Chapter-17
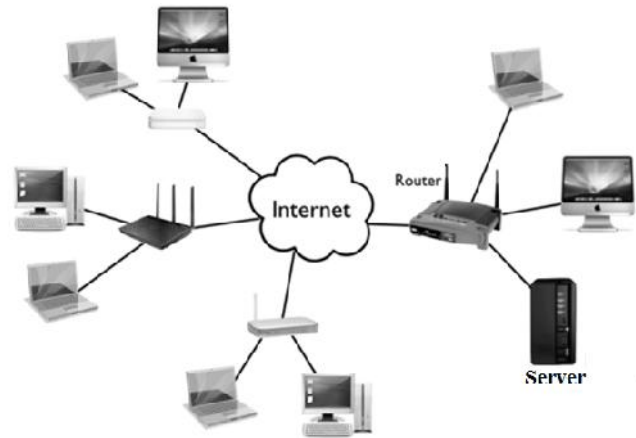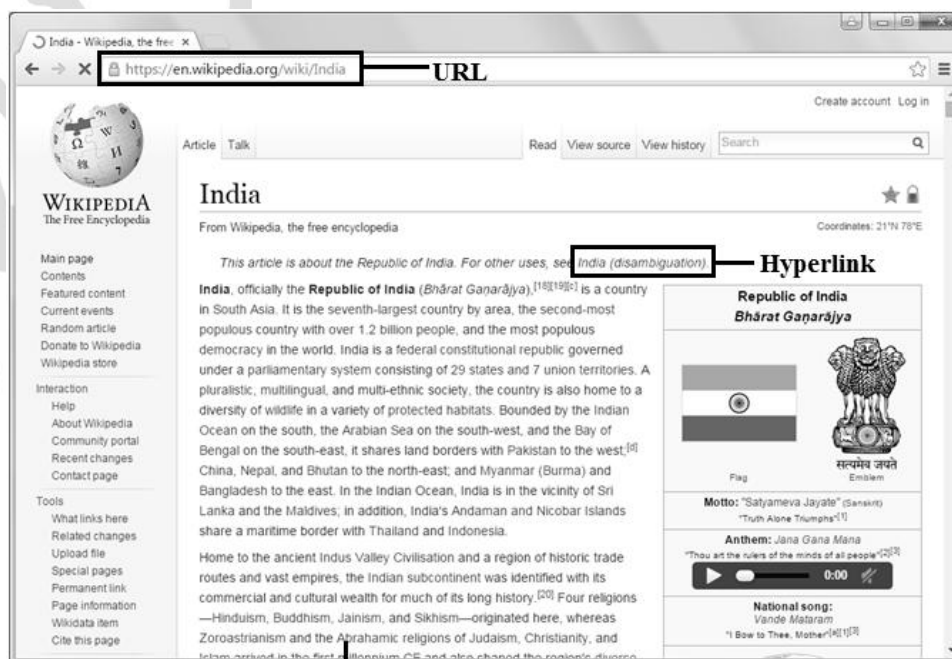
WEB DESIGNING

➢ Introduction:

- **A computer network is a set of computers connected together for the purpose of sharing resources.**

- The most common resource shared today is a connection to the Internet.

- Other shared resources can include a printer or a file server. The Internet itself can be considered as a computer network.

- The term internet is derived from two words **Inter**connection and **Net**work.

- **The Internet is a combined collection of many interconnected computer networks around the world.**

- Each network consists of multiple numbers of computers connected through cables, wireless or any other media.

- Using these computers people can share and exchange information.

- A connection to the Internet is needed to access the Internet.

➢ Some terms related to Web:

✓ **WWW:**

- In September 1994, Berners-Lee founded the World Wide Web Consortium (W3C).
- The **World Wide Web** is also called as "WWW", it allows computer users to locate and access any information over the internet.
- The Web is a collection of millions of pages of information.
- The information can include text, pictures, animations, sound and video.
- We can usually find information about any topic on the Internet.

✓ **Web page:**

- The documents available on WWW are known as web pages.
- A web page is a file containing information in text, graphics, Audio and Video.

✓ **Web site:**

- *The location where the information is available on the web is called a website.*
- A website is a collection of web pages.
- The Web pages are organized on a website like the pages of a book.
- Each Website is owned and updated by an individual, company or organization.

✓ **Web server:**

- The WebPages on the internet are stored on the computers that are connected to the internet, these computers are known as **web servers**.
- Any computer that has a server software installed on it and is connected to the internet can act as a web server.

