and navigate the Internet. In other words you can say that it is an interface that gives access to the information on the Internet, such as locating and reading the information on a web page and using a search engine to locate information.

Microsoft Edge is a browser that is pre-installed on Microsoft Windows 10. There are other free web browsers available, including Mozilla’s Firefox web browser, Google Chrome and Apple’s Safari. You can install more than one browser on your computer.



Internet Explorer   Mozilla's Firefox   Google Chrome   Apple's Safari   Opera

Fig. 4.1: Different Web browser

### 4.4.3 Electronic mail (email)

E-mailing refers to the process of sending a message by one person to another person through the Internet mailing software. The other person can read the message using the email software at his/her own time.

E-mail (electronic mail) is the exchange of computer-stored messages by telecommunication. Using this service, you can also send non-text files, such as graphic images and sound files, as attachments. E-mail was one of the first uses of the Internet and is still in popular use. E-mail can be distributed to lists of people as well as to individuals.

It has three main parts -

1. **Header** - An E-mail heading has following parts.
  - To : Which contains recipient's Address
  - CC : The Carbon Copy (address)
  - Subject : Subject of Email
2. **Message Body** - This is the place where the actual text of the email is written.
3. **Signature** - It uniquely identifies the sender. The details, which can be part of it are Senders Name, Phone No., Address etc.

#### **4.4.4 Cloud Storage Drive**

A cloud Storage drive is a Web-based service that provides storage space on a remote server. Cloud drives, which are accessed over the Internet with client-side software, are useful for backing up files. Google Drive, Dropbox, One Drive, iCloud are some example of cloud Storage drives. These drives are useful in storing your data without worrying about disk failure.

#### **4.4.5 Online Chat**

It is a kind of communication over the Internet that offers a real-time transmission of text messages from sender to receiver. In a chat session, people type the information they wish to convey and the other participants see what is being typed. For chatting, all participants must be online at the same time. Online chat is also known as Internet chat or chatting. Chat session can be accessed from the web, or through separate software. You can communicate with others using Facebook, WhatsApp etc. You can send text, visual or audio-visual communication via these software.

#### **4.4.6 Telnet**

**Telnet** is a protocol that allows you to connect to remote computers (called hosts) over a TCP/IP network (such as the internet). Using telnet client software on your computer, you can make a connection to a telnet server (that is, the remote host). Once your telnet client establishes a connection to the remote host, your client becomes a virtual terminal, allowing you to communicate with the remote host from your computer. In most cases, you'll need to log into the remote host, which requires that you have an account on that system.

#### **4.4.7 File Transfer Protocol**

FTP (File Transfer Protocol) is used for transferring files from one computer to another. File Transfer Protocol (FTP) is the commonly used protocol for exchanging files over the Internet. FTP uses the Internet's TCP/IP protocols to enable data transfer. FTP uses client-server architecture. FTP users may authenticate themselves using a user name and password.

## 4.4.8 Search Engine

A Search Engine is a website that searches the World Wide Web for specific keywords, which you enter into a search field. The search engine then displays a list of web pages that are somehow related to the keywords you entered. You can then click the links to any of these web pages that interest you. Google (www.google.com) and Yahoo! (www.yahoo.com) are two popular search engines.

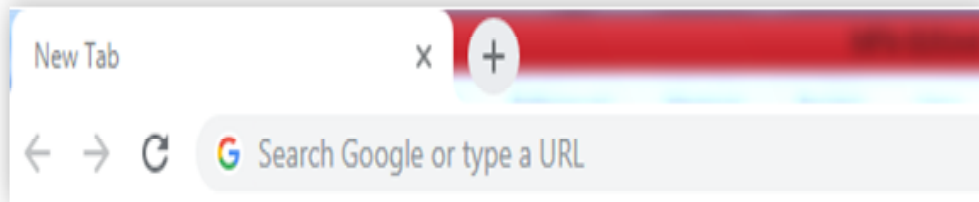


Fig. 4.2: Search Engine

## 4.5 HOW TO USE THE INTERNET

Before you can start using the Internet, you need to have a way to connect to it. The first thing you would want to do is set up an Internet connection.

You need three basic things to connect to the Internet:

- A connection method
- An Internet Service Provider (ISP)
- A web browser

In this section, we will share how you can set up WiFi connection.

### How to connect to a Wi-Fi Network

It is assumed that you have a Wi-Fi connection from any ISP (Internet Service Provider) for Internet Access or you can not using your mobile hot spot connection.

- Click on the wireless icon on the bottom right of the taskbar.

