SYLLABUS OF BCA IVTH SEMESTER
BCA – 206 : WEB DESIGNING

External Marks:80
Internal Marks:20

Time: 3 hours

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT – I

Introduction to Internet and World Wide Web; Evolution and History of World Wide Web; Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, Overview of TCP/IP and its services; URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools.

UNIT – II

Web Publishing: Hosting your Site; Internet Service Provider; Web terminologies, Phases of Planning and designing your Web Site; Steps for developing your Site; Choosing the contents; Home Page; Domain Names, Front page views, Adding pictures, Links, Backgrounds, Relating Front Page to DHTML.
Creating a Website and the Markup Languages (HTML, DHTML);

UNIT – III

Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Creating Links; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text; Page layouts;

UNIT – IV

Images; Ordered and Unordered lists; Inserting Graphics; Table Creation and Layouts; Frame Creation and Layouts; Working with Forms and Menus; Working with Radio Buttons; Check Boxes; Text Boxes;
DHTML: Dynamic HTML, Features of DHTML, CSSP(cascading style sheet positioning) and JSSS(JavaScript assisted style sheet), Layers of netscape, The ID attributes, DHTML events.

SUGGESTED READINGS

1. Raj Kamal, "Internet and Web Technologies", Tata McGraw-Hill
2. Ramesh Bangia, "Multimedia and Web Technology", Firewall Media.
3. Thomas A. Powell, "Web Design: The Complete Reference" , 4/e, Tata McGraw-Hill
4. Wendy Willard, "HTML Beginners Guide", Tata McGraw-Hill
5. Deitel and Goldberg, "Internet and World Wide Web, How to Program", PHI.

Note: Latest and additional good books may be suggested and added from time to time.

Q2.(a) What is Internet? Discuss evolution and applications of Internet.

OR

What is Internet? Write about the history of Internet. Also write main uses of the Internet.

(b) What is an Internet address? What are its different forms?

Q2.(a) Internet

Internet is a worldwide network of networks. It is a global network of the interlinked computer networks. The internet is named for 'interconnection of computer networks'.

Internet is a networking infrastructure; it connects millions of computers together globally, forming a network in which any computer can communicate with any other computer connected to the network.

It is a set of computers talking over fibre optics, phone lines, satellite links and other media.

Internet is an evergrowing wide area network of millions of computers and computer networks across the globe, which can exchange information through standard rules or protocols. The Internet is a vast hardware and software infrastructure that enables computer interconnectivity.

Evolution / History of Internet

The Internet story began in the 1960s with a visionary thinking to develop computers to share information on research and development in scientific and military fields. The concept that evolved today's Internet started with a project in 1969 under the name ARPANET. The US Department of Defence set Advanced Research Projects Agency to build a network capable of carrying military and government information in case of a possible military attack.

Initially, an experimental four computer network was established by ARPA. The computers situated in different universities and US defence were connected by having a decentralized network.

ARPANET proved that computers could be linked together over long distances. By 1971, ARPANET had 62 sites. In March 1973, the first ARPANET international connections were established with University College London and Norway.

A number of research efforts and many technical developments helped shape the Internet.

The NSFNET displaced the ARPANET in 1991. Invention of browsers also contributed to the growth of Internet.

Expansion of networks continued. In 1995, a new name was given to the collection of all these networks and the present day Internet came up.

Linking computers first nationwide and then ultimately worldwide, the Internet spins a web of interconnectivity around the globe and becomes world's largest network.

Uses/applications of the Internet

Millions of people connect to the Internet only due to its uncountable usefulness. The Internet is being used for the following purposes:

1. E-mail

E-mail or the electronic mail is the most popular activity on the Internet. It allows almost instant exchange of electronic messages across the world.

2. EDI

EDI stands for Electronic Data Interchange. It is the inter-organizational exchange of business documents. It is a way of replacing paper documents with electronic documents and also replacing traditional methods of transmission or delivery with electronic transmission.

3. EFT

Internet enables transfer of financial information and payments i.e. Electronic Fund Transfer.

4. Products and Services

Yellow page directory services on the Internet enable the user to search the type of company one wants.

5. Chat

On the Internet, one can chat with people around the world by exchanging written text.

6. Education

Many educational institutions use the Internet to teach their courses to students. Thus Internet enables distance education.

7. Research

Many scientists or scholars use the Internet to exchange ideas and information. Internet is also used to publish their research work or articles.

8. Newspaper and magazines

One can access the distant database of foreign newspapers or magazines. One can also have electronic copy of journals, magazines from the Internet.

9. E-Commerce

Business organizations present their products on the Internet. The advertisements of products on the Internet facilitate customers to buy the products online. Thus business can be conducted on the Internet electronically.

10. Entertainment

One can use the Internet to play games, watch movies or listen to music.

11. Video Conferencing

Internet facilitates one to talk with other people while seeing them on the screen through video conferencing.

12. Access Remote Database

Internet enables access to remote database containing vast range of information on any subject.

13. Softwares

One can download free softwares like utilities, games etc. through Internet.

14. Internet Newsgroups

There are many newsgroups available on the Internet. Using newsgroups, one can simply post the messages on the electronic notice boards. Anyone on the Internet can access the messages.

Q3.(a) Describe Evolution and History of World Wide Web (WWW). MDU BCA April 2018, May 2017

(b) What is WWW? Explain its features. What are the advantages of WWW?

(c) Explain in detail WWW. Differentiate between WWW and Internet.

Q3.(a) Evolution and History of WWW

The World Wide Web is a product of the continuous search for innovative ways of sharing information resources.

Tim Berners Lee invented the WWW in 1989, about 20 years after the first connection was established over the Internet.

The WWW began in March 1989 at CERN. CERN is a meeting place for physicists who collaborate on complex physics, engineering and information handling projects. These scientists from all over the world were eager to exchange data and results but had difficulties in doing so.

Tim understood this need, made a proposal to his management at CERN.

Tim conceptualized how the ideas could be exchanged between computers quickly and easily; and how the information stored on computer everywhere were linked.

For this he associated hypertext to the Internet. By Oct. 1990, Lee specified three essential technologies:

HTML: Hypertext Markup Language – The publishing format for the web including the ability to link.

URI: Uniform Resource Identifier – A kind of address unique to each resource on the web.

HTTP: Hypertext Transfer Protocol – allows retrieval of linked resources across the web.

By the end of 1990, the first web page was served. Though the 1989 proposal was meant for a more effective CERN communication system but Lee realized that the concept could be implemented throughout the world. As soon as the basic outline of the WWW was complete, CERN made the source code publically available.

6th August 1991 marks the debut of the Web as a publically available service on the Internet. The WWW enabled the spread of information over the Internet through an easy to use format. People outside of CERN also began joining the web community. Soon the WWW had millions of active users.

Q3.(b) WWW

World Wide Web (WWW) is a set of protocols that allows to access any document on the Internet through the naming system based on Uniform resource location. It is a mechanism that links together information stored on many computers.

Q4.(a) Explain Web Browsers in detail

OR

What is a Web Browser? How does it work? Also discuss the uses of Web Browsers.

(b) Explain the Web Browser. Discuss most commonly used Web Browsers and their merits and demerits and their uses.

(c) Explain Web Server in detail.

OR

What is a Web Server? How does it function?

Q4.(a) Web Browser

A web browser is defined as "a software application that helps the Internet visitor to interpret and display the content from web servers." It is the software used to view websites and web pages.

A web browser is a software program that runs on an Internet connected computer. It enables to view web pages as well as do activities within them like view multimedia, link from one site to another, print, send and receive email etc.

Thus a web browser or simply a browser is "a software application for retrieving, presenting and traversing information resources on the World Wide Web."

How do Web browsers Work

The World Wide Web is a system of Internet servers that support specially formatted documents. The largest networked collection of linked documents is known as the World Wide Web. A web browser acts as an interface between the user and the World Wide Web. It allows user to send request to a web server, to view the requested web page.

Web browsers communicate with web servers primarily using HTTP (hypertext transfer protocol) to fetch web pages.

HTTP defines how messages are formatted and transmitted, and what actions web servers and browsers should take in response to various commands.

When a web address (URL), beginning with http is entered in the browser, this sends an HTTP command to the web server directing it to fetch and transmit the requested web page and display the information in user's browser.

The browser breaks the web address in three parts – the protocol, the server name and the file name. the web browser gets connected to the web server using HTTP, then reads the content/document created in HTML and the data is then loaded/displayed in the user's computer.

Q5.(a) Describe in detail TCP/IP. Explain its each layer in detail.

<u>MDU BCA May 2013, May 2012</u>

OR

What are transfer control protocols? Provide their classification and discuss functions of each protocol.

(b) What is HTTP? How does it work for World Wide Web? What are the characteristics of HTTP?

(c) Explain URL in detail.   <u>MDU BCA May 2014</u>

Q5.(a) TCP/IP

The TCP/IP i.e. Transmission Control Protocol/Internet Protocol is the protocol that makes possible the communication between different types of machines on different types of networks.
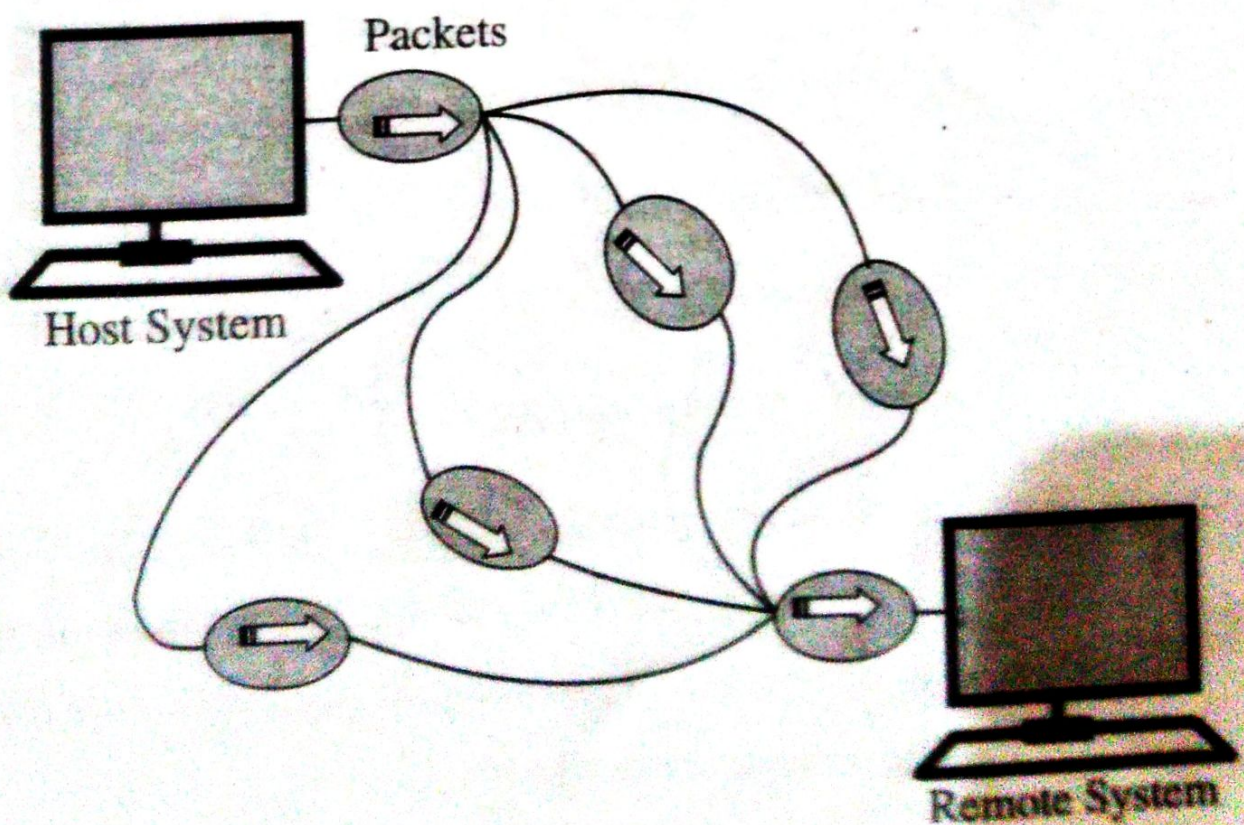
(TCP/ IP provides communication between host and remote systems)

