

MAA OMWATI INSTITUTE OF MANAGEMENT AND TECHNOLOGY, HASSANPUR



Subject: Multimedia and WEB Development

Course: MBA – 3rd Semester

MULTIMEDIA AND WEB DEVELOPMENT

Course Code: 25IMS1203DS12

L-T-P
3-1-0

External Marks: 70

Internal Marks: 30

Time: 3 Hours

Course Objectives

To provide foundational knowledge in multimedia systems, data compression, web design, and practical skills for creating and managing multimedia applications and websites.

Course Outcomes

After doing this course, students should be able to:

1. Developed understanding of technical aspect of Multimedia Systems.
2. Understand various file formats for audio, video and text media.
3. Design interactive multimedia software.
4. Apply various networking protocols for multimedia applications.
5. To evaluate multimedia application for its optimum performance.
6. Design a basic web site using HTML

UNIT-I

Introduction to Multimedia: Multimedia devices, components of multimedia systems, authoring tools, creating multimedia, video-capturing, video on demand.

UNIT-II

Data compression : Need for data compression, non-lossy and lossy compressions for images, color, gray scale and still-video image, video image, and audio compression JPEG standard, MPEG standard, DVI Technology, MIDI, brief survey of speech recognition and generation.

UNIT-III

Data and file format standards, Multimedia applications design: Application classes, types of multimedia systems; Distributed multimedia systems: Components, distributed multimedia databases.

UNIT-IV

Introduction to Web design: Web development process, site types and architectures, navigation theory and practice. Introduction to Page: Page sizes, page types, web design tools; introduction to text: Fonts and text layout, formatting tags, text design issues for the web.

HTML: Structure of HTML document; HTML Tags, inserting images, creating links, tables, forms, and frames

Lab: Each student is required to develop at least one website.

Recommended Readings:

1. Buford, Multimedia Systems, Pearson Education,
2. Vaughan, Multimedia Making IT Work, Tata McGraw Hill,
3. Villamil and Molina, Multimedia: An Introduction, PHI
4. Shuman, Multimedia in Action, Vikas Publishing House
5. Senclair, Multimedia on the PC, BPB Publications
6. Rosch, Multimedia Bible, SAMS Publishing
7. Powell, Web Design: The Complete Reference, Tata McGraw Hill

Instructions for External Examiner: The question paper shall be divided in two sections. Section A shall comprise of seven short answer type questions from whole of the syllabus carrying two marks each, which shall be less than or equal to 50 words normally. Section B shall comprise 8 questions from the syllabus, each question from

UNIT-I: Introduction to Multimedia

1. Introduction to Multimedia

Multimedia is the integration of multiple forms of media such as text, audio, video, graphics, and animation into a single digital environment.

It provides interactive communication, enhances user experience, and is widely used in education, business, entertainment, and e-commerce.

*Features:

- Combines different content formats (text, audio, video, images, animations).
- Interactive in nature (hyperlinks, navigation, user input).
- Digital and easily distributable.
- Provides high information retention.

*Applications:

- Education: E-learning systems, smart classrooms.
- Business: Marketing, product demonstrations, presentations.
- Entertainment: Games, movies, music videos.
- Healthcare: Telemedicine, training for medical professionals.
- Web Development: Interactive websites, advertisements.

2. Multimedia Devices

Multimedia devices are hardware and software tools required to create, capture, process, and display multimedia content.

Input Devices: Microphone, Camera/Webcam, Scanner, Graphic tablets

Output Devices: Monitor, Speakers, Projectors, VR headsets

Storage Devices: Hard drives, SSDs, Optical discs, Cloud storage

Networking Devices: Routers, Modems, Wi-Fi devices

3. Components of Multimedia Systems

A multimedia system integrates five core elements:

1. Text – The most basic element; provides information, labels, menus, hyperlinks.
2. Graphics – Images, drawings, illustrations, charts.
3. Audio – Sound, music, voice-over.
4. Video – Live or recorded moving images.
5. Animation – Motion graphics, transitions, effects.

4. Authoring Tools

Software used to design and develop multimedia applications by combining text, audio, graphics, video, and animation.

