



Mount Abu Public School

H-Block, Sector-18, Rohini, New Delhi-110085 India

CLASS X

CHAPTER 1 - INTRODUCTION TO THE INTERNET

Guidelines:

Dear students, kindly refer to the following PPT/notes/video links from the Chapter-**“INTRODUCTION TO THE INTERNET”** and thereafter do the questions in your computer notebook.

Introduction: The Internet is a worldwide network of computer networks that connects universities, governments, commercials and other computers all over the world.

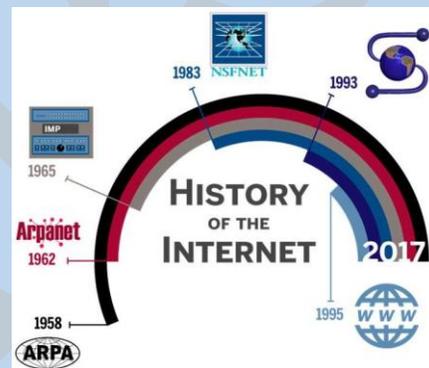
The internet has helped bridge geographical distances and has been serving as a repository of human knowledge. It has brought people from various cultures together on one platform to share ideas and understand each other better.

The Internet is increasingly playing a vital role in our lives, so it's all the more important to understand how it works and how we can get the best from it.

In this chapter, you will learn about the Internet and its working.

The chapter is explained through a ppt and videos. Kindly go through the presentation and watch the videos carefully as this will be followed by an assignment. **Do the assignment in your notebook.**

Subtopics



Brief history of the Internet

Speed read

- DARPA created ARPAnet as a precursor to the internet
- ARPAnet successor NSFNET formed the backbone of the US research and education network
- HTTP and Mosaic-style browsers gave shape to the modern internet experience

Let's watch a video: -

<https://www.youtube.com/watch?v=h8K49dD52WA>

Understanding the working of the Internet □

SOME RELATED KEYWORDS

A **Protocol** is a standard set of rules that allow electronic devices to communicate with each other.

Common types of protocols

The Internet Protocol is used in concert with other protocols within the Internet Protocol Suite.

Prominent members of which include:

- Transmission Control Protocol (TCP)
- User Datagram Protocol (UDP)
- Internet Control Message Protocol (ICMP)
- Hypertext Transfer Protocol (HTTP)
- Post Office Protocol (POP)
- File Transfer Protocol (FTP)
- Internet Message Access Protocol (IMAP)

A **Packet** is a small amount of data sent over a network such as a LAN or the Internet. Similar to a

real-life package, each **packet** includes a source and destination as well as the content (or data) being transferred. The **packets** carry the data in the protocols that the Internet uses i.e Transmission Control Protocol/Internet Protocol (TCP/IP). Each **packet** contains part of the body of your message. A typical **packet** contains perhaps 1,000 or 1,500 bytes.

A **Gateway** is a networking device that connects two networks using different protocols together. it also acts as a “gate” between two networks. It may be a router, firewall, server, or other devices that enables traffic to flow in and out of the network.

Let's watch these videos

https://www.youtube.com/watch?v=7_LPdttKXPc

Advantages and disadvantages of Internet →

Let's watch a video:-

<https://www.youtube.com/watch?v=xtQfV6COHbU>

Assignment 1

Do the following questions in your notebook

Q1) Name any 2 popular ISP's of India.

Q2) Name any 2 protocols used

over the Internet. Q3) Name 2

major services provided by

Internet. Q4) Why is Internet

called "Network of Networks"?

Q5) Read the following

paragraph carefully.

The RBI is planning to expand its connectivity with all major banks of India. The plan includes providing **TCP** connectivity through **HTTP** for easy access points and seek help from some **ISP's** to join hands in this venture.

In addition, there is a plan to set up **IIS** and **SMTP** servers. Some banks will go for the **ADSL** line while others will use leased line connectivity to access these services. The RBI is also taking help of IIT professors in this venture.