It was developed by the United States Development of Defense Advanced Research Projects Agency (ARPA). ARPA originally created TCP/ IP to connect military network together. It is the most widely used protocol for interconnecting computers and it is the protocol of the Internet.

The operation of the Internet can be described in terms of a number of layers and protocols. The particular collection of layers and protocols that describe the operation of Internet is formally known as the TCP / IP Reference Model.

TCP / IP model is normally considered to be a four layer system. Layers of TCP / IP are:

- *Application layer*

- *Transport Layer*

- *Internet Layer*

- *Host to network Layer*

Application layer contains all the useful application protocols. This layer in TCP / IP can be equated with the combination of session, presentation and application layer of the OSI reference model.

TCP / IP reference model

Application Layer
Transport Layer
Internet Layer
Host to network

The transport layer is primarily concerned with how to transfer information from application onto the internet.

Internet layer is also called network layer. This layer handles communication from one machine to the other i.e. this layer is concerned with determining how information can get from point A to point B. Routing of packets takes place in internet layer.

Host to network layer is also called physical and data link layer. This layer is actually responsible for actual transfer of data across the physical network. TCP / IP does not define any specific protocol in this layer. This layer is responsible for accepting and transmitting IP datagrams. This layer normally includes the device driver in the operating system.

Use, purpose and functions of various layers, in detail, are given below:

1. Application Layer

This is the highest-level layer in the TCP /IP model which is on the top of the transport layer. This layer includes all process and services that use the transport layer to deliver data. The protocols contained in this layer are:-

- **TELNET**: It is the Network Terminal Protocol which allows a user on one machine to log onto a distant machine and work there.

- **FTP**: File Transfer Protocol provides a way to transfer files efficiently from one machine to another.

- **SMTP**: Simple Mail Transfer Protocol delivers the electronic mail.

- **DNS**: Domain Name System for mapping host names onto their network addresses.

Many other protocols have been added to these, over the years such as NNTP, HTTP etc. NNTP is the protocol for moving USENET news articles around and HTTP for fetching pages on the World Wide Web.

2. Transport Layer

Transport layer provides end-to-end transfer service. It is the layer above the internet layer in the TCP / IP model.

It is designed to allow peer entities on source and destination machines to communicate with each other, just as in the OSI transport layer.

Two end-to-end transport protocols have been defined here. These are Transmission control protocol (TCP) and User Datagram Protocol (UDP).

Application programs send data to the transport layer protocols TCP and UDP. An application is designed to choose either TCP or UDP based on the services it needs.

(a) TCP

TCP provides a reliable flow of data between two communicating machines. It is a connection oriented protocol.

It divides the data passed to it from application layer into suitably sized messages (data blocks), which are passed down one by one to the internet layer for transmission. At the destination side, the receiving TCP reassembles the received data or messages into the output format.
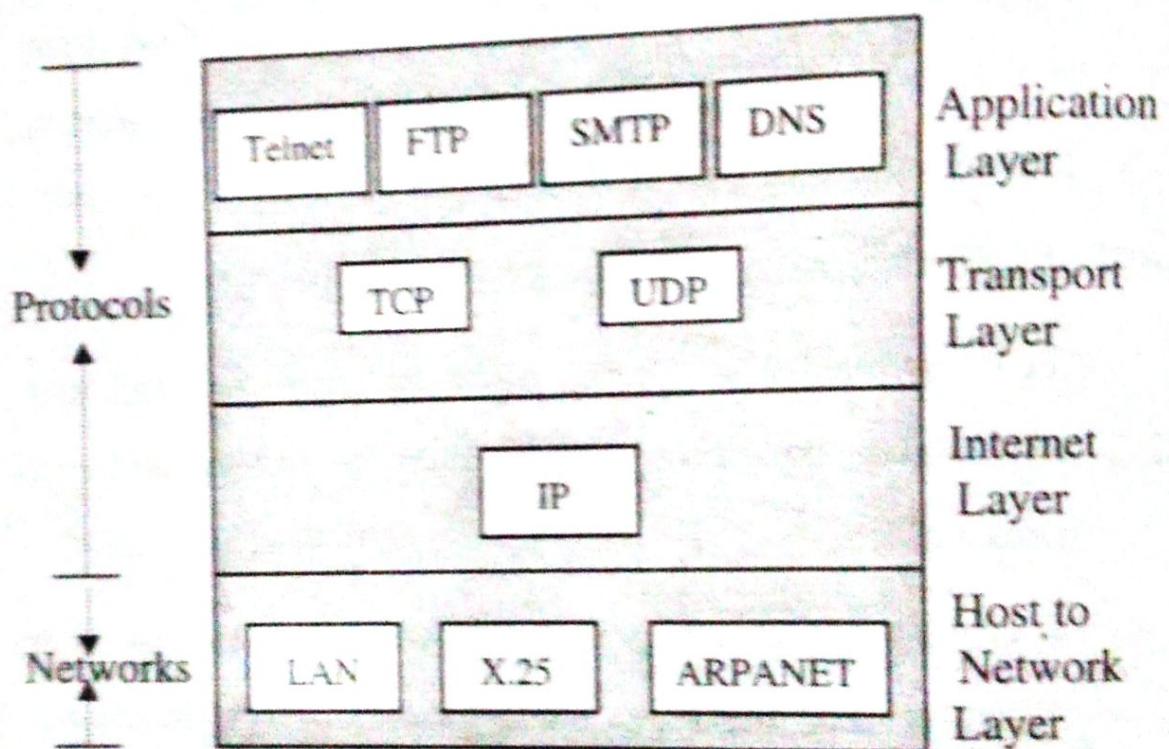
TCP also handles flow control. It synchronizes between fast sender and slow receiver.

(b) UDP

User Datagram Protocol is an unreliable, connectionless protocol for applications.

It just sends packets of data called datagram from one host to the other but without guarantying that the packet or datagrams reach the other end. It is widely used when speed is most important or when the number of packets sent over the network must be kept to a minimum. The relation of the protocols is shown in the figure:-

Protocols		Application Layer
	Telnet FTP SMTP DNS	
	TCP UDP	Transport Layer
	IP	Internet Layer
Networks	LAN X.25 ARPANET	Host to Network Layer

3. Internet Layer

The internet layer provides the means through which a host can send packets onto a network and then have them travel independently to their destination. The internet network level protocol IP (Internet Protocol), ICMP (Internet Control Management Protocol) handle machine to machine communications.

These protocols provide for transmission and reception of transport requests and handle network level control.

The primary protocol used to move data is the Internet Protocol (IP), which provides the following services:

(a) *Addressing: Determining the route to deliver data to the destination host.*

(b) *Fragmentation:- Breaking the message into pieces if an intervening network cannot handle a large message.*

Hence packet routing is primarily the main purpose of this layer.

4. Host to Network Layer

This layer is also called network interface layer. The task performed by this layer are matched with the tasks performed by physical layer and data link layer of OSI model. Host to Network layer cannot define any protocol. It is responsible for accepting and transmitting IP datagrams. It may consist device driver in operating system and corresponding network interface card in the computer.

Q5.(b) HTTP

HTTP is the short form of Hypertext Transfer Protocol.

Q6.(a) Explain Web casting techniques in detail.

OR

What do you mean by Web Casting? Explain various web casting techniques. Also discuss the significance of web casting.

(b) Explain Search Engine.

OR

What are search engines? What should be the features of a good search engine? Explain.

OR

Explain various features of a search engine in detail with suitable examples. Explain the searching capabilities of important search engines available in the market.

(c) What are the tips / guidelines to search for web pages pertaining to specific information using search engine?

Q6.(a) Web Casting

The dictionary meaning of 'Web Casting' defines it as 'a transmission of sound and images via the World Wide Web'.

Web casting refers to the delivery of media contents and any digital information in various formats like text, graphics, audio and video files on the World Wide Web to Internet users.

Web casting means making accessible for reception by the public of transmission of sounds, images or sound and images or the representation thereof, by wire or wireless means over a computer network.

The term web casting means the publishing of audio and video files or streams on web sites for line and/or on-demand delivery to the masses.

Other terms commonly used to refer to 'web casting' are 'netcasting' or 'cybercasting'.

Web casting refers to the delivery of audio or video content to large groups, either locally or globally distributed.

Web Casting Techniques/Technologies

The technology that enables the webcaster to deliver the audio and visual content over the Internet is referred to as webcasting technology.

There are three types of web technologies which are the following:

1. Push Technology

Push technology automates the search and retrieval function based on user defined criteria. In simple words the content or information is pushed from a web server and delivered to the user/users.

Push technology provides effortless reception of content to viewer's computer screen.

Now 'what content to push' is based on viewer's own selection or information of prior visits or past choices and preferences.

Push technologies are intelligent computer program that deliver information to the viewer's screen automatically without viewer's specific request each time.

2. On-Demand

On-demand webcasting means the webcasting of contents on the user's request at the time of use. The viewer chooses the media content from the catalog or playlist supplied.

The viewer chooses what to view. This technique enables the viewer to control the scheduling and appearance of the webcast.

3. Live Streaming

Streaming is an Internet data transfer technique that does not require to wait for the whole file to download to user's system before playback begins.

The content of webcasts using streaming technology can either be live or on-demand.