Types:

- Card or Page-Based Tools (e.g., HyperCard)
- Icon-Based Tools (e.g., Authorware)
- Time-Based Tools (e.g., Adobe Flash)

Examples: Adobe Animate, Adobe Premiere Pro, Unity, MS PowerPoint

5. Creating Multimedia

Steps:

1. Planning & Analysis
2. Design
3. Content Creation
4. Integration
5. Testing
6. Delivery

6. Video Capturing

Definition: Recording video signals from a camera or external device into a computer for editing, storage, or transmission.

Devices: Digital cameras, webcams, camcorders, video capture cards

Applications: Online lectures, YouTube videos, advertisements, surveillance

7. Video on Demand (VoD)

Definition: A system that allows users to select and watch video content whenever they choose.

Types: SVoD (Netflix), TVoD (iTunes), AVoD (YouTube)

Advantages: Convenience, flexibility, cost-effective

Challenges: High-speed internet, copyright issues, storage requirements

UNIT-II: Data Compression

1. Data Compression: Need for Data Compression

Data compression is the process of reducing the size of multimedia data (text, audio, image, video) without significantly losing quality.

Need:

- Multimedia files are large in size.
- Reduces storage space requirements.
- Speeds up data transmission over networks.
- Minimizes bandwidth usage.
- Improves system performance.

Applications: Online video streaming, file sharing, multimedia storage in mobiles, video conferencing.

2. Non-Lossy and Lossy Compression for Images

Lossless Compression:

- No information is lost, original = reconstructed.
- Used in medical images, text.
- Techniques: RLE, Huffman Coding, LZW.

Lossy Compression:

- Some information lost, but acceptable visually.
- Achieves higher compression ratios.
- Used in images, audio, video.
- Example: JPEG, MP3.

3. Color, Gray Scale, and Still-Video Image

- Color Image: RGB channels, large storage (24-bit color).
- Gray Scale Image: Intensity values (0–255), 8-bit, less storage.
- Still-Video Image: A single captured video frame, used in cameras and surveillance.

4. Audio Compression

Need: Large audio files must be compressed.

- Lossless: FLAC, ALAC (high quality).
- Lossy: MP3, AAC, OGG (smaller, widely used).

Applications: Music streaming, VoIP, podcasts.

5. JPEG Standard

- Lossy image compression.
- Steps: Divide image → Apply DCT → Quantization → Entropy coding.
- Advantages: High compression, widely supported.
- Disadvantages: Quality loss in details.

6. MPEG Standard

- Video/audio compression.
- MPEG-1: Video CD, MP3.
- MPEG-2: DVDs, Digital TV.
- MPEG-4: Internet streaming, YouTube.
- HEVC (H.265): 4K streaming.

7. DVI Technology

- Digital Video Interactive (Intel).
- Enabled full-motion video playback from CD-ROM.
- Used in training software and games.
- Outdated due to MPEG.

8. MIDI

- Musical Instrument Digital Interface.
- Protocol for digital instruments and computers.
- Stores instructions, not sound (very small file sizes).
- Used in electronic keyboards, music production.

9. Speech Recognition and Generation

- Speech Recognition (Speech-to-Text): Converts speech to text. Examples: Siri, Alexa.
- Speech Generation (Text-to-Speech): Converts text to voice. Examples: Google TTS, Amazon Polly.

UNIT-III: Multimedia Systems & Applications

1. File and File Format Standards

Definition: A file format is the structure in which data is stored. Standardization ensures compatibility across devices.

Image Formats: BMP (uncompressed), JPEG (lossy), GIF (animations, 256 colors), PNG (lossless, transparency), TIFF (publishing).

Audio Formats: WAV (uncompressed), MP3 (lossy), AAC (YouTube, iTunes), MIDI (music instructions).

Video Formats: AVI (large, good quality), MPEG/MP4 (streaming), MOV (Apple), MKV (open source).

Document Formats: TXT, DOCX, PDF, HTML.

2. Multimedia Applications Design

Definition: Planning and creating multimedia applications by integrating text, images, video, and audio.