✓ **Browser:**

- A web browser, or simply "browser," is an application used to access and view websites.
- It enables the user to view web pages, navigates websites, and move from one website to another.
- Popular Web browsers are Internet explorer, Mozilla Firefox, Google Chrome, Netscape navigator, Opera etc.

✓ **HTTP:**

- The term hyper text was coined by Ted Nelson.
- The internal structure of the World Wide Web is built on a set of rules called **Hypertext Transfer protocol (HTTP)**.
- HTTP is the protocol to exchange or transfer hypertext.

✓ **DNS:**

- The **Domain Name System (DNS)** is a hierarchical distributed naming system for computers, services or any resources connected to the Internet or a private network.

✓ **URL:**

- A website is accessed by using the website address called the URL (Uniform resource locator).

- HTTP uses internet addresses in a URL format.

- URLs look like this: **type://address/path/**

- Example: http://www.karnataka.gov.in or http://www.kreis.kar.nic.in

✓ **Hyperlink:**

- A hyperlink is a connection that allows you to move easily from one web page to another related web page.

- Text, images can be made into hyperlinks.

- A hyperlink is usually underlined.

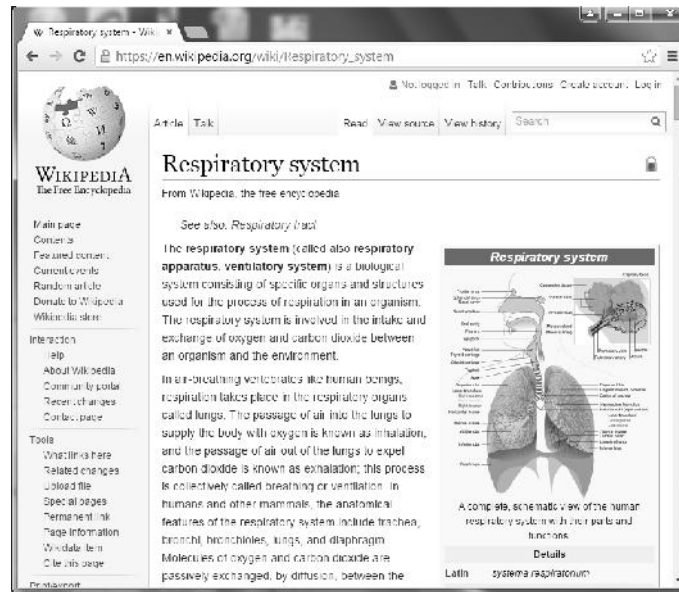- Clicking on the hyperlink takes you to a different page.

✓ **Search Engine:**

- A search engine is an information retrieval system designed to help find information stored on a computer system in the system.

- The sear engine allows one to ask for content meeting specific word or phrase and retrieves a list of items that matches those criteria.

- Search engines use regularly updated indexes to operate quickly and efficiently.

- There are many search engines available freely. Some of them are google.com, msn.com, yahoo.com.

✓ **Surfing on the internet:**

- There are large numbers of servers on the internet, when the user is looking for some information; it may necessary to look for such information from more than one server.

- WWW links the computers on the Internet like spider web, facilitating users to go from one computer to another directly.

- The term "surfing" is generally used to describe an unidirectional type of web browsing in which the user jumps from one page to another page, as opposed to searching for a specific information.

We can browse the information on any subjects. For example, enter the URL www.wikipedia.org in the address bar. This is a website where you can find the information on many subjects.

➢ **Advantages/ Internet Services:**

• In this world of information technology, there is no field which does not use the internet.

• In the field of Science and technology, Military, Engineering, Banking, Multimedia, Medicine, Aviation, Education, Business, Entertainment and so on.

• Some important services on the internet are:

✓ **World Wide Web:**

  • This is also called web or www or 3w.

  • The collection of all web pages in all web sites on Internet is called www.

  • These web pages provide us information in the form of text, pictures, audio and video formats etc.

✓ **E-MAIL:**

  • E-mail stands for Electronic-Mail.

  • It is the most popular, cheap, easy and fastest mailing service.

  • We can send and receive messages on internet within seconds or minutes.

✓ **NEWSGROUPS:**

  • Newsgroups are discussion groups on internet.

  • They are used for free exchange of information.

  • A user sends a message to the news group site.

  • Other users read this message from this site and reply.

  • Newsgroups are provided by special computers called **news servers**.

✓ **E-COMMERCE:**

- It stands for **Electronic Commerce**.