The streaming technology is based on the ability to squeeze the audio and video into a stream. The software used compresses the signals for transmission and decompresses the signals for display on the viewer's screen continuously. This allows the user to view the content almost instantly.

Streaming technologies solve the problem of the real-time nature of broadcasting audio and video signals.

Using streaming technology for webcasting, a powerful high speed server and enough bandwidth is needed.

In live streaming webcasts, the broadcast schedule is fixed so that time-sensitive contents can be delivered instantaneously to viewers.

Significance of Web Casting

Web casting offers several benefits to individuals as well as organizations. Its significance can be measured from the following benefits:

1. Interactive

The interactivity allows the personalization and customization of information to viewers with great ease. Web casting applications compile, synthesize materials from multiple sources into a single interactive format.

2. Delivery of information

Web casting enables delivery of contents to the mass audience as well as the targeted audience.

3. Instantaneous

Contents can be transmitted instantly to anywhere with Internet access.

4. Communication medium

Mass media, commercial bodies or businesses and even individuals can use web casting as an alternative delivery medium to communicate their contents to audience.

5. No intermediaries required .

Web casting also does not require to rely on intermediaries such as cable system operators or TV stations.

6. Converging technologies

Web casting as a communication and delivery strategy demonstrates the convergence of the Internet, the web, audio and video streaming and the older technologies of radio, television, videotapes and telephones.

Q6.(b) Search Engine

Search Engine is a program that searches documents for specified keywords and returns a list of documents where the keywords were found.

In other words a web search engine is a tool designed to search for information on the World Wide Web. The search results are usually presented in a list and are commonly called hits. The information may consist of web pages, images, information and other types of files.

A search engine maintains a database of certain words often called keywords with a list of sites related to these keywords.

When user requests the engine for the information, it starts searching the item or information in its database of keywords. As soon as the search engine finds a match, it displays these references on the screen.

Thus internet search engines are special sites on the web that are designed to help people to find information stored on other sites.

Early search engines held an index of a few hundred thousand pages and documents and received may be one or two thousand inquiries each day. Today, a top search engine will index hundreds of millions of pages and respond to tens of millions of queries per day.

Searching through an index involves a user building a query and submitting it through search engine. The query can be quite simple, a single word at minimum. Building a more complex query requires the use of Boolean operators that allow to refine and extend the terms of the search.

Some of the popular search engines are given below:

1. Yahoo (www.yahoo.com)

2. Alta Vista (www.altavista.com)

3. Web Crawler (www.webcrawler.com)

4. Excite (www.excite.com)

5. Info seek (www.infoseek.com)

6. Lycos (www.lycos.com)

7. India times (www.indiatimes.com)

8. Google (www.google.com)

9. Hotbot (www.hotbot.com)

There are many other search engines available besides the listed above.

A web search engine provides an interface between the user and the related database. Alta Vista is one of the oldest search engines.

Features of a good search engine

Features of a good search engine are:

WEB DESIGNING

Q7.(a) Explain Web Publishing in detail.   <u>MDU BCA May 2014</u>

(b) What do you mean by Web terminologies? Explain in detail.   <u>MDU BCA May 2014</u>

(c) What is web hosting? What are the major requirements for hosting a website? Also explain the various types of web hosting services available.

(d) What are the various steps to host a website?

Q7.(a) Web Publishing

Web publishing is the development and maintenance of Web pages.

Information on the web is displayed in the form of pages. Earlier these pages were written in HTML which describes how the information should be displayed regardless of the browser used. These pages also include hypertext links allowing users to jump to related information. These pages are called web pages. A document on the web is called a web page. It may contain text, graphics, animation, sound or video.

The five major steps in Web publishing are:

1. Plan a Web site
2. Analyze and design a Web site

3. Create a Web site

4. Deploy a Web site

5. Maintain a Web site

Q7.(b) Web Terminology

Web terminology is the study of web terms and their use.

Web terminology includes a number of terms. Some of them are the following:

1. World Wide Web (WWW)

Web pages, worldwide, that are accessed through the Internet.

2. Web Page

A Web Page is an HTML document that is stored on a Web server and has an URL, so that it can be accessed via the Web.

3. Web Site

A Web Site is a collection of Web pages belonging to a particular person or organization.

4. Home Page

Homepage refers to the introductory page of a website, which usually serves as a table of contents for the website. It is the initial or main web page of a website.

5. Hypertext

Hypertext is a system of writing and displaying text that enables the text to be linked in multiple ways, to be available at several levels of detail, and to contain links to related documents. Hypertext can usually be quickly identified on the Web because it is often underlined.

6. Web Server

A web server is a computer with an internet connection that runs software designed to send out HTML pages and other files. The web server software is responsible for responding to the web browsers' requests for web pages.

7. Hyperlink

The link between web pages is known as hyperlink. It is the link that leads from one document to another. A hyperlink is a word or a graphic object on a web page that connects to a different web page or another section within the same web page. A hyperlink is similar to a regular text, but contains a link with other web pages or other sections within the same web pages.

8. Web Host

This is the term given to the provider of the server that stores your website on it and enables its presence on the World Wide Web.

Q8.(a) What is ISP? What are the essential features that should be considered before choosing an ISP?

(b) Describe in detail ISP. Discuss various ISP's available these days and their use in industry.

(c) What do you mean by ISP? Discuss how information travels through an ISP.

<div align="right">**MDU BCA May 2016, May 2014**</div>

Q8.(a) ISP

ISP refers to the Internet Service Provider. It is a company that offers its customers access to the Internet. The ISP connects to its customers using a data transmission technology appropriate for delivering Internet Protocol packets or frames, such as dial-up, DSL, cable modem, wireless or dedicated high-speed interconnections.

In addition to the internet access, the ISPs may also provide a combination of services including Internet transit, domain name registration and web hosting.

ISPs employ many technologies for users to connect to their network such as:

- *Dial-up*

- *Broadband*

- *Broadband wireless*

- *Ethernet Technologies*

- *DSL (Digital Subscriber Line)*

- *Integrated Services Digital Network (ISDN)*

Features/factors to be considered before choosing an ISP

1. Download and upload speeds

Every one wants fast internet at an affordable and desirable price. Make sure when you are comparing services, compare the most similar plans based on both download and upload speeds. To find the ISPs with the fastest upload and download speeds actually tested by users worldwide, visit Speedtest.net's Net Index.

2. Cost and contract

Some services require you to rent the modem or buy it yourself; others provide it for you. Some offer free installation while others charge you for that service call. These are the details you will need to consider when comparing services by price.

3. Terms of service

Make sure to know what the service's limitations are. There may be data caps, for example, limiting the amount

of data you can use per month, or restrictions on the kinds of activities you are allowed to do, such as running a web or file server.

4. Security

As viruses are circulating on the internet every day, the ISPs should provide virus protection. Also they should offer pop up blockers as these troublesome advertisements can prove harmful to your computer.

5. Add-ons and special features

Many ISPs offer extra features just to make it seem like you are getting a great value. Things like anti-virus program subscriptions, an ISP-branded email address and personal web pages are the extra features that you may not like. So, choose accordingly.

6. Reliability

It is important to use the service when you need to. Make sure that the ISP that you are choosing is consistent and reliable. This can be assured by opening an account with an ISP that has an established track record.

7. Customer support

Fast, knowledgeable customer support is essential. It also includes on-site technical support for services using

physical components such as modems and cables. For internet, you have to install a modem, software and then configure the software to work with a particular ISP, so technical support is necessary. Make sure that the provider offers phone, email, or chat customer support as you have to install a modem, software and then configure the software to work with a particular ISP.

Q8.(b) ISP

An Internet Service Provider (ISP) is a company that offers its customers access to the Internet.

The ISP connects to its customers using a data transmission technology appropriate for delivering Internet Protocol datagrams such as dial-up, cable modem, wireless or dedicated high-speed interconnects.

In addition to serving individuals, ISPs also serve large companies, providing a direct connection from the company's networks to the Internet. ISP is also called IAPs (Internet Access Providers).

Access services provided by the ISP's may include web hosting, e-mail, VOIP (Voice over IP) and support for many other applications.

ISP's set up a user with an account user name and password and the account holder can connect to the ISP's computer through an internet connection.

Once the connection has been achieved, the account holder is able to surf the internet and to upload pages of content to a web site.

ISPs may provide Internet e-mail accounts to users which allow them to communicate with one another by sending and receiving electronic messages through their ISPs' servers.

ISP may provide other services such as remotely storing data files on behalf of their customers.

Selecting an ISP

If more than one Internet Service Providers are available then the user has to take care while selecting any one of them. The Internet user requires following things from the Internet Service Provider:

- *Reasonable price.*

- *Enough phone lines so that the connectivity to Internet does not become a problem.*

- *Quality service from the ISP.*

Q9.(a) What is website planning? What are the steps involved in planning a website?

(b) What is website designing? What are the features of a good website design?

Q9.(a) Website Planning

Planning is the process of determining what you want your website to do. It is an important step before starting designing a website. With proper planning process, both money and time to be spent in designing can be saved.

Steps involved in planning a website

Following are the steps involved in planning a website:

1. Defining site goals
2. Identification of target audience
3. Set a website design budget
4. Competitive analysis
5. Choosing website content
6. Storyboarding the website
7. Structuring the website
8. Developing a timeline

1. Defining site goals

The first step is to define the website's goals. Define the purpose of the website. It should be clear what you are

trying to achieve with the new website. The website's main purpose should be defined. A clear direction is essential if you want your design to have a purpose.

The purpose of website could be:

- *To sell/promote a product*

- *To improve customer service*

- *To educate about your company, service or product*

- *To entertain or educate people*

- *To deliver information*

Defining the website goals and objectives are necessary to determine what information needs to be put on the website.

2. Identification of target audience

Identify who your audience is going to be. The identification plays a big role in determining how your website should look and function. It is helpful to picture the person you want to visit your web site. Considering their age, gender, profession, technical competency or interests will later help determine the best design style for your website.

For example: A computer game website for a younger audience needs a different style than that of a serious business journal.

Who your audience is will determine a lot of smaller details like font sizes. It is important to make sure and be clear about who will be using your website.

Thus your website design needs to be focused on the audience and should be relevant and meaningful to the target audience for your product or services.

3. Set a website design budget

It is necessary to always set a budget for your website expenses. A website project can easily consume an unlimited amount of money, time and resources. This includes funds for web design, programming, and web hosting. Setting a budget will help keep costs under control and help you focus on the goals. If the goal is to provide customer service to those customers that you already have, then you may need to consider how much of the resources should be spent on website.

4. Competitive analysis

While planning a website, it is essential to be aware of the competitors' websites. Spend some time on the competitors' sites. Analyze what is working for them and what you would do differently. Then be sure to make your site your own to stand out amongst others.