Steps in Design:

- Requirement Analysis (target audience, purpose)
- Content Collection (text, images, audio, video)
- Storyboarding (sequence, navigation, layout)
- User Interface Design (menus, navigation buttons)
- Integration (authoring tools)
- Testing & Feedback (usability, compatibility)
- Deployment & Maintenance

Principles: User-centered design, consistency, optimized media, accessibility.

3. Application Classes

- Entertainment: Movies, games, animations.
- Education & Training: E-learning, simulations.
- Business: Presentations, advertising, marketing.
- Healthcare: Medical imaging, telemedicine.
- Communication: Video conferencing, messaging apps.
- Scientific Research: Data visualization, modeling.
- Social Media: YouTube, Instagram, TikTok.

4. Types of Multimedia Systems

- Interactive Multimedia: User-controlled (games, e-learning).
- Hypermedia: Hyperlinked multimedia (WWW).
- Linear Multimedia: No user control (TV, movies).
- Immersive Multimedia: VR/AR applications.

5. Distributed Multimedia Systems

Definition: Multimedia content stored, processed, and transmitted across multiple systems.

Components:

- Multimedia Database Server: Stores files.
- Communication Network: Internet, LAN, WAN.
- Client Systems: PCs, mobiles, TVs.
- Streaming Servers: Deliver real-time video/audio.

Distributed Multimedia Databases:

- Store data across multiple servers.

- Examples: YouTube, Netflix, Spotify.

Challenges: High bandwidth, synchronization, security issues, scalability.

Unit-IV:

Website Designing:

Introduction to HTML: Basic HTML – HTML document structure – HTML tags – Basefont tag – title tag – body tag – Horizontal Rule Tag - Text formatting tags – Character tags, **HTML Lists :** Ordered List , Unordered List & Definition List – Using colors – Using Images

Answer the following Questions:

(5 x 5= 25 Marks)

1. Briefly explain HTML document structure?
2. Write about Horizontal rule tag?
3. Write short notes on HTML?
4. Write about list tags?
5. Explain about <TR> and <TD> tags?

Answer the following Questions

(5 × 10 =50 Marks)

1. Write in detail about text formatting tags in HTML?
2. Write about lists in HTML?
3. List and explain about text formatting tags?
4. Discuss about using images?
5. Discuss in detail about various types of linking in HTML?

1. EXPLAIN ABOUT INTRODUCTION TO HTML BASICS?

- HTML stands for *Hyper Text Markup Language*. It was developed by *Tim Berners-Lee*.
- HTML is used for designing web pages. The web pages are also called HTML documents.
- The webpage contains text, graphics, pictures, images, video and hyperlinks.
- The extension of HTML documents is *.html* or *.htm*.
- HTML documents are created by using text editor such as Notepad.

2. DEFINE HTML DOCUMENT STRUCTURE?

HTML documents can be created by using any text editor such as notepad. HTML document files must be saved with the extension .html or .htm. HTML document is also called as a *Webpage*. The basic structure of the HTML document is as follows:

```
<HTML>
  <HEAD>
    <TITLE> Title of the Webpage </TITLE>
  </HEAD>
  <BODY>
    Actual content of the Webpage
```

```
</BODY>
</HTML>
```

Every HTML document has two sections. They are *Head Section* and *Body Section*.

Head Section:

The head section code is executed before loading a webpage. In this section we use <title> tag to display the title of the webpage.

Eg: <HEAD>
 <TITLE> Welcome </TITLE>
 </HEAD>

Body Section:

The body section includes actual content of a webpage. The <body> tag has no. of attributes. Some of them are as follows.

- **Text:** Used to change the text color of a HTML document.

Eg: <BODY text="Red">

- **Bgcolor:** Used to change the background color of a HTML document.

Eg: <BODY bgcolor="Blue">

- **Background:** Used to set an image as a background of a HTML document.

Eg: <BODY background ="image1.jpg">

Program:

```
<HTML>
  <HEAD>
    <TITLE> Sample website </TITLE>
  </HEAD>
```

```
<BODY>
    This is the sample webpage
</BODY>
</HTML>
```

3. LIST OUT THE DIFFERENT TYPES OF HTML TAGS?

Tag is nothing but a text enclosed between angular brackets (< and >). HTML tag tells the browser how to format the web page. The syntax is

Syn: <Tag Attribute="Value" ...>
Item to be formatted
</Tag>

Eg:
Srivema Degree College

HTML tags are two types. They are *Semantic Tags* and *Syntactic Tags*.