Now find **six network and communication related abbreviations** and give their expanded form along with a single-line definition for each of them:



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INTERNET BASICS

CHAPTER 1



INTERNET

- The Internet has gained popularity and emerged as an important and efficient means of communication. The term Internet is derived from the words ‘interconnection’ and ‘networks’. A network is a collection of two or more computers, which are connected together to share information and resources. The Internet is a worldwide system of computer networks, i.e. network of networks. Through Internet, computers become able to exchange information with each other and find diverse perspective on issues from a global audience. Most of the people uses Internet for sending and receiving E-mail and net surfing for retrieving information.

DEFINATION

- ◉ INTERNET IS A COMPUTER BASED WORLD WIDE COMMUNICATION NETWORK, WHICH IS COMPOSED OF LARGE NUMBER OF SMALLER INTERCONNECTED NETWORKS.

WORLD WIDE WEB (WWW)

- It is a system of Internet servers that supports hypertext and multimedia to access several Internet protocols on a single interface. It is often abbreviated as the Web or WWW. It is a way of exchanging information between computers on the Internet, trying to tie them together into a vast collection of interactive multimedia resources. It is only a portion of what makes up the Internet, but it is the fastest growing part of the Internet. The Web lets people, organisations and companies publish information for other people to see. This makes the Web a very useful tool for finding information about any topic.

DEFINATION

- ◎ THE WORLD WIDE WEB IS A SET OF PROGRAMS, STANDARDS AND PROTOCOLS THAT ALLOWS THE MULTIMEDIA AND HYPERTEXT FILES TO BE CREATED, DISPLAYED AND LINKED ON THE INTERNET.

DIFFERENCE BETWEEN WWW AND INTERNET

WWW	INTERNET
IT CONSISTS OF WEBSITES THAT HAVE ONE OR MORE WEBPAGES.	IT CONSISTS OF WEBSITES, FORUMS, RESEARCH DATABASE, EMAIL, INSTANT MESSAGING SYSTEM, USENET, WEBSITES.
IT IS A PART OF INTERNET.	IT IS ITSELF A BIG WORLD WHOSE PART IS WWW.

INTERNET TERMINOLOGY

- ◉ CLIENT
- ◉ SERVER
- ◉ WEBPAGE
- ◉ WEBSITE
- ◉ WEB PORTAL
- ◉ WEB BROWSER
- ◉ WEB CLIENT
- ◉ URL
- ◉ BLOG
- ◉ BLOGGER
- ◉ BLOGGING
- ◉ NEWSGROUP
- ◉ EMAIL
- ◉ EMAIL ADDRESS

Arora.sumita@gmail.com

```
graph BT; U[username] --> E[Arora.sumita@gmail.com]; A["@"] --> E; H[Host of the domain name] --> E;
```

username

@

Host of the
domain
name

WEB SERVER

- A WEB SERVER IS A WWW SERVER THAT STORES WEB DOCUMENTS AND RESPONDS TO THE REQUESTS MADE BY WEB BROWSERS.

DIFFERENCE BETWEEN WEB SERVER AND SERVER

SERVER	WEB SERVER
<p>A SERVER IS A COMPUTER OR DEVICE ON A NETWORK THAT MANAGES NETWORK RESOURCES. A SERVER SERVES REQUESTS MAINLY RELATED TO THE RESOURCES ON THE NETWORK.</p>	<p>WEB SERVERS ARE COMPUTERS THAT DELIVER WEB PAGES. IT HANDLES HTTP REQUESTS.</p>

SERVICES PROVIDED BY THE SERVER

- ◉ RESOURCE SHARING
- ◉ CENTRALISED BACKUP
- ◉ CENTRALISED VIRUS SCANNING
- ◉ CENTRALISED FILE SAVINGG FOR DATA SHARING

SERVICES PROVIDED BY WEB SERVER

- ◉ SERVING WEB PAGES
- ◉ MONITORING AND LOGGING ALL ACCESS
- ◉ SERVER SIDE SCRIPTING
- ◉ RUNNING GATEWAY PROGRAMS

WEBSITE

- A group of related Web pages that follow the same theme and are connected together with hyperlinks is called a Website. In other terms, “A Website is a collection of digital documents, primarily HTML files, that are linked together and that exist on the Web under the same domain”.