5. Choosing website content

The next step in website planning is to determine what kind of content you will be displaying on your website. Content is basically anything that gives your visitors information. It is an integral part of any website. It can include:

- *Information about the organization*
- *Contact information*
- *List of services and products*
- *Necessary documents*
- *Videos and pictures*
- *Slideshows*
- *Embedded social media feeds (such as Face book page updates)*

Building necessary content and then properly organizing it as per the needs of the visitors is essential. The visitors judge the organization through the website. So the contents of the website should be brief, well edited, attractive, and up-to-date and should be able to accomplish the target audience objectives.

Q11.(a) **Explain relating FrontPage to DHTML in detail.** _MDU BCA May 2016_

OR

How can we relate FrontPage to DHTML?

OR

How can we insert DHTML effects into a website to increase site appearance?

OR

Explain how to add Dynamic HTML Effects in FrontPage.

(b) **What is Web Site? Explain the steps for developing web site with a suitable example.** _MDU BCA May 2016, May 2014_

Q11.(a) FrontPage is one of the most popular Web page creation software programs available. It allows you to create a Web page just like you would create a document in Microsoft Word. Plus it adds functionality such as project management, templates and wizards.

A DHTML effects in FrontPage provide us multiple ways to beautify the web page appearance. We can use image roll over effect, page load effect and click effect.

Steps involved are:

1. To view the DHTML effects toolbar, scroll your mouse to the top of the main toolbar screen.

2. Select view and scroll all the way down to Toolbar and click once.

3. Another menu will then appear and you will see an option labeled DHTML Effects.

4. Click this option once and then you will see the toolbar in your workspace area.
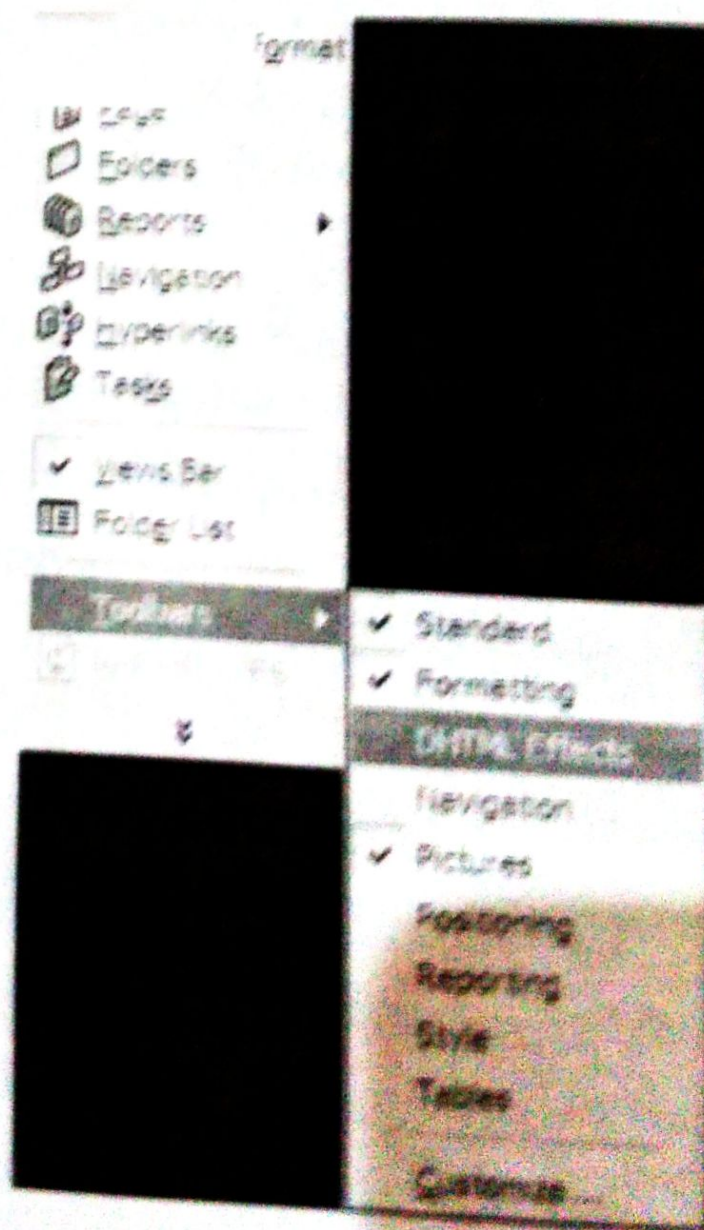
5. The next step is to write a text which you would like in this case.

6. Highlight the text in which you put down and would like to add effect too.

7. Then go up to the toolbar which you inserted earlier {DHTML Effects} and choose an effect from the menu. Once you have chosen an effect, choose a font and border and so on.
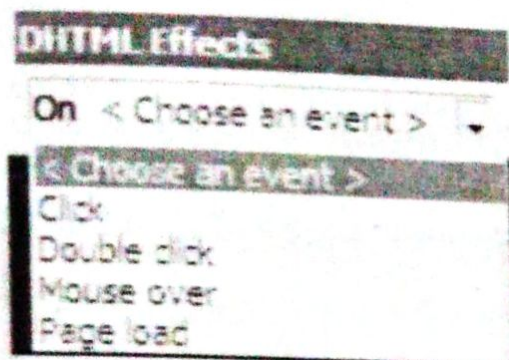
8. Then view the preview page of Microsoft FrontPage, and you will see the effect which you created.
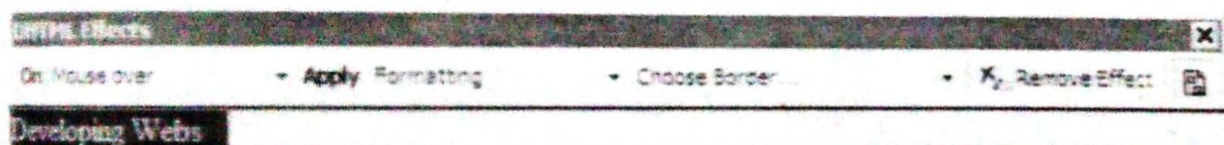
This is how you can use various DHTML effects in FrontPage. After typing something, select the event on which you want to give the effect. The events are "Click", "Double Click" and "Page Load" for the text effects. Now select the effect from the Apply option list. There are multiple effects like Fly In, Elastic, Wave and Wipe. In the third option list, you need to select the direction setting for the effect. The other two buttons are "Remove

Q10.(a) Explain front page views in detail.

OR

Give a brief description of FrontPage? What are the various FrontPage views?

(b) How can we add pictures, links and backgrounds to a web page in FrontPage?

Q10.(a) FrontPage

FrontPage is one of the most popular Web page creation software programs available. It allows you to create a Web page just like you would create a document in Microsoft Word. In addition to this, it also adds functionality such as project management, templates and wizards to the web page.

Features of FrontPage

FrontPage has the following features:

- *XML support*
- *Scripting support*
- *Full site management*
- *Advanced CSS support*
- *HTML validator*
- *Color coding*
- *Tag completion*
- *FTP and site manager*

- *Database support*
- *WYSIWYG editor*
- *Link checker*
- *Special characters support*

Various FrontPage Views

In Microsoft Office FrontPage 2003, there are several ways you can look at the content on your Web site as you create it. By using different views of your pages as you design, publish, and manage your site, you can find and solve site problems and make the whole Web creation, revision, and publication process more effective.

FrontPage 2003 provides the following views:

1. Page View

You can choose from four Page views, depending on how you want to view and work with your pages.

(a) **Design:** You can design and edit Web pages in the default Page view - Design view. This view provides a WYSIWYG (what you see is what you get) authoring experience as you create your Web pages by using the design tools.
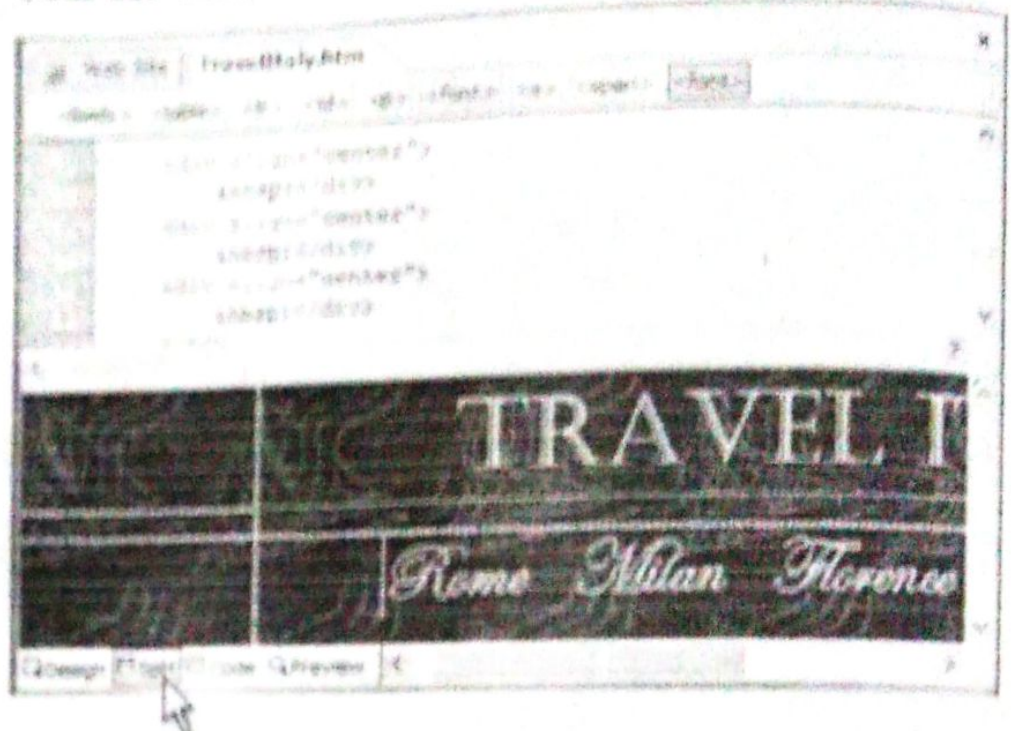
(b) Code: You can view, write, and edit the HTML tags yourself. With the optimized code features in FrontPage, you can create clean HTML, and it is easier for you to remove any code that you do not want.
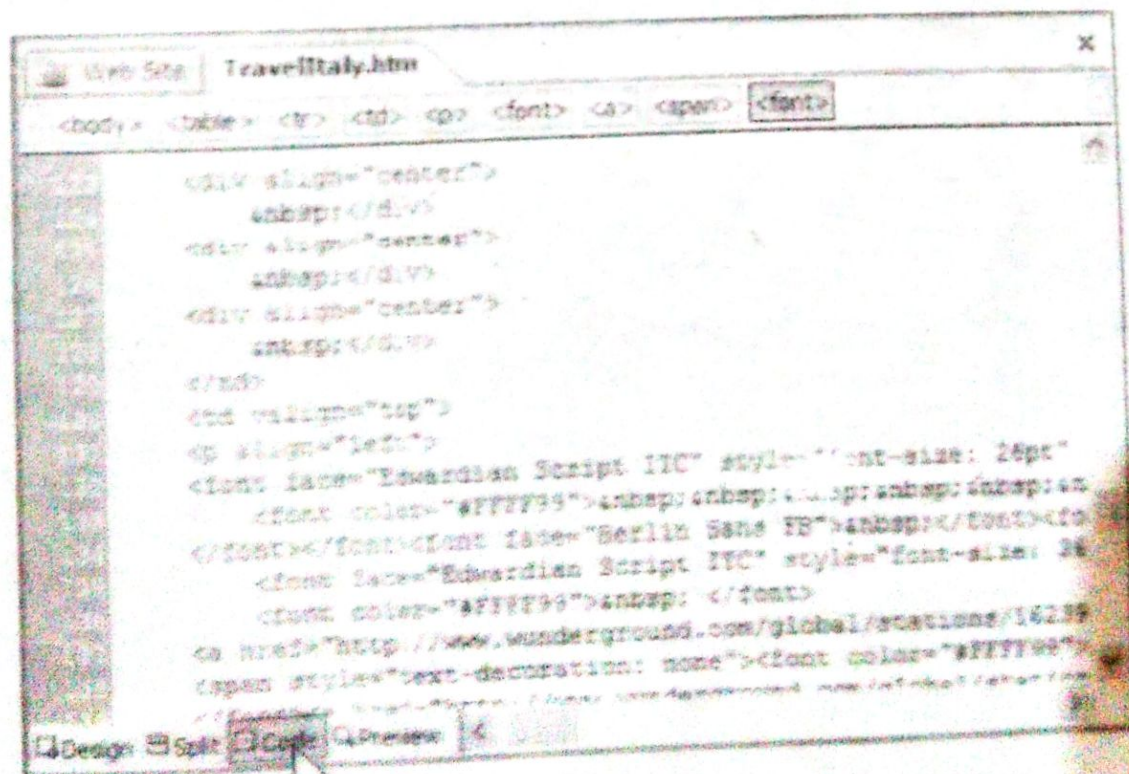
(c) **Split:** You can review and edit Web page content in split screen format that offers you simultaneous access to both the Code and Design views.