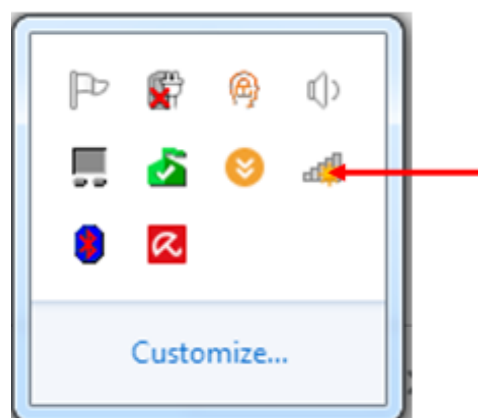


Fig. 4.3: wireless icon

- It will reveal names of all the Wi-Fi networks available around you.
- Click on the wireless network you want to connect to.

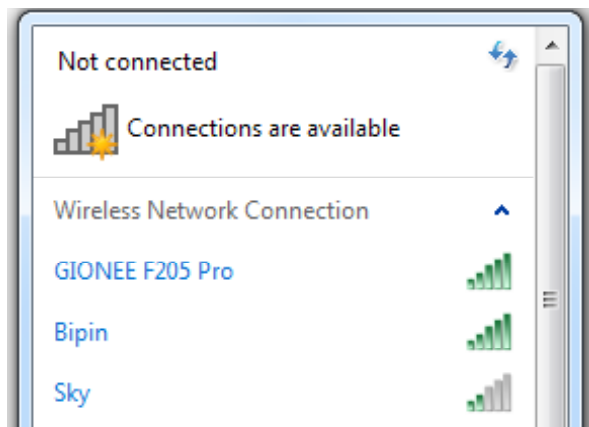


Fig. 4.4: Wireless Network list

- You may choose to connect to the Wi-Fi automatically.
- Click Connect.
- Enter the Password or the network security key in the next screen.
- If the credentials are correct, you will be able to connect to the Wi-Fi network.

### Surfing Internet

You can access World Wide Web through Microsoft Edge Google Chrome or any otehr browser. The followings are the steps:

- Double-click on the icon of the browser on the Desktop or taskbar.
- You can type the URL of a website in the Address Bar and press the enter button. For example, you have entered the URL of IGNOU website. The following screen appears as shown in the Figure 4.5.