A Website displays related information on a specific topic. Each Website is accessed by its own address known as URL (Uniform Resource Locator). e.g. <http://www.carwale.com> is a Website, while [http:// www. carwale.com/new/](http://www.carwale.com/new/) is a Web page.

COMPONENTS OF A WEBSITE

- ◉ WEBHOST
- ◉ ADDRESS
- ◉ HOMEPAGE
- ◉ DESIGN
- ◉ CONTENT

WEB PORTAL

- It is a Web page that combines useful information and links.

Advantages of Web Portal

- Easy for users to customize personal places.
- It provides communication between portals (i.e. between different applications).
- It provides flexible content and layout.

DIFFERENCE BETWEEN WEB PORTAL AND WEBSITE

WEB PORTAL	WEBSITE
IT IS NOORMALLY AN ENTRY POINT OR GATEWAYFOR USING OFFERED WEB SERVICES.	IT IS THE FINAL DESTINATION TO ACCESS AND USE THE PROVIDED SPECIFIC INFORMATION.

WEB PAGE

- The backbone of the World Wide Web is made up of files or documents called pages or Web pages, that contain information and links to resources both text and multimedia. It is created using HTML (HyperText Markup Language). The Web is a collection of large number of computer documents or Web pages that are stored on computers around the world which are connected to one another using hyperlinks.

WEB BROWSER

- ◉ It is a software application that is used to locate, retrieve and display some content on the World Wide Web, including Web pages. These are programs used to explore the Internet. It is an interface that helps a computer user to gain access over all the content on the Internet. We can install more than one Web browser on a single computer. The user can navigate files, folders and Websites with the help of a browser. There are two types of Web browsers, which are as follows:
 - ◉ **Text Web Browser**
A Web browser that displays only text-based information is known as text Web browser, e.g. Lynx.
 - ◉ **Graphical Web Browser**
A Web browser that supports both text and graphic information is known as graphical Web browser. e.g. Internet Explorer, Firefox, Netscape, Safari, Google Chrome, Opera.

- ◉ WWW was introduced on 13th March, 1989.
- ◉ The first graphical Web browser was NCSA Mosaic.
- ◉ Web portal is a Website that has hyperlinks to many other Websites.
- ◉ Intranet is a collection of private computer networks within an organisation. It is also known as corporate portal or private business network.

- ◉ **Some Popular Graphical Web Browsers**

- ◉ **NETSCAPE** - It was introduced in 1994. Netscape comprises the major portion of the browser's market.

INTERNET EXPLORER (IE) - It is a product of Microsoft. This is the most commonly used browser in the world. This was introduced in 1995 alongwith Windows 95 launch and it has passed Netscape popularity in 1998.

SAFARI - It is a Web browser developed by Apple Incorporation and included in Mac OS X. It was first released as a public beta in January 2003. Safari provides good support for latest technologies like XHTML, CSS2 etc.

FIREFOX - It is a new browser derived from Mozilla. It was released in 2004 and has grown to be the second most popular browser on the Internet.

GOOGLE CHROME - This Web browser was developed by Google. Its beta and commercial versions was released in September 2008 for Microsoft Windows.

OPERA - It is smaller and faster than most other browsers, yet it is fully featured. It is the most popular mobile Web browser.

DOMAIN NAME

It is the text name corresponding to the numeric IP address of a computer on the Internet. Internet users access your Website using your domain name. It is a way to identify and locate computers connected to the Internet. It must be unique. Domain name always have two or more parts, separated by periods (dots).
e.g: google.com, yahoo.com etc.

info

Informational organisation

com

Commercial

gov

Government

edu

Education

mil

Military

net

Network resources

org

Usually non-profit organisation

Some domain abbreviations for country are as follows:

in

India

au

Australia

fr

France

nz

New Zealand

uk

United Kingdom

WEB ADDRESS AND URL

Web is a collection of documents (Web pages) stored on computers around the world. Each Web page has an address describing where it can be found. This address is known as Web address or domain name. A Web address identifies the location of a specific Web page on the Internet, such as <http://www.1earnyoga.com> .