- E-commerce means to carry out business dealings by internet.

- Examples of Ecommerce include: Online Banking, Online shopping and online education etc.

✓ **FTP:**

- FTP stands for **File Transfer Protocol**.

- It is used to transfer files on internet easily and quickly.

- Audio, video, graphics and data files can be uploaded and downloaded using FTP.

✓ **TELNET or Remote Login:**

- Telnet is a computer based protocol which permits your computer to log onto another computer at some location and use it as if you were there.

- This is an important service using which journalist can transfer their stories into their organization server in a matter of seconds.

✓ **CHAT:**

- It is the most popular services by which two or more users can live chat with each other.

- We can chat by text or audio or video.

- Voice chat is just like talking on telephone.

- Messenger software like Yahoo messenger or MSN messenger is used for chatting.

✓ **GOPHER:**

- A gopher on the Internet is a system for users to search for files via menus or directory structures.

- It uses plain English names and is text based only.

➢ **About E-Mail:**

- **Electronic mail** (also known as **email** or **e-mail**) is one of the most commonly used services on the Internet, allowing people to send messages to one or more recipients.

- The email was invented by **V.A Shiva Ayyadurai in 1972**.

✓ **Why use E-Mail?**

- The operating principle behind email is relatively simple, which has quickly made it the most popular service used on the Internet.

- As with a traditional postal service, for your message to reach your recipient, all you need to know is their address.

- Its two main advantages over "paper mail" are the speed at which the email is sent (practically instantaneous) and the lower cost (included with the cost of an Internet connection).

✓ **Email addresses:**

- Email addresses (both for senders and recipients) are two strings separated by the character "@" (" at sign"):   **user@domain**

- The right-hand part describes the domain name involved, and the left-hand part refers to the user who belongs to that domain.

- In practice, an email address often looks something like this:

firstname.lastname@provider.domain

✓ **Advantages of E-mail:**

1. Easy to Use
2. Speed
3. Easy to prioritize
4. Reliable and secure
5. Easier for reference
6. Automated emails
7. Environment friendly
8. Use of graphics
9. Advertising tool
10. Cheap service
11. Data Storage
12. Provision of attachment.

✓ **Disadvantages of E-mail are:**

1. **Viruses:**
   - These are computer programs which have the potential to harm a computer system.
   - Recipients need to scan the mails since; viruses are transmitted through them and have the potential to harm the computer.

2. **Spam:**
   - Emails when used to send unwanted advertisements are termed as spam.
   - Checking and deleting the unwanted mails can unnecessarily consume a lot of time.

3. **Hacking:**
   - The act of breaking into computer security is termed as hacking.
   - Hackers access the important information and programs and may destroy it.
   - Hackers try to get password of internet users and then access important information.

➢ **Introduction to HTML:**

- HTML stands for **Hypertext Markup Language**, and it is the most widely used Language to write Web Pages.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together.

- Thus the link available on a webpage is called *Hypertext*.

- HTML documents are also called **web pages**.

- Now, HTML is being widely used to format web pages with the help of different tags available in HTML.

➢ HTML Document Structure:

- A typical HTML document will have following structure: Document declaration tag

```
<html>
        <head>
                        Document header related tags
        </head>
    <body>
                        Document body related tags
    </body>
</html>
```

✓ HTML Tags:

- HTML markup tags are usually called HTML tags.

- These tags are keywords (tag name) surrounded by angle braces like **<Tag Name>**.

- The first pair of tags is the start tag and the second tag is the end tag.

- End tag contains a forward slash before the tag name.

- Start tag and end tag are also called opening tags and closing tags.

- Except few tags, most of the tags have their corresponding closing tags.

- For example **<html>** has its closing tag **</html>** and **<body>** tag has its closing tag **</body>** tag.

Tags	Description
<html>	This tag encloses the complete HTML document and mainly comprises of document header which is represented by **<head>...</head>** and document body which is represented by **<body>...</body>** tags.
<head>	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<title>	The **<title>** tag is used inside the <head> tag to mention the document title.
<body>	This tag represents the document's body which keeps other HTML tags like <h1>, <div>, <p> etc.

✓ Executing a HTML program:

- The first step in creating a HTML document is to write code in the text editor.

- The commonly used text editor is notepad. The notepad can be opened in the following sequence.
    - Click on Start Button
    - Type Notepad in search programs and files and press Enter.
    - Notepad window will appear. Type your HTML program and save it with the **filename.htm** (html) extension.
    - Open the web browser, type the address of the HTML file in address bar press Enter.