(d) **Preview:** This view lets you see a quick preview of your site as you are designing it. It is integrated in to the FrontPage interface, so there is often no need to open an additional browser window. Use this view to check small changes before you commit to them.
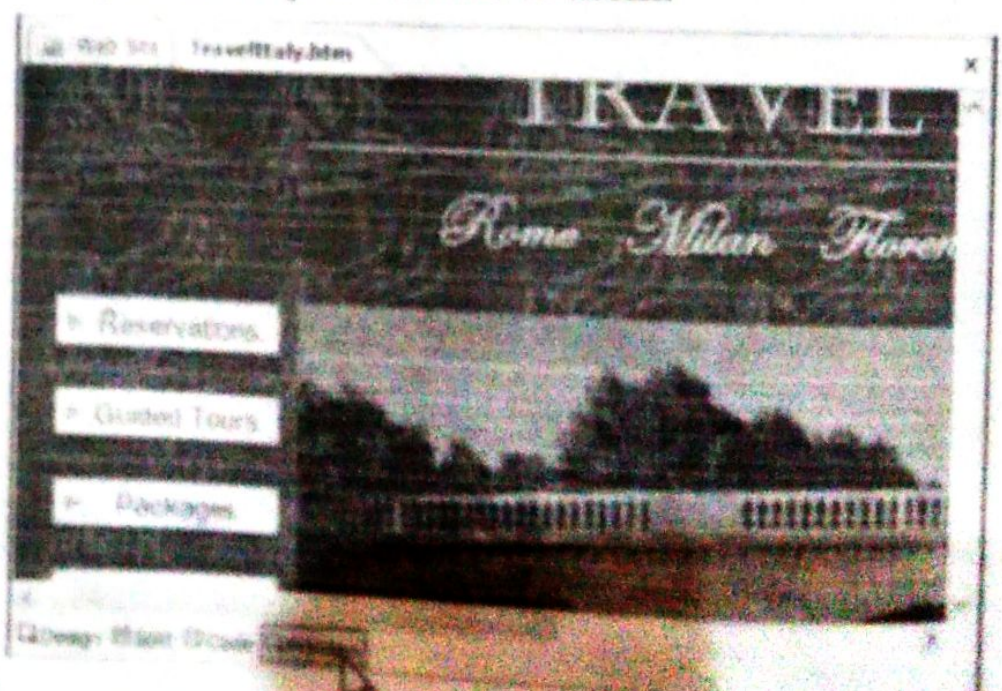
2. Folders View

You can use Folders view to work with your files and folders directly and to organize the contents of your Web site. You can also create, delete, copy, and move folders in this view, which is similar to Microsoft Windows Explorer. Folder view supports drag and drop and most other Windows Explorer related features.
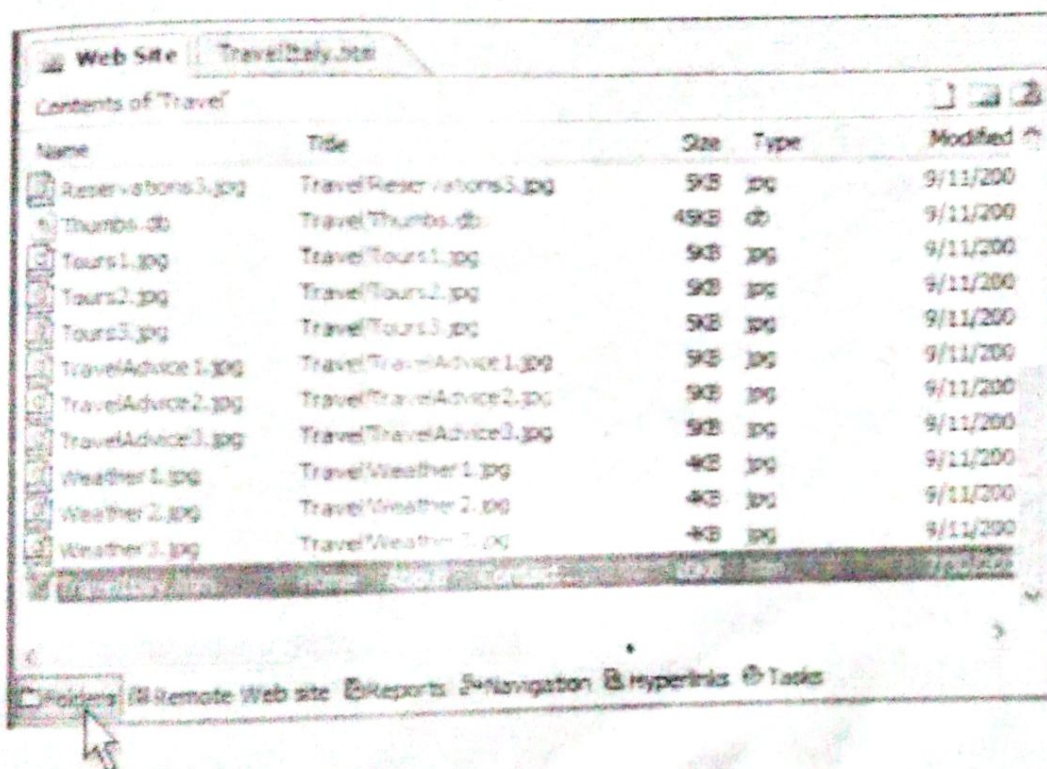
3. Remote Web Site View

It is similar to Folder view but shows your site as compared to the remote Web site. It enables you to examine the two sites side by side. You can use Remote Web Site view to publish an entire Web site or to selectively publish individual files. You can also

Q12. What is HTML? Explain the structure of HTML?   **MDU BCA May 2017**

OR

What is HTML? Using an example, explain the structure of HTML document. Also discuss the various features and versions of HTML.
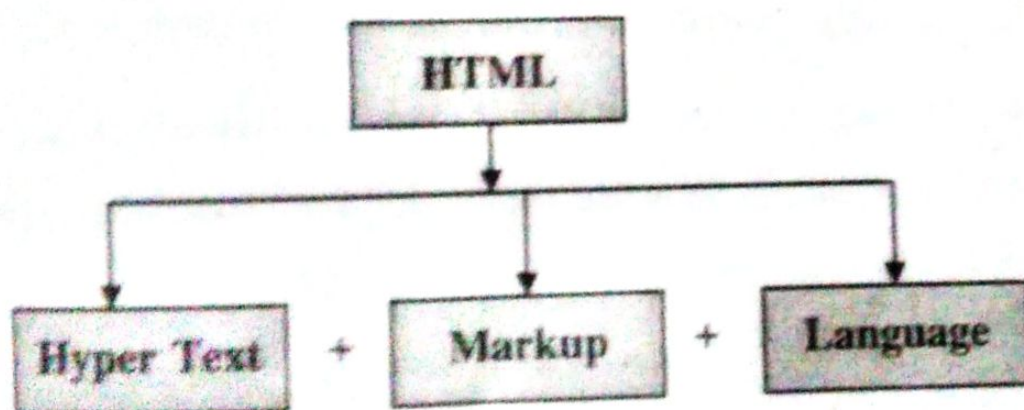
MDU BCA May 2016, May 2014

OR

What is the structure of HTML document? What are various HTML layout techniques? Discuss.

Ans. HTML

HTML stands for HyperText Markup Language. It is the basic language used to create Web Pages for World Wide Web (WWW).

HyperText: The term hyper means that something which is active. Hypertext means that text stored in electronic form which also includes cross reference links between pages. It is an ordinary text but with some extra features.

Thus it is more than simple text. It is called hypertext as clicking on certain text or line or any other work opens a new page relating to the text.

Markup: Markup in HTML commands a browser the manner displaying the text. The markup comes from the fact that, HTML is used to markup the contents of web pages.

Language: The term language is used to signify that HTML is a language used along with all its syntax. It is not a full-fledged programming language but a markup language to create web documents.

HTML is used to create, format and link web pages on World Wide Web. A web page can contain text, graphics, sounds, animation, videos and links to other web pages.

A page written in HTML can be viewed in any HTML compatible browser like Microsoft Internet Explorer or Netscape Navigator. HTML is a subset of SGML (Standard Generalized Markup Language). SGML originated in 1960s at IBM to overcome the problems in moving the documents across multiple hardware platforms and operating systems. SGML was placed at a higher level of mark up language. Out of these HTML is definitely the simpler language although they are related to each other.