On the Web, Web addresses are called URLs. It is the Web address for a Website or a Web page. The URL specifies the Internet address of a file stored on a host computer connected to the Internet.

⦿ **Parts of URL**

The URL contains three parts, which are as follows:

- ⦿ The name of the protocol to be used to access the file resource.
- ⦿ A domain name that identifies a specific computer on the Internet.
- ⦿ A path name with hierarchical description that specifies the location of a file in that computer.

The address for Internet server that uses hypertext transfer protocol.

The site belongs to a company registered under domain name "microsoft.com" or IP address.

http://www.microsoft.com/athome/default.aspx

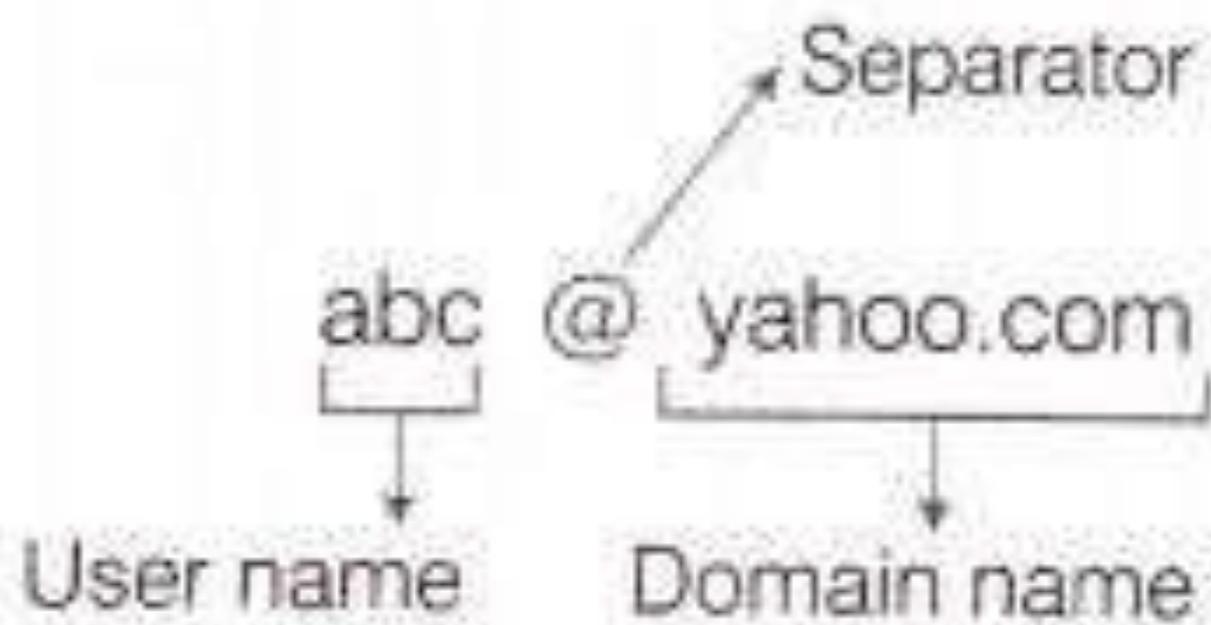
The diagram shows the URL 'http://www.microsoft.com/athome/default.aspx' with four brackets underneath it. From the first bracket (under 'http://'), an arrow points up to the text 'The address for Internet server that uses hypertext transfer protocol.'. From the second bracket (under 'www.'), an arrow points down to the text 'The site is on the part of Internet known as WWW.'. From the third bracket (under 'microsoft.com'), an arrow points up to the text 'The site belongs to a company registered under domain name "microsoft.com" or IP address.'. From the fourth bracket (under '/athome/default.aspx'), an arrow points down to the text 'To find the specific Web page, the browser follows the URL's path to a folder named "at home" then to a page named "default.aspx.".