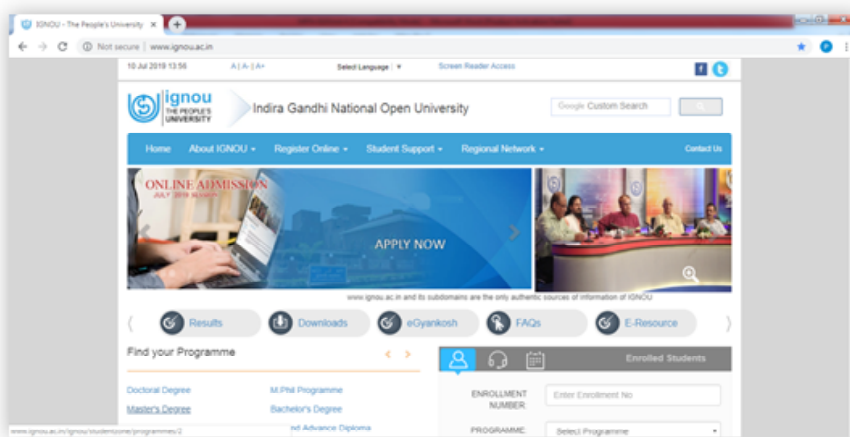


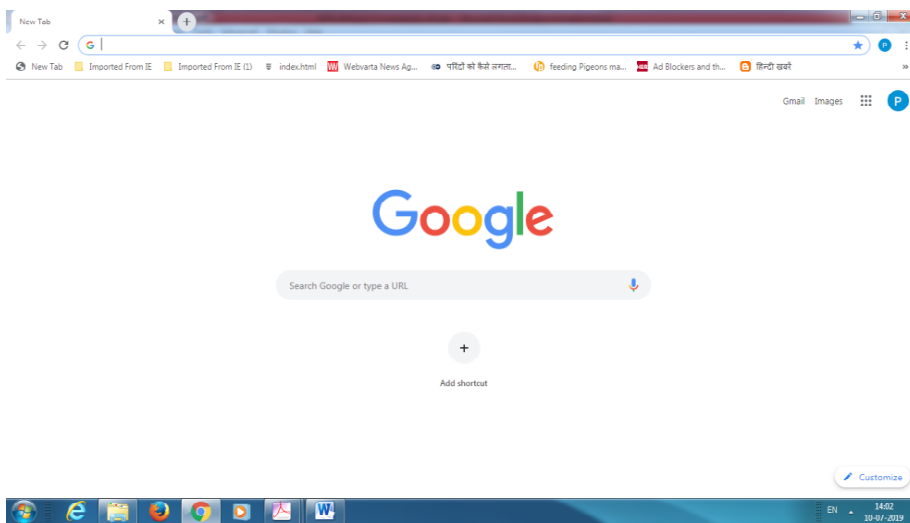
Fig. 4.5: IGNOU website

### Searching for content

If you are looking for some website, but don't know its URL address, then there are some websites called search engines which helps you to search that website. For example, www.yahoo.com, www.google.com.

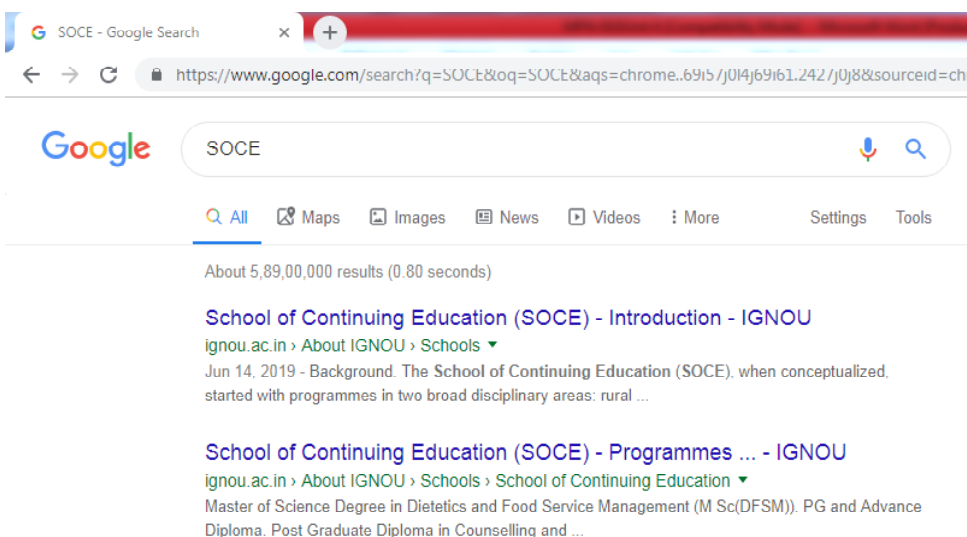
To search about specific topic, follow these steps:

- Open your browser and Type the URL address of search engine website e.g. www.google.com in the Address Bar. The following screen appears as shown in the Figure 4.6.



**Fig. 4.6: Google Search Page**

- Type the desired topic or keyword like “SOCE” and click on Google Search.
- The new window will open with all the websites related to the topic which you entered in the search bar as shown in the Figure 4.7. You can now select any of these links for more information.



**Fig. 4.7: Search Result for “SOCE” keyword**

## 4.6 LET US SUM UP

This unit has introduced you to the basic terminology of Internet like web page, website, social media, URL, upload and download. Apart from basics of Internet, you have also learned various internet tools and services such as World Wide Web, Browser, Electronic mail, Cloud Storage Drive, Online Chat, Telnet, File Transfer Protocol and Search Engine.



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## 4.7 CHECK YOUR PROGRESS EXERCISE

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1. What is the difference between LAN and WAN?

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2. What is URL?

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3. What is address bar?

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4. What is the use of FTP?

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5. List out the any two search engines for searching on Internet.

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6. Select a keyword and search for it in the Google search engine.

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## 4.8 ANSWER TO CHECK YOUR PROGRESS EXERCISE

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1. A LAN (local area network) is a group of computers and network devices connected together, usually within the same building while WANs cover larger areas, such as cities, and even allow computers in different nations to connect. LANs are typically faster and more secure than WANs, but WANs enable more widespread connectivity. And while LANs tend to be owned, controlled and managed in-house by the organization where they are deployed, WANs typically require two or more of their constituent LANs to be connected over the public Internet.

2. URL is an address that you need to type to access a website. This usually begins with “www”. URL stands for Uniform Resource Locator.
3. An address bar is the top, long, white box into which you type the website address you want to visit.
4. Transfer protocol is used to transfer information in the form of file from one user computer to another computer.
5. Two search engines available for searching on Internet: i) www.yahoo.com  
ii) www.google.com
6. This is a practice exercise. Try doing it yourself by searching for a word in Google search engine.