Semantic Tags:

The Semantic tags are also called *content-based* tags. These are used to indicate the content of the text. Some of them are

- **Emphasis Tag:** The tag is used to highlight the text.

Eg: August 15th is important day for all Indians.

- **Strong Tag:** The tag is used to indicate higher level of emphasis.

Eg: India is my country.

- **Address Tag:** The <Address> tag is used to indicate an address in the webpage.

Eg: <Address>

-----.

</Address>

- **Small Tag:** The <Small> tag is used to reduce the relative font size.

Eg: I got <Small> 40% </Small> of marks.

- **Big Tag:** The <Big> tag is used to increase the relative font size.

Eg: I got <Big> 90% </Big> of marks.

Syntactic Tags:

The Syntactic tags are also called *style type* tags. These tags allow the user, how the text to be appears in the webpage. Some of them are

- **Bold Tag:** The is used to display the text in bold style.

Eg: I am studying Degree course.

- **Italic Tag:** The <I> is used to display the text in Italic style.

Eg: <I> India </I> is great.

- **Underline Tag:** The <U> is used to display the text with underline.

Eg: <U> India </U> is great.

- **Strike Tag:** The <Strike> is used for crossing out a word by a line.

Eg: Now shirt is <Strike> 50 </ Strike > 60 percent off.

- **Subscript Tag:** The <SUB> is used to generate a subscript.

Eg: H ₂ O

- **Superscript Tag:** The <SUP> is used to generate a superscript.

Eg: X ²

- **Blink Tag:** The <Blink> tag is used to create flashing text.

Eg: This is a <Blink> New </Blink> product.

4. LIST OUT THE BASEFONT TAG?

HTML <BASEFONT> tag is used for specify a font color, size, face for all text in a document. This tag used in either in head section or body section. The <BASEFONT> tag is only supported by Internet Explorer. The <BASEFONT> tag has following attributes.

Attribute	Description
Face	Defines a basefont face
Color	Defines a basefont color
Size	Defines a basefont size

Eg: <BASEFONT face="Arial" color="red" size="10">

This is sample test

</BASEFONT>

5. DEFINE TEXT FORMATTING TAGS / CHARACTER TAGS?

- **Basefont Tag:** The <BASEFONT> tag is used to specify a font color, size, face for all text in a document.

Eg: <BASEFONT face="Arial" color="red" size="10">

This is sample test
</BASEFONT>

- **Paragraph Tag:** The <P> tag is used to display text in the form of paragraphs.

Eg: <P> This is paragraph </P>

- **Break Tag:** The
 tag is used to insert a line break. It has no closing tag.

Eg: <Body>
Our College Courses

B.Sc

B.Com

</Body>

- **Horizontal Rule Tag:** The <HR> tag is used to insert a horizontal line on the webpage.

Eg: <HR>
<HR width="50%" Align="left">

- **Headings Tags:** HTML supports 6 levels of heading tags, numbered from H1 to H6. The <H1> tag uses the largest font size, and <H6> tag uses smallest font size. By default, heading tags are always left aligned.

Eg: <H1>Welcome</H1>
<H2>Welcome</H2>
<H3>Welcome</H3>
<H4>Welcome</H4>
<H5>Welcome</H5>
<H6>Welcome</H6>

- **Bold Tag:** The is used to display the text in bold style.

Eg: I am studying Degree course.

- **Italic Tag:** The <I> is used to display the text in Italic style.

Eg: <I> India </I> is great.

- **Underline Tag:** The <U> is used to display the text with underline.

Eg: <U> India </U> is great.

- **Strike Tag:** The <Strike> is used for crossing out a word by a line.

Eg: Now shirt is <Strike> 50 </ Strike > 60 percent off.

- **Superscript Tag:** The <Sup> is used to generate a superscript.

Eg: X ²

- **Subscript Tag:** The <Sub> is used to generate a subscript.