The site is on the part of Internet known as WWW.

To find the specific Web page, the browser follows the URL's path to a folder named "at home" then to a page named "default.aspx."

E-MAIL ADDRESS

- E-mail stands for ‘Electronic Mail’. It is a paperless method of sending messages, notes, pictures and even sound files from one place to another using the Internet as a medium. It is an individual name, which is used to send and receive E-mail on the Internet. It is used to specify the source or destination of an E-mail message.
- The format of an E-mail address is user@domain. Where,
- the first part (user) identifies a unique user name.
- “@” separates the user from the domain, which identifies the mail server.



BLOGS

A blog is a Website or a Web page, in which an individual records opinion links to other sites on regular basis. A blog content is written frequently and added in a chronological order. It is written online and visible to everyone.

A typical blog combines text, images and links to other blogs, Web page? and other media related to its topic. In education, blogs can be used as instructional resources. These blogs are referred to as edublogs. The entries of blog are also known as posts.

A person who writes a blog or a Weblog is known as blogger. Blogging is the act of posting content on a blog.

◉ **Advantages of Blogs**

- ◉ You can work at any time of the day and work with your ease.
- ◉ Blogger does not require more efforts to write articles for his/her blog.
- ◉ Easy and quick to update or add new posts.
- ◉ People can leave comments on your blog.
- ◉ It increases blog revenue.
- ◉ Blogs can be set-up quickly.
- ◉ It is all about being social. You (blogger) need to answer to peoples' queries and for that, reading should be a part of day-to-day tasks.

◉ **Disadvantages of Blogs**

- ◉ The common problem of full time blogger is isolation from society.
- ◉ Mostly people love blogging but they don't have a fix source of income. Some choose freelance writing job for earning money and few chooses to depend on their parents to fulfil the need of money.
- ◉ If the blogger get ill, then they don't get time to update their blog and it ultimately results in loss of blog income and traffic.

NEWSGROUP

An area on a computer network especially the Internet, devoted to the discussion of a specified topic is known as Newsgroup. Newsgroup is an online discussion group that allows interaction through electronic bulletin board system (Usenet) and chat sessions.

⦿ **Advantages of Newsgroup**

- ⦿ Newsgroup is similar in some ways to mailing lists, but it has a better structure.
- ⦿ It is also easier to access a newsgroup.
- ⦿ Usually, you will be able to find a FAQ (Frequently Asked Questions) section on a newsgroup, which is always helpful for those who are not sure of certain things.
- ⦿ Free to subscribe and post.