✓ **The <!DOCTYPE> Declaration:**

- The <!DOCTYPE> declaration tag is used by the web browser to understand the version of the HTML used in the document.
- Current version of HTML is 5 and it makes use of the following declaration
- **Basic HTML Document**   <!DOCTYPE html>
- In its simplest form, following is an example of an HTML document:

```
<!DOCTYPE html>
<html>
      <head>
            <title>This is document title</title>
      </head>
      <body>
            <h1>This is a heading</h1>
            <p>Document content goes here.....</p>
      </body>
</html>
```

- Let's save it in an HTML file **test.htm** using your favorite text editor.
- Finally open it using a web browser like Internet Explorer, Google Chrome, or Firefox etc.
- It shows the following output:
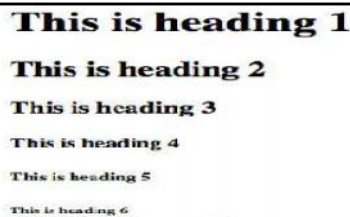

➢ **HTML Basic Tags:**

✓ **Heading Tags:**

- Any document starts with a heading. You can use different sizes for your headings.
- HTML also has six levels of headings, which use the elements **<h1>, <h2>, <h3>, <h4>, <h5>, and <h6>**.

- While displaying any heading, browser adds one line before and one line after that heading.

- **Example**

```
<body>
        <h1>This is heading 1</h1>
        <h2>This is heading 2</h2>
        <h3>This is heading 3</h3>
        <h4>This is heading 4</h4>
        <h5>This is heading 5</h5>
        <h6>This is heading 6</h6>
</body>
```
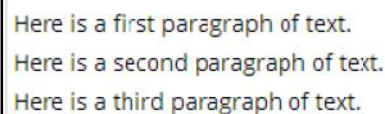
- This will produce following result:

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

✓ Paragraph Tag:

- The **<p>** tag offers a way to structure your text into different paragraphs.

- Each paragraph of text should go in between an opening <p> and a closing </p> tag as shown below in the example:

- **Example**

```
<body>
        <p>Here is a first paragraph of text.</p>
        <p>Here is a second paragraph of text.</p>
        <p>Here is a third paragraph of text.</p>
</body>
```

- This will produce following result:

Here is a first paragraph of text.
Here is a second paragraph of text.
Here is a third paragraph of text.

✓ Line Break Tag:

- Whenever you use the **
** element, anything following it starts from the next line.

- This tag is an example of an **empty** element, where you do not need opening and closing tags, as there is nothing to go in between them.

- The <br /> tag has a space between the characters **br** and the forward slash.

- **Example**

```
<body>
        <p>Hello<br />
        You delivered your assignment on time.<br /> Thanks<br />
        Mahnaz</p>
</body>
```

- This will produce following result:

```
Hello
You delivered your assignment ontime.
Thanks
Mahnaz
```

✓ Horizontal Lines:

- Horizontal lines are used to visually break up sections of a document.

- The **<hr>** tag creates a line from the current position in the document to the right margin and breaks the line accordingly.

- For example, you may want to give a line between two paragraphs as in the given example below:

- **Example**
```
<body>
        <p>This is paragraph one and should be on top</p>
        <hr />
        <p>This is paragraph two and should be at bottom</p>
</body>
```

- This will produce following result:

```
This is paragraph one and should be on top

This is paragraph two and should be at bottom
```

➢ HTML Formatting:

✓ Bold Text:

- Anything that appears within **...** element is displayed in bold as shown below:

- **Example**
```
<body>
        <p>The following word uses a <b>bold</b> typeface.</p>
</body>
```

- This will produce following result:

```
The following word uses a bold typeface.
```

✓ Italic Text:

- Anything that appears within **<i>...</i>** element is displayed in italicized as shown below:

- **Example**
```
<body>
        <p>The following word uses a <i>italicized</i> typeface.</p>
</body>
```

- This will produce following result:

> The following word uses a *italicized* typeface.

➢ Text Formatting Tags:

Tag	Description	Tag	Description
<u><b></u>	Defines bold text	<u><i></u>	Defines italic text
<u><em></u>	Defines emphasized text	<u><u></u>	Underline
<u><strong></u>	Defines strong text	<u><small></u>	Defines small text
<u><sub></u>	Defines subscripted text	<u><sup></u>	Defines superscripted text
<u><ins></u>	Defines inserted text	<u><del></u>	Defines deleted text

➢ HTML Images:

- Images are very important to beautify as well as to depict many complex concepts in simple way on your web page.