Eg: H ₂ O

-----END-----

II) HTML LISTS:

6. EXPLAIN THE TYPES OF HTML LISTS?

A list is a collection of items, which may be displayed in specific order. HTML supports 3 kinds of lists. They are

- Ordered list
- Unordered list
- Definition list

Ordered list:

An Ordered list is a list of items, which contains *Alphabet* or *Number* in front of each item. The Ordered list is defined by using `<OL>` and `</OL>` tags. Each list item in an ordered list is defined by using `< LI>` tag. The `<OL>` tag has following attributes.

Attribute	Description
Type	Specify the type of numbering like 'A', 'a', 'I'. By default, it is a number.
Start	Specify the starting point of numbering.

Syn: `<OL Type="A/a/I" Start="value">`

`<LI> List item1`

`<LI> List item2`

`</OL>`

Eg: `<OL Type="A" Start="6">`

`<LI> BSc`

```
<LI> BCom
<LI> BA
</OL>
```

Output:

```
F. BSc
G. BCom
H. BA
```

Unordered list:

An Unordered list is a list of items, which contains *Bullets* in front of each item. The Unordered list is defined by using and tags. Each list item in an unordered list is defined by using tag. The tag has following attribute.

Attribute	Description
Type	Specify the type of bullet like square, circle, disc. By default, it is a disc.

Syn: <UL Type="Circle/Square/Disc" >

```
<LI> List item1
```

```
<LI> List item2
```

```
-----
```

```
-----
```

```
</UL>
```

Eg: <UL Type="Circle">

```
<LI> BSc
```

```
<LI> BCom
<LI> BA
</UL>
```

Output:

- BSc
- BCom
- BA
-

Definition list:

Definition list is a list of items, in which each item has two parts. Namely, ***Data Term*** and ***Data Definition***. The Definition list is defined by using <DL> and </DL> tags. The *Data Term* is defined by using <DT> tag, and the *Data Definition* is defined by using <DD> tag.

Eg: <DL>

```
<DT> RAM
<DD> Random Access Memory
<DT> ROM
<DD> Read Only Memory
</DL>
```

Output:

RAM
Random Access Memory

ROM

Read Only Memory

7. EXPLAIN ABOUT HTML USING COLORS?

Colors are used to make web pages more beautiful and attractive. We can specify colors by using <BODY> tag. The <BODY> tag has following attributes.

Attribute	Description
Bgcolor	Sets a color for the background of the page.
Text	Sets a color for the body text.

Colors are used by three different methods. They are color names, color codes and color RGB values.

Color Names:

We can specify color names directly to set background or text color. HTML has listed 16 basic color names. Some of them are Red, Green, Blue, Yellow etc.

Eg: <HTML>
 <HEAD>
 <TITLE>Color by names</TITLE>
 </HEAD>
 <BODY bgcolor="green" text="red">
 <H1>India is a great country</H1>
 </BODY>

</HTML>

Color Codes:

Color codes are 6 digit hexadecimal values preceded by a hash symbol (#). The first two digits represents a red value, the next two are a green value, and the last are the blue value.

Eg: <HTML>
 <HEAD>
 <TITLE>Color by codes</TITLE>
 </HEAD>
 <BODY bgcolor="#00ffab" text="#ff1200">
 <H1>India is a great country</H1>
 </BODY>
</HTML>

Color RGB Values:

Color value is specified by using the rgb() property. This property takes three values red, green and blue. The value can be an integer between 0 and 255.

Eg: <HTML>
 <HEAD>
 <TITLE>Color by RGB values</TITLE>
 </HEAD>
 <BODY bgcolor="rgb(0,255,0)" text="rgb(255,0,0)">
 <H1>India is a great country</H1>
 </BODY>

</HTML>

Note: All the browsers does not support rgb() property. So it is not recommended to use it.

8. DEFINE HTML USING IMAGES?

An image can be used as foreground as well as background of a webpage. To set the image as a foreground we use the tag and it has no closing tag. The tag has several attributes such as src, height, width, alt, align and border.