Tim Berners-Lee originally developed HTML and was popularized by the Mosaic browser. During 1990s it has blossomed with the explosive growth of the web.

HTML has the capability to transform ordinary text into the hypertext by placing it into special elements called tags. Each of such tag begins with tag name in angular braces. For example <HTML> is the main tag that is required in every HTML document.

HTML generally has two parts: an on-code and an off-code, which contains the text to be defined. Few tags do not require an off-code.

syntax   <tagname>......</tagname>

HTML is not a powerful language like C++, JAVA or Visual Basic.

HTML is simple language that uses tags to specify the behaviour of text in a web document. HTML has support for scripting languages like VB Script and Java Script for complex programming.

Structure of HTML document

The basic structure of an HTML document is:

<HTML>

called paired tags. They hold or contain the text as well as other elements between two tags.

These tags are used in pair — one tag marks the beginning and the other marks the end of the tag. These tags begin with tag name and end with tag name preceded with a slash.

Examples of container tags are:

<HTML> .... </HTML>

<HEAD> .... </HEAD>

<TITLE> .... </TITLE>

<B> .... </B>

2. Singular Tags or Empty Tags

If a tag is written singly or without the ending tag, it is called singular tag or empty tag. In other words, singular tags have no ending tags, they are used standalone.

For example: <HR> It will draw a horizontal line. Some more empty tags are <BR>, <IMG> etc.

Features of HTML Document

The features of an HTML document are as follows:

- *Every web page is a hypertext document or html document. A hypertext document can contain and also lead to the texts, images, audio, tables etc.*

Q15. Explain Formatting text and page layouts with example.   MDU BCA May 2016

OR

Explain the elements for formatting blocks of text in HTML document.

Ans. Following elements are used for formatting blocks of text within an HTML document:

1. ADDRESS element
2. FONT element
3. BASEFONT element
4. CENTER element
5. COMMENT element
6. Heading (H1 ... H6) element
7. Paragraph (P) element
8. Line Break (BR) element

1. ADDRESS element

The ADDRESS tag is used to:

- *Put information such as address, signature and authorship often at the top or bottom of a web page.*

- *Write the date and copyright in italic typeface.*

They are usually preceded with a horizontal line tag <HR> and apply a paragraph break before and after the enclosed tag.
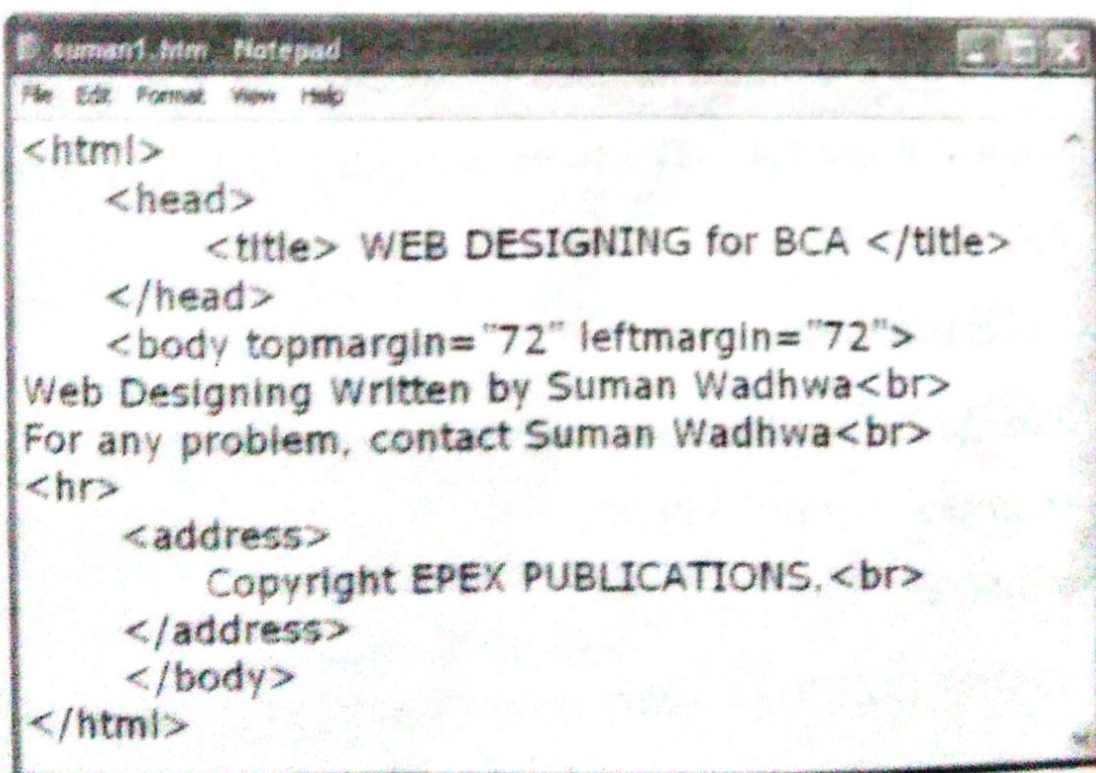
The <HR> tag is used to draw horizontal line in an HTML document. Horizontal line is the best way to separate a section from another in a web page. The <HR> tag is an empty tag i.e. it has no closing tag.

The <HR> tag has two attributes: SIZE and WIDTH SIZE attribute of <HR> tag is used to specify the size or thickness of the line to be drawn. The size is specified in pixels. The default size is 3. For example, <HR SIZE = 10> will draw a line/rule with a thickness of 10 pixels.

WIDTH attribute of <HR> tag is used to specify the width of the rule/line to be drawn. The width is specified in percentage where 100% width means the full width of the web page. For example, <HR WIDTH = 50%>, will draw a horizontal rule/line with a width of 50% of the page width.

Example:

1. Type the following code in the notepad editor.

```
suman1.htm - Notepad
File  Edit  Format  View  Help
<html>
    <head>
        <title> WEB DESIGNING for BCA </title>
    </head>
    <body topmargin="72" leftmargin="72">
Web Designing Written by Suman Wadhwa<br>
For any problem, contact Suman Wadhwa<br>
<hr>
    <address>
        Copyright EPEX PUBLICATIONS.<br>
    </address>
    </body>
</html>
```

Q14. **Explain Creating links in HTML.**

OR

Which tag is used in HTML for linking? How is internal link different from external link? Explain with example.

OR

What is the role of creating links in HTML? Explain the different ways of creating links. Also differentiate between Internal and External linking.

Ans. A website is a group of related web pages. All the information is not contained on a single web page. The user can access the related information only if web pages are linked properly. It is the link which makes the web so widespread containing millions of web pages. An image can be linked to some other page or a piece of text can be linked.

Thus creating links is the most powerful feature of the web. A link or hyperlink is a word, group of words or image and by clicking on it, one can jump to another document or a new section within the current document.

HTML uses ANCHOR tags (<A> and </A>) for linking pages. Anything written between <A> .... </A> tags become a hyperlink and appear on the screen in a different colour and underlined.

These hyperlinks in HTML document are achieved through anchor <A> tag.

<A> tag is composed of three elements:

- *Start and end tags that enclose the whole link.*
- *The link target*
- *The link text*

The Anchor element (A) has several attributes, but either NAME or HREF attribute is mandatory.

Some of the important attributes of Anchor element (A) are:

- HREF
- NAME
- TITLE
- METHODS
- TARGET

Creating Links with Anchor element (A) and HREF attribute

HREF stands for Hyperlink Reference. The HREF attribute is used to specify the name of the URL (Uniform Resource Locator) of the file which the link (hypertext) points to. The text or image between <A> .... </A> becomes the hypertext. When the user clicks the hypertext/link, the control moves to the document (page) as specified by HREF.

Q6.(b) Search Engine

Search Engine is a program that searches documents for specified keywords and returns a list of documents where the keywords were found.

In other words a web search engine is a tool designed to search for information on the World Wide Web. The search results are usually presented in a list and are commonly called hits. The information may consist of web pages, images, information and other types of files.

A search engine maintains a database of certain words often called keywords with a list of sites related to these keywords.

When user requests the engine for the information, it starts searching the item or information in its database of keywords. As soon as the search engine finds a match, it displays these references on the screen.

Thus internet search engines are special sites on the web that are designed to help people to find information stored on other sites.

Early search engines held an index of a few hundred thousand pages and documents and received may be one or two thousand inquiries each day. Today, a top search engine will index hundreds of millions of pages and respond to tens of millions of queries per day.

Searching through an index involves a user building a query and submitting it through search engine. The query can be quite simple, a single word at minimum. Building a more complex query requires the use of Boolean operators that allow to refine and extend the terms of the search.

Some of the popular search engines are given below:

1. Yahoo   (www.yahoo.com)

2. Alta Vista   (www.altavista.com)

3. Web Crawler   (www.webcrawler.com)

4. Excite   (www.excite.com)

5. Info seek   (www.infoseek.com)

6. Lycos   (www.lycos.com)

7. India times   (www.indiatimes.com)

8. Google   (www.google.com)

9. Hotbot   (www.hotbot.com)

There are many other search engines available besides the listed above.

A web search engine provides an interface between the user and the related database. Alta Vista is one of the oldest search engines.

Features of a good search engine

Features of a good search engine are:

Q17.(a) Describe the following with HTML codes and suitable examples:

(i) Ordered Lists

(ii) Unordered Lists

(iii) Images

(b) What is the difference between the ordered list and unordered list in HTML? Explain with example.   MDU BCA May 2016, May 2014

Q17.(a)(i) Ordered Lists

Ordered list is the list which numbers the items i.e. it provides unique numbers to individual items of list.

An ordered list is also known as Numbered List. The items or entries are sorted by sequence and they have a specific ranking.

Ordered lists are useful to write some instructions, glossary, steps etc.