- This will take you through simple steps to use images in your web pages.

✓ Insert Image:

- You can insert any image in your web page by using **<img>** tag.

- Following is the simple syntax to use this tag. ****

```
<body>
    <p>Simple Image Insert</p>
    <img src="test.png" alt="Test Image" />
</body>
```

- This will produce following result:

> Simple Image Insert

- You can use PNG, JPEG or GIF image file based on your comfort but make sure you specify correct image file name in **src** attribute. Image name is always case sensitive.

- The **alt** attribute is a mandatory attribute which specifies an alternate text for an image, if the image cannot be displayed.

➢ HTML Hyper Links:

- A webpage can contain various links that take you directly to other pages and even specific parts of a given page. These links are known as hyperlinks.

- Hyperlinks allow visitors to navigate between Web sites by clicking on words, phrases, and images. Thus you can create hyperlinks using text or images available on a webpage.

<p align="center">**<A href="filename.html" title="Next page"> Next page</A>**</p>

- **Anchor element** allows you to link various WebPages or different sections on the same page. The syntax of Anchor element is given below:

<p align="center">**<A>………</A>**</p>

- The various attributes of the Anchor element are HREF, NAME, TITLE, TARGET and ALT
  - **Href:** The href (**h**yperlink **ref**erence) attribute specifies the location of the file or resource that you want to provide a link to.
  - **Name:** The name attribute specifies a location within the current or the existing document.
  - **Title**: The title attribute specifies a title for the file which you are providing a link.
  - **Target**: The target attribute specifies a position in the webpage where the browser displays a file.
  - **Alt**: The alt attribute specifies the alternative text which is displayed when an image used as a hyperlink is not displayed.
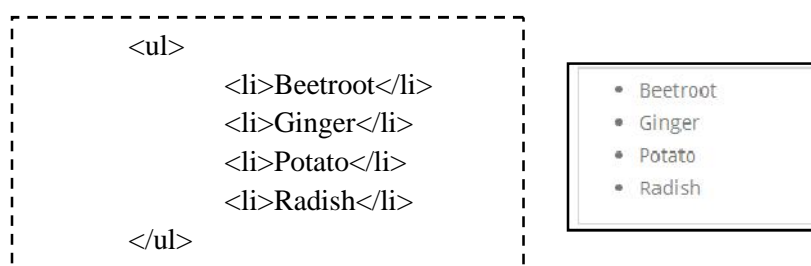
➢ **HTML Lists:**

- HTML offers web authors three ways for specifying lists of information.
- All lists must contain one or more list elements.
- Lists may contain:
  1. **<ul>** - An unordered list. This will list items using plain bullets.
  2. **<ol>** - An ordered list. This will use different schemes of numbers to list your items.
  3. **<dl>** - A definition list. This arranges your items in the same way as they are arranged in a dictionary.
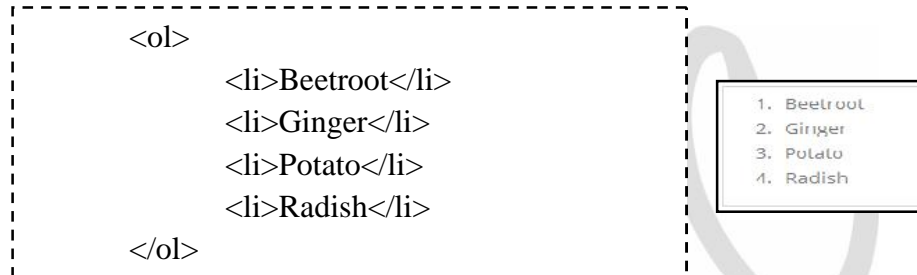
✓ **Unordered Lists:**

- An unordered list is a collection of related items that have no special order or sequence. This list is created by using HTML **<ul>** tag. Each item in the list is marked with a bullet.

- **Example**

```
<ul>
        <li>Beetroot</li>
        <li>Ginger</li>
        <li>Potato</li>
        <li>Radish</li>
</ul>
```

- Beetroot
- Ginger
- Potato
- Radish

✓ **Ordered Lists:**

- If you are required to put your items in a numbered list instead of bulleted list then HTML ordered list will be used.

- This list is created by using **<ol>** tag.