Attribute	Description
Src	Specifies the path of the image file
Height	Specifies the image size in vertical dimension.
Width	Specifies the image size in horizontal dimension.
Alt	Specifies an alternate text for an image
Align	Specifies the image in the center or right.
Border	Specifies the border size of the image.

Syn:

Eg: <HTML>

<HEAD>

<TITLE>Foreground Images</TITLE>

</HEAD>

<BODY>


```
alt="SVMDC" align="center" border="5">
</BODY>
</HTML>
```

To set the image as a background of a webpage we use “background” attribute of <BODY> tag. The syntax is

Syn: <BODY background="image address">

Eg: <HTML>

```
<HEAD>
<TITLE>Background Images</TITLE>
</HEAD>
<BODY background="winter.jpg">
<H1>India is a great country</H1>
</BODY>
</HTML>
```

-----END-----

Unit V:

Website Designing:

1. **Hyperlinks:** Textual links, Graphical links, types of document links, anchor tag
HTML Tables – table creations tags, Nested Tables, **Frames:** Frame introduction - frame creation tags – Nested Frames.

Answer the following Questions:

(5 x 5= 25 Marks)

1. Write about Horizontal rule tag?
2. Define table. Explain table creation tags?
3. Define Hyperlink?
4. What is a frame? What are its advantages?

Answer the following Questions

(5 × 10 =50 Marks)

1. Explain different types hyperlinks used in a web page?
2. Explain about frames in HTML?
3. Discuss in detail about various types of linking in HTML?
4. Discuss about forms?

1. DEFINE HORIZONTAL RULE TAG?

The <hr> tag is used to draw a horizontal line on the web page. It has no closing tag. It contains different attributes such as width, size and align. The default alignment of horizontal line is center.

Attribute	Value	Description
Width	pixels or %	Specifies the width of the Horizontal rule.
Size	pixels or %	Specifies the height of the Horizontal rule.
Align	Left right center	Specifies the alignment of the Horizontal rule.
Noshade	Noshade	Specifies in one solid Color

Syn: <hr width="value" size="value" align="value" noshade>

Eg: <html>

<head>

<title>Horizontal Rule </title>

</head>

<body>

<h1>SVMDC</h1>

<hr width="25%" size="10%">

<hr width="50%" align="left">

<hr width="75%" size="5%" noshade>

```
</body>  
</html>
```

2. DEFINE HTML TABLES AND THEIR TAGS?

In HTML, tables are used to represent the data in the form of rows and columns. HTML provides different tags to design a table. They are

- <Table> tag
- <TR> tag
- <TH> tag
- <TD> tag

<Table> tag:

The <Table> tag is used to create a table on the webpage. This tag has the following attributes.

- **border** : Specify the border for the table.
- **bordercolor** : Specify the border color for the table.
- **bgcolor** : Specify the background color for the table.
- **align** : Specify the position of the table. i.e., center or left or right.
- **cellspacing** : Specify the space between cells in a table.
- **cellpadding** : Specify the space around the cell in a table.

<TR> tag:

The <TR> tag is used to create a row in the table. This tag has the following attributes.

- **align** : Specify the position of the data in a row horizontally. i.e., left or center or right.

● **valign** : Specify position of the data in a row vertically. i.e., top or bottom or center.

<TH> tag:

The table headings can be defined by using <TH> tag. This tag is used to display cell data in bold by default.

<TD> tag:

The <TD> tag is used to display cell data. Both <TH> and <TD> tags has the following attributes.

● **rowspan** : Merge the specified no.of rows.

● **colspan** : Merge the specified no.of columns.

Eg: <html>

<head>

<title> Table Creation</title>

</head>

<body>

<table border="3">

<TR>

<TH>Course

<TH>Strength

<TR>

<TD>BSc

<TD>60

<TR>

<TD>Bcom

<TD>72

Course	Strength
BSc	60
Bcom	72

```
        </table>
    </body>
</html>
```

3. DEFINE NESTED TABLES?

<Table> tag:

The <Table> tag is used to create a table on the webpage. This tag has the following attributes.

- **border** : Specify the border for the table.
- **bordercolor** : Specify the border color for the table.
- **bgcolor** : Specify the background color for the table.
- **align** : Specify the position of the table. i.e., center or left or right.
- **cellspacing** : Specify the space between cells in a table.
- **cellpadding** : Specify the space around the cell in a table.