An ordered list begins with the <OL> tag followed by the list item tag <LI> and ends with the </OL> tag. The syntax is:

```
<OL>
    <LI> Item 1 </LI>
    <LI> Item 2 </LI>
    <LI> Item 3 </LI>
</OL>
```

```
<html>
   <head>
         <title> WEB DESIGNING for BCA </title>
   </head>
   <body>
    <OL TYPE = I  START = 4>
         <LI> APRIL
         <LI> MAY
         <LI> JUNE
         <LI> JULY
     </OL>
   </body>
</html>
```
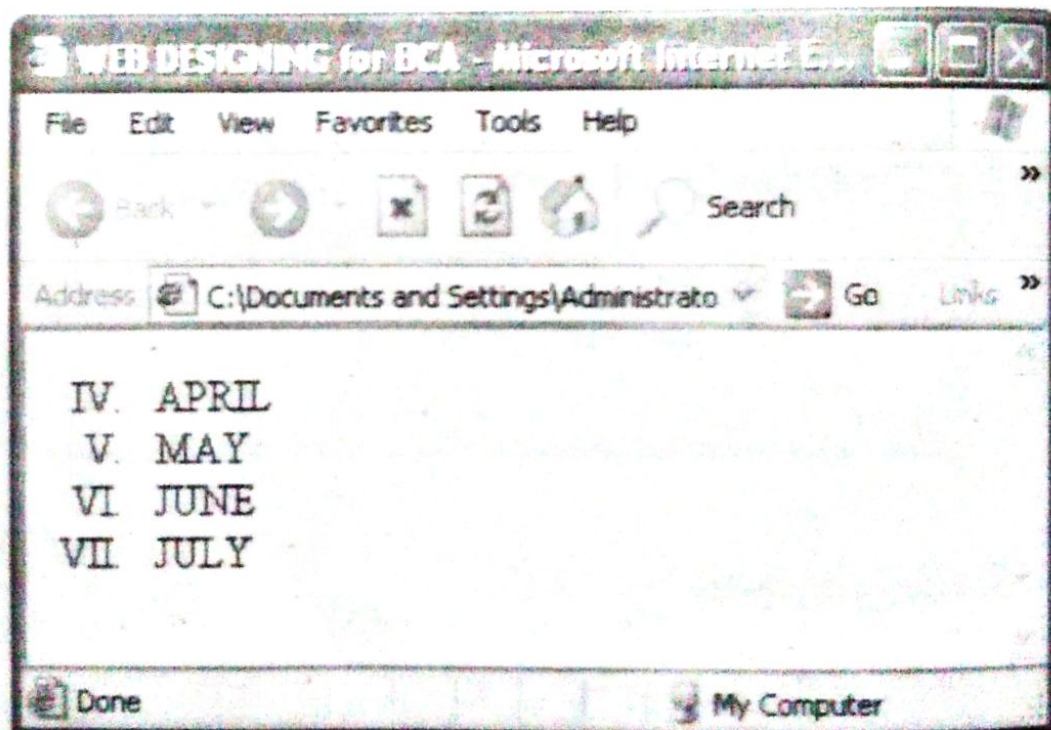
The output of the code is shown below:-

```
IV.  APRIL
 V.  MAY
VI.  JUNE
VII. JULY
```

VALUE attribute

Using VALUE attribute, one can change the count for the list item and subsequent items.

Q17.(a)(ii) Unordered Lists

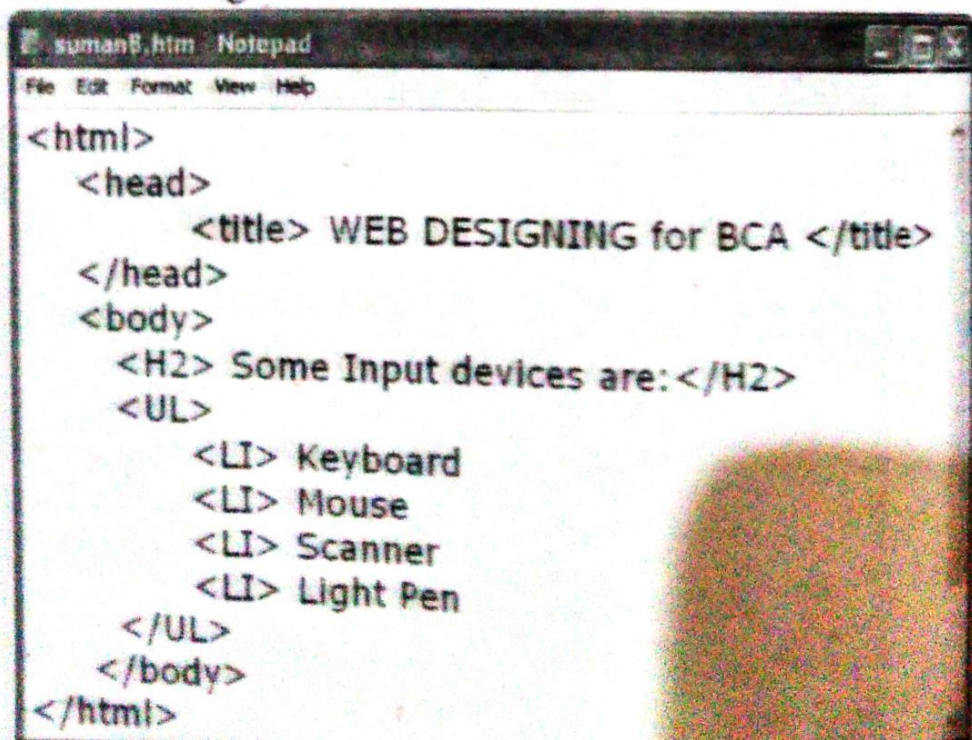*Unordered list is the list which labels the items with bullets.*

An unordered list is also known as Bulleted List. The items or entries may appear in any order. They do not require any specific order.

An unordered list begins with the <UL> tag followed by the list item tag <LI> and ends with the </UL> tag. The syntax is:

```
<UL>
    <LI> Item 1 </LI>
    <LI> Item 2 </LI>
    <LI> Item 3 </LI>
</UL>
```

Here the </LI> end tag is optional.

The following code constructs a bulleted list:

```
sumanB.htm  Notepad
File  Edit  Format  View  Help

<html>
   <head>
          <title> WEB DESIGNING for BCA </title>
   </head>
   <body>
     <H2> Some Input devices are:</H2>
     <UL>
          <LI> Keyboard
          <LI> Mouse
          <LI> Scanner
          <LI> Light Pen
     </UL>
   </body>
</html>
```

Q18. Describe the following with HTML codes and suitable examples:

(a) Table Creation and Layouts

MDU BCA April 2018

(b) Frame Creation and Layouts

Q18.(a) Table Creation and Layouts

An HTML table is a rectangular grid of rows and columns on a web page, into which one enter all kinds of information, including text, numbers, links and even images.

A table in HTML always begins with the following basic container:

<TABLE> .... </TABLE>

All other table tags are written between these two tags.

A table is divided into rows with the <TR> tag and each row is divided into data cells with the <TD> tag. To show a border, use the <TABLE BORDER> tag instead of <TABLE> tag.

Thus one can create columns by placing the <TD> and </TD> tags between <TR> and </TR> tags. Each <TD> ... </TD> combination represents one column. Thus to create three column table, the code is:

```
<TABLE BORDER>
    <TR>
        <TD>... </TD>
        <TD>... </TD>
        <TD>... </TD>
    </TR>
</TABLE>
```

Within the <TD> and </TD> tags, one can use any of the following:

- Text
- HTML text-formatting tags like <B> and <I>
- Links
- Lists
- Images

Creating a row of Headers

To define a header, use the <TH> and </TH> tags within a row as follows:-

```
<TR>
    <TH>First column header</TH>
    <TH>Second column header</TH>
    <TH>Third column header</TH>
</TR>
```

Including a Caption

Caption is the text that appears above the table and is used to describe the contents of the table.

It is the basic element of table and a short description that tells the purpose of the table. It is defined in HTML by <CAPTION> tag. It is closed with </CAPTION> tag.

The <CAPTION> tag has one attribute called ALIGN. The attribute ALIGN has two values: TOP or BOTTOM. By default, text is also aligned to center (horizontally).

The CAPTION is aligned to the TOP of the table by default. To align the CAPTION to BOTTOM, enter the following:

<CAPTION ALIGN = "BOTTOM "> Table of Input Devices </CAPTION>

The following code creates an entire table and use the ALIGN attribute to the <CAPTION> tag to force the caption to the bottom:

Q19. Describe the following with HTML codes and suitable examples:

  (a) HTML Forms

  (b) Menus

Q19.(a) HTML Forms

HTML Forms are required when one wants to collect some data from site visitors. For example registration information: name, email address, credit card etc.

Forms enable to build web pages that let users actually enter information and send it back to the server. The forms can range from a single text box for entering a search string to a complex multipart worksheet that offers powerful submission capabilities.

Components of form are:

- Text field

- Text area

- Check Boxes

- Radio Buttons

HTML allows to place these form components on the web page and sends the desired information to the destination server.

In HTML, Forms are set between the <FORM> container tags. The form container has the following format:

```
<FORM METHOD = "how_to_send" ACTION = "URL">
.............. Form data .............
</FORM>
```

<FORM> tag takes two attributes: METHOD and ACTION.

The METHOD attribute tells the browser how to send the user's data to the server. It takes either POST or GET as its value. POST is more popular, as it allows for a greater amount of data to be sent. GET is used with single responses, like a single textbox.

The second attribute is ACTION which simply accepts the URL which specifies the location of the form handler to which the data in the form will be sent.

Text fields

Text field is one line area that allows the user to input text. For example, if one wants to enter some name or father's name or address and city etc., then it is always preferred to have text field on the form. The text field can be set using:

<INPUT type = "text" size = "n" value = "   " >

The INPUT type is **text** and the value of the text field is "   " which means the blank text field is displayed initially and one can enter the text of his choice into it. There is **size** parameter which allows to enter some size of the text field.

Some other parameters can be:

- **maxlength** which defines the maximum length of the field.

- **name** indicates name of the text field. This name is not visible to the user and must be unique within the form.

- **align** denotes the alignment of the text in the text field. The alignment can be left, right, bottom and top.

Text Area

Text field is a form component which allows to enter single line text. To enter multiple lines text, text area field is used. It has the following format:

```
<TEXTAREA NAME = "variable_name" ROWS = "n"
COLS = "n" >
------------
</TEXTAREA>
```

NAME attribute denotes the name of the text area which can be utilized for handling the component for some specific purpose.

ROWS denote total number of rows in the text area.

COLS denote total number of columns in the text area.

<TEXTAREA> can also accept one other attribute WRAP. WRAP can be set to OFF, which is the default if WRAP is not included. WRAP can be VIRTUAL or PHYSICAL.