- The numbering starts at one and is incremented by one for each successive ordered list element tagged with **<li>.**

- **Example**

```
<ol>
        <li>Beetroot</li>
        <li>Ginger</li>
        <li>Potato</li>
        <li>Radish</li>
    </ol>
```

```
1. Beetroot
2. Ginger
3. Potato
4. Radish
```

Practical Program 1: Create a web page to display your details using different tags.

```
<HTML>
<HEAD>
<TITLE> 1ST PUC CS STUDENTS </TITLE>
</HEAD>
<BODY BGCOLOR=ORANGE>
    <FONT COLOR=RED>
        <H1> <CENTER> FIRST PUC COMPUTER SCIENCE BOOK</CENTER> </H1>
    </FONT>
    <IMG SRC = "C:\Users\Public\Pictures\Sample Pictures\Lighthouse.jpg" ALIGN=LEFT WIDTH=200
HEIGHT=300 BORDER=1>
        <P> <I> COMPUTER SCIENCE </I> with C++ is a major subject at PUC level with an aim of
creating Computer-qualified graduates later on. This subject focuses on concepts of <B> computer
Fundamentals, Programming Methodology, and Programming in C++, OOP's, Word Processor, Electronic
Spread Sheet, and Web Programming. </B> </P>
</P> This text book promises to guide you for the preparation of any exam on these topics. This book covers
the manual which are worked on with the samples. </P>
    <FONT FACE= CAMBRIA COLOR=YELLOW>
        <H2>SAILENT FEATURES</H2>
    </FONT>
    <OL>
        <LI> Computer Fundamentals</LI>
        <LI> Programming Methodology</LI>
        <LI> Data Representation</LI>
        <LI> Programming in C++</LI>
```

```
              <LI> Word Processor</LI>
              <LI> Electronic Spread Sheet</LI>
              <LI> Web Programming</LI>
       </OL>
</BODY>
</HTML>
```

Practical Program 2: Create a MODEL Web site for your college making using different tags.

Filename: Introduction.htm

```
<HTML>
<HEAD>
<TITLE> MDRPUC HASSAN </TITLE>
</HEAD>
<BODY BGCOLOR=ORANGE>
       <FONT COLOR=RED>
       <CENTER>
              <H4> GOVERNMENT OF KARNATAKA </H4>
              <H1> MORARJI DESAI RESIDENTIAL PU SCIENCE COLLEGE </H1>
              <H3> GUDDENAHALLI, BELUR ROAD, HASSAN-573201 </H3>
       </CENTER>
       </FONT>
       <IMG SRC = "C:\Users\Public\Pictures\Sample Pictures\Lighthouse.jpg" ALIGN=LEFT WIDTH=200
HEIGHT=300 BORDER=1>
       <FONT FACE=CAMBRIA SIZE=06 COLOR=CYAN>
       <P> MDRPU COLLEGE, Hassan most prestigious institutions in Karnataka. <BR /> Has been a
pioneer in the field of education for many years, Excellency in imparting quality knowledge. </P>
       <P> Click on one of the following to get additional information </P>
       </FONT>
       <A HREF="D:\COURSE.HTM" TITLE="COURSES"> COURSES OFFERED </A> <BR> <BR>
<Marquee Direction="Right"> Admission for the Eligible Students </Marquee>
</BODY>
</HTML>
```

Filename: Course.htm

```
<HTML>
<HEAD>
<TITLE> MDRPUC HASSAN- COURSES INFORMATION</TITLE>
</HEAD>
```

```
<BODY >
        <H1><CENTER> COURSES OFFERED </CENTER></H1>
        <P>
        <FONT FACE=VERDANA SIZE=4 COLOR=BLUE>
                <B> Part-I is Compulsory for all Students </B> <BR>
                <B> Language 1- Kannada </B> <BR>
                <B> Language 2 – English </B> <BR> <BR>
        </FONT>
        <FONT FACE=TIMES NEW ROMAN SIZE=4 COLOR=RED>
        <B>SCIENCE</B><BR>
                <B> PCMB - </B> Physics, Chemistry, Mathematics, Biology <BR>
                <B> PCMC - </B> Physics, Chemistry, Mathematics, Computer Science<BR>
                <B> PCME - </B> Physics, Chemistry, Mathematics, Electronics <BR>
        </FONT>
<Marquee Direction="Left"> <B> Medium of Instruction - English </B> </Marquee>
</BODY>
</HTML>
```

CHAPTER 17 – WEB DESIGNING BLUE PRINT				
VSA (1 marks)	SA (2 marks)	LA (3 Marks)	Essay (5 Marks)	Total
-	-	-	01 Question	05 Marks

****