<TR> tag:

The <TR> tag is used to create a row in the table. This tag has the following attributes.

- **align** : Specify the position of the data in a row horizontally. i.e., left or center or right.
- **valign** : Specify position of the data in a row vertically. i.e., top or bottom or center.

<TH> tag:

The table headings can be defined by using <TH> tag. This tag is used to display cell data in bold by default.

<TD> tag:

The <TD> tag is used to display cell data. Both <TH> and <TD> tags has the following attributes.

● **rowspan** : Merge the specified no.of rows.

● **colspan** : Merge the specified no.of columns.

Eg: <html>

<head>

<title> Table Creation</title>

</head>

<body>

<table border="3">

<TR>

<TD>

<table border="3">

<TR>

<TH>Course

<TH>Strength

<TR>

<TD>BSc

<TD>60

<TR>

<TD>Bcom

<TD>72

```

</table>
</TD>
</TR>
</table>
</body>
</html>

```

Course	Strength
BSc	60
Bcom	72

4. DEFINE HYPERLINKS?

The <a> tag is used to create hyperlinks in the webpage. Hyperlink is a text or image that links other webpage. Hyperlinks are usually underlined text and displayed in blue color.

Syn: Text or Image

The href attribute specifies the address of the webpage to be loaded. URL means *Uniform Resource Locator*.

Eg: Click

Types of Hyperlinks:

- Textual hyperlink
- Graphical hyperlink

Textual hyperlink:

A hyperlink that contains text is called as *textual hyperlink*. When we click on the text, it will open the web page that is associated with it. Most browsers will change the text color and underline color of the hyperlink.

Eg: Click

Graphical hyperlink:

A hyperlink that contains image is called as *graphical hyperlink*. When we click on the image, it will open the web page that is associated with it.

Eg:

Program:

```
<HTML>
  <HEAD>
    <TITLE> Hyperlinks </TITLE>
  </HEAD>
  <BODY>
    <H2> Textual Hyperlink </H2>
    <a href="college.html"> Click </a>
    <H2> Graphical Hyperlink </H2>
    <a href="college.html"> <IMG src="winter.jpg"> </a>
  </BODY>
</HTML>
```

5. DEFINE FRAMES?

Generally we display one web page in a window. We can also display multiple web pages in a single window at a time. This feature is called *Frames*.

<FRAMESET> Tag:

This tag is included after the <HEAD> tag. The <FRAMESET> tag is used to divide the Browser’s window into multiple frames. These frames can be either horizontal or vertical frames.

Syn: <FRAMESET cols=’%,%’ rows=“%,%”> </FRAMESET>

- **cols** : Specifies the number of vertical frames
- **rows** : Specifies the number of horizontal frames

<FRAME> Tag:

The <FRAME> tag is used to specify the content of the frame. Each Frameset must include a <FRAME> definition. It has no closing tag.

Syn: <FRAME src="URL" scrolling="Yes/No">

• **src** : Specifies path of the file

• **scrolling** : Specifies the scrollbars for each frame

Ex: <HTML>

<HEAD>

<TITLE>Frames </TITLE>

</HEAD>

<FRAMESET cols="50%,50%">

<FRAME src="one.html">

<FRAME src="two.html">

</FRAMESET>

</HTML>

EX: <HTML>

<HEAD>

<TITLE>Frames </TITLE>

</HEAD>

<FRAMESET cols="25%,75%">

<FRAME src="one.html">

<FRAMESET rows="50%,50%">

<FRAME src="two.html">

<FRAME src="three.html">

</FRAMESET>

```
</FRAMESET>
</HTML>
```

6. DEFINE FORMS?

A form is used to take input from the user and then the information is passed to the web server. A form contains several fields such as textboxes, password boxes, check boxes, radio buttons, buttons etc. The <FORM> tag is used to create a form in a webpage. The syntax is

Syn: <FORM name="value" action="URL" method="GET/POST">

Form Elements

```
</FORM>
```

Attribute	Description
Name	Specifies the name of the form
Action	Script ready to process our passed data
Method	It is used to upload data

Form Controls:

There are different types of form controls that we can use to take input from the user. Some of them are

Textbox Control:

The textbox control allows the user to give textual input in only one line such as name, age etc. This control is created by using <INPUT> tag.