◉ **Disadvantages of Newsgroup**

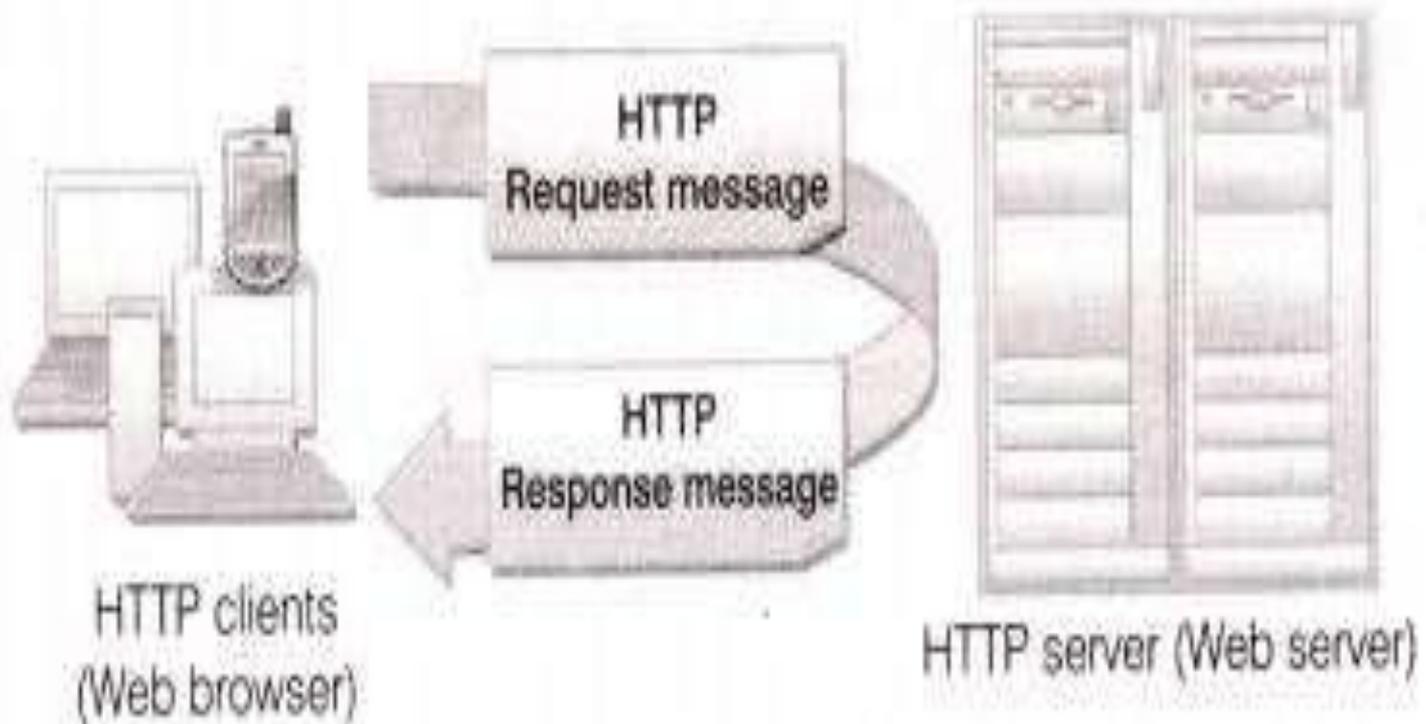
- ◉ A newsgroup is not as quick as an E-mail or even a mailing list.
- ◉ The information on newsgroup is submitted by people who may have no real idea of what they are talking about.
- ◉ It is not user friendly and the risk of viruses is high.

HYPertext TRAnSFER PRoTocol (HTTP)

It is the protocol used to transfer data over the World Wide Web. It defines how messages are formatted and transmitted and what actions should be taken by the Web servers and browsers in response to various commands.

e.g. when you enter a URL in your browser, this actually sends a HTTP command to the Web server directing it to fetch and transmit the requested Web page. The other main standard that controls how the World Wide Web works is HTML, which covers how Web pages are formatted and displayed. HTTP is a stateless protocol because each command is executed independently without any knowledge of the commands that came before it.

HYPertext



Working of HTTP

HYPertext MARKUP LANGUAGE (HTML)

- It is used for designing Web pages. A markup language is a set of markup (angular bracket, <>) tags, which tells the Web browser, how to display a Web page's words and images for the user. Each individual markup code is referred to as an element or a tag. The text placed between a pair of angular brackets (<>) defines an HTML element.
- HTML elements have two basic properties, i.e. attributes and content. Attributes are used to apply the desired style on the text and content refers to the text that you want to display on the browser. When a Web page is opened in a Web browser, then the formatted content is displayed.

ASSIGNMENT

- What is internet?
- What do you understand by the term URL?
- Differentiate between a web browser and web server.
- Expand SMTP.
- What is a post?
- What is a blog? What is a blogger?
- Differentiate between a website and web portal.
- What is the significance of HTTP?

⦿ Identify domain name and URL from the list:

i. yoga@yoga.com

ii. 192.168.0.1

iii. www.doYogaEveryday.com/old/index.html

iv. <http://cbse.nic.in>

• Explain the following term:

i. Web page

ii. Home page.