If the WRAP is set to VIRTUAL then the line breaks get disappeared when the text is actually submitted to the web server. VIRTUAL makes the textbox seem to offer line wrap but sends a continuous stream of words to the web server.
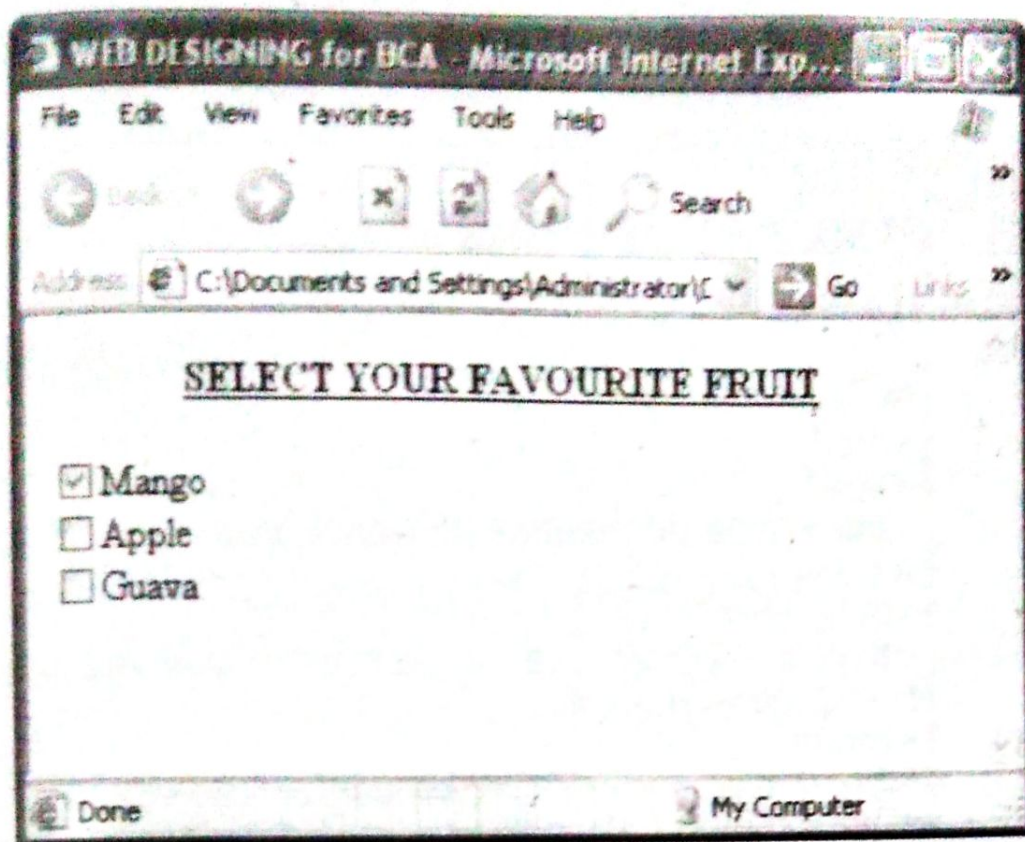
If the WREP is set to PHYSICAL then the line breaks (if any) appear as it is in the text when sending it to the web server.

Check Boxes

It is the simplest component which is used particularly when one wants to make some selection from several options.

Output is:

Radio Button

Radio button allows to make only one selection at a time. Selecting one option turns the other options off. Radio buttons are used when one wants to let the user to select one and only one option from a set of alternatives. However, one can create a group of some radio button components.
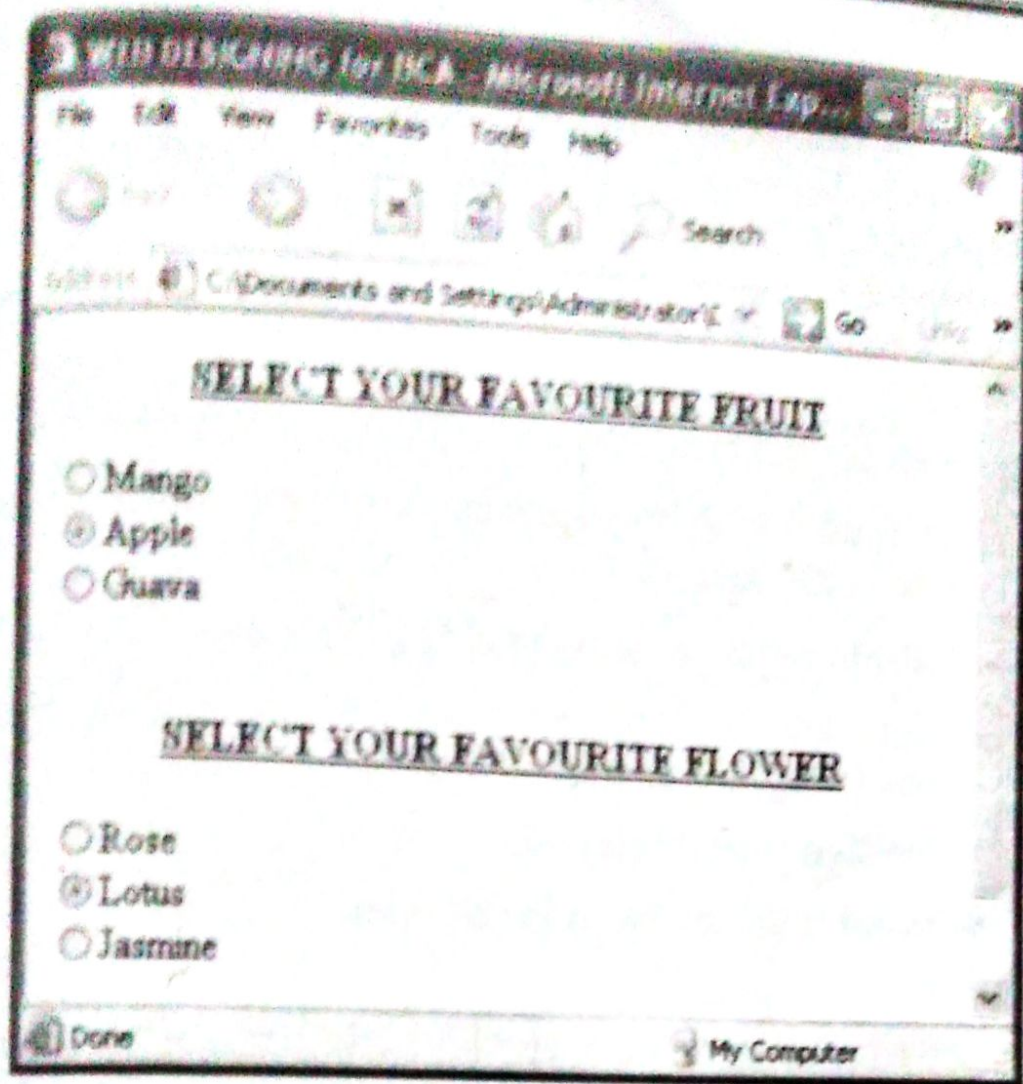
Syntax is:

<INPUT type = "RADIO" name ="radio button name" value = "submitted value" checked>

name is used to add an internal name to the field. This name is not visible to the user and must be same for all collection of button.

value that is submitted if checked.

Q19.(b) HTML Menus

HTML allows to have pop down menu on the web page so that the desired selection can be made.

The parameter SELECT is for the menu component and OPTION parameter is for setting the values to the options of drop down menu.

Syntax is:

<SELECT name = "fieldname" size = "n" multiple>

<OPTION value = "submitted value-1" selected> Text Label-1 </OPTION>

<OPTION value = "submitted value-2" selected> Text Label-2 </OPTION>

Q20. What is DHTML? How it is different from HTML? Discuss the various features of DHTML. __MDU BCA May 2016, May 2014__

OR

What is DHTML? What are its components? Also explain the features of DHTML and difference between HTML and DHTML.

Ans. DHTML

Dynamic HTML is a new way of looking at and controlling the standard HTML codes and commands. It allows web designers to control the appearance and behaviour of web pages. It adds dynamic features to HTML documents.

Dynamic HTML or DHTML is a combination of various standard based web technologies which allows a web page to change after it has been loaded by a browser.

DHTML lets users directly interact with web pages. Adding DHTML to a web site means that the pages can act and react to the user without continuing returning to the web server for more data.

Dynamic HyperText Markup Language is a combination of the following key technologies:

- **HTML**, the standard language for defining web pages. HTML specifies web page elements such as a heading, a paragraph, a table or a bulleted list etc.

- **CSS** i.e. Cascading Style Sheets. It is a standard method of specifying the appearance of web pages. Cascading Style Sheets decide on elements size, colour, position and many other features.

- **Scripting Language**, for example Java Script is a client-side scripting language. Scripting languages manipulate the web pages elements so that the style assigned can change in response to end user input.

Features of DHTML

The basic features of DHTML are the following:

1. Data Binding

Data binding is one of the most important features of DHTML. Data binding is a technique to bind web pages to a data source which retrieves the data at the load time but manipulates that data on the client side without requiring reference to the server.

2. Dynamic Positioning of Elements

DHTML allows a web developer to position HTML elements in a browser window. Dynamic or live positioning makes a web page interactive.

Q21.(a) Explain Cascading Style Sheet Positioning (CSSP) in detail.

MDU BCA April 2018, May 2016, May 2014

OR

Describe the ways to position elements using Cascading Style Sheets (CSS).

(b) Explain JavaScript Style Sheet in detail.

MDU BCA April 2018, May 2016, May 2014

(c) What is a Netscape layer? Explain.

Q21.(a) CSSP

Ans. HTML allows some control over the position of elements through tables and using the non-breaking space etc. but the positioning of things is not very precise. Cascading Style Sheets (CSS) can place an item on a page at exact x and y coordinates.

The CSS positioning properties enable one to position an element. It allows placing an element behind another and specifying what should happen when an element's content is too big.

Elements can be positioned using the top, bottom, left, and right properties. However, these properties will not work unless the position property is set first. They also work differently depending on the positioning method.

An element can have one of four position values which are static, relative, absolute or fixed. However only the first three are commonly available on most browsers.

The position types tell the browser how to treat the elements when placing it in the window. The different ways to position elements using CSS are discussed below:

1. Static positioning

Static positioning is the standard positioning model. By default, elements are positioned as static in the window unless specifically defined.

Static elements flow into a document one after the next i.e. inline. In static positioning, a static element can not be explicitly positioned or repositioned. The static position can not be changed by the top and left attributes.

2. Relative positioning

An element defined as being relatively positioned flows into place within the window or within its parent element just like the default behaviour of any other HTML element.

browsers.

Q21.(b) JavaScript Style Sheet (JSSS)

JavaScript Style Sheet was introduced in Netscape 4 to offer an alternative to CSS. Like CSS, JSSS allows to define how HTML tags display their content, but JSSS uses JavaScript syntax.

These sheets are Java-language based style sheets developed by Netscape to support style sheets on the Web.

JavaScript Style Sheets effectively re-implement CSS, defining the same set of presentation properties, but within the context of Netscape's JavaScript programming language.

Q21.(c) Netscape Layer

A Netscape layer is an independent part of web content within an HTML document. This is set off with one of the two layer-tag pairs:

- **<layer>: the CSS equivalent is <divstyle="position:absolute;">**

- **<ilayer>: the CSS equivalent is <spanstyle="position:relative">**

This allows one to place HTML markup in separate rectangular regions, then to position the regions at particular absolute or relative positions on the page. Regions can overlap, and upper regions can be transparent in order to let lower regions show through.

Layers also allow creation of overlapping banners and sidebars, making of multicolumn text and creation of composite images by placing transparent GIFs on the top of other images.