Eg: <FORM>

Name : <INPUT type="textbox">

```
</FORM>
```

Password box Control:

It is similar to textbox, but it displays only asterisk (*) symbols in the place of any character. This control is created by using <INPUT> tag.

Eg: <FORM>

 Password : <INPUT type="password">

</FORM>

Checkbox Control:

The checkbox control allows the user to select more than one option from a group of options. This control is created by using <INPUT> tag.

Eg: <FORM>

 Hobbies : <INPUT type="checkbox" name="cb">Watching

TV

 <INPUT type="checkbox" name="cb">Reading

Books

 <INPUT type="checkbox" name="cb">Playing

Cricket

</FORM>

Radio Button Control:

The radio button control allows the user to select only one option from a group of options. This control is created by using <INPUT> tag.

Eg: <FORM>

 Gender : <INPUT type="radio" name="cb">Male

 <INPUT type="radio" name="cb">Female

</FORM>

Select Box Control:

The select box, is also called drop-down list box, that provides multiple options which user can select only one option. This control is created by using

<SELECT> tag.

Eg: <FORM>

Country : <SELECT>
 <OPTION>India
 <OPTION>Japan
 <OPTION>USA
 </SELECT>

</FORM>

Textarea Control:

The textarea control allows the user to give textual input in multiple lines such as address. This control is created by using <TEXTAREA> tag.

Eg: <FORM>

Address : <TEXTAREA rows="5" cols="10">
 </TEXTAREA>

</FORM>

Program:

<HTML>

<HEAD>

<TITLE> Forms Controls </title>

</HEAD>

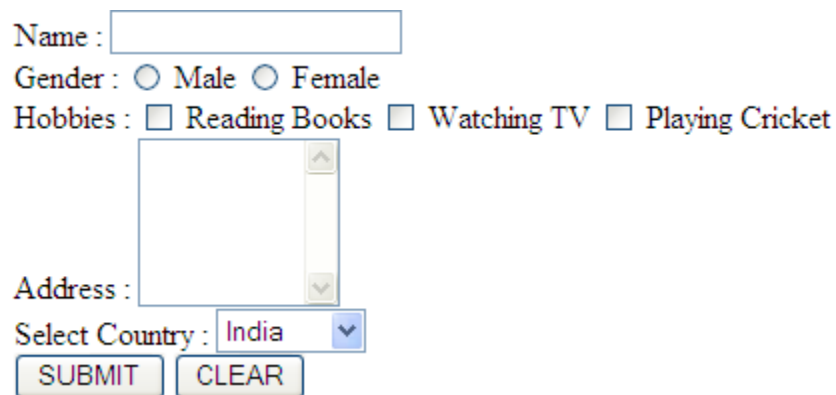
<BODY>

<FORM>

Name : <INPUT type="text">


```
Gender :    <INPUT type="radio" name="rd"> Male
            <INPUT type="radio" name="rd"> Female <br>
Hobbies :   <INPUT type="checkbox"> Reading Books
            <INPUT type="checkbox"> Watching TV
            <INPUT type="checkbox"> Playing Cricket<br>
Address :   <TEXTAREA          cols="10"          rows="5">
</TEXTAREA> <br>
Select Country : <SELECT>
                  <OPTION> India
                  <OPTION> USA
                  <OPTION> Canada
                </SELECT> <br>
<INPUT type="button" value="SUBMIT">
<INPUT type="reset" value="CLEAR">
</FORM>
</BODY>
</HTML>
```

Output:



The screenshot displays the rendered HTML form. It includes a text input for 'Name', radio buttons for 'Gender' (Male and Female), checkboxes for 'Hobbies' (Reading Books, Watching TV, and Playing Cricket), a text area for 'Address', a dropdown menu for 'Select Country' with 'India' selected, and two buttons labeled 'SUBMIT' and 'CLEAR'.

-----END-----