

1.	Attempt any three of the following:	15
a.	<p>List and explain important applications of internet in brief. [5 marks] Answer:(Any Five:1 mark for each) Applications of Internet- 1.E mail (Electronic mail)-Electronic mail (also known as email or e-mail) is one of the most commonly used services on the Internet, allowing people to send digital messages to one or more recipients.E-mail is a message that may contain text, files, images, or other attachments sent through a network to a specified individual or group of individuals. 2. Telnet is a network protocol used in any network (internet or LAN) for bidirectional text oriented communication. Telnet protocol uses ‘virtual terminal’ to connect to the remote hosts. Virtual terminal is a application service that allows host in a multi terminal network to communicate with other hosts irrespective of terminal type or characteristics. Telnet uses the TCP protocol for transmission of data. 3. FTP-File transfer protocol is a simple and standard network protocols that transfers a file from one host to the other over a TCP network. Based on client server architecture. Mainly used to transfer the web pages or related data from the source or creator to a host that acts as a server to make the page or file available to other hosts (uploading) or downloading programs and other files from server to a host. 4.E Commerce-Electronic commerce can be defined as use of electronic communications, particularly via the internet, to facilitate the purchase/sale of goods and services. E-commerce includes all forms of electronic trading including electronic data interchange (EDI), electronic banking, electronic mail and other online services. 5.Video Conferencing-Video conferencing or video teleconference is a set of telecommunication technologies which allow one or more locations to transmit and receive video and audio signals simultaneously. 6. E business-E business is conduct of business over the internet, which includes buying and selling of goods and even services. In other words it is application of information and communication technologies in support of all activities in business.</p>	
b.	<p>Explain different approaches to style sheets. [5 marks] Answer: Style sheets are collections of style information that are applied to plain text. There are different approaches to style sheets. The CSS recommendation supports three ways of including style information in a document. These approaches include: 1) Linked or External Styles (Global styles) – Style information is read from a separate file (.CSS) that is specified in the <LINK> tag. An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing one file. Each page must link to the style sheet using the <link> tag. The <link> tag goes inside the head section. In this case first we have to set style information in a external style sheet file. So we have to create .CSS file. Example: Mystyle.css .p1 {font-face: Arial; color: blue; font-style: italics} .p2 {letter-spacing: 5pt; color: red; font-style: oblique} We must including Mystyle.css in our web page using <LINK> tag. At the beginning of the page in the head section will insert following line: <HEAD> <LINK REL= “stylesheet” HREF= “Mystyle.css”> </HEAD> 2) Embedded or Internal Styles (Page specific style) – Style information is defined in the document head using the <STYLE> and </STYLE> tags. An internal style sheet should be used when a single document has a unique style. You</p>	

	<p>define internal styles in the head section with the <style> tag. Example:</p> <pre><head> <style type="text/css"> body {background-color: red} p {margin-left: 20px} </style> </head></pre> <p>3)Inline Styles (Tag specific style) – Style information is placed inside an <HTML> tag and applies to all content between that tag and its companion closing tag using the <STYLE> attribute.</p> <p>An inline style should be used when a unique style is to be applied to a single occurrence of an element. To use inline styles you use the style attribute in the relevant tag. The style attribute can contain any CSS property. The example shows how to change the color and the left margin of a paragraph:</p> <pre><p style="color: red; margin-left: 20px"> This is a paragraph </p></pre>	
<p>c.</p>	<p>Write a short note on internet address. [5 marks]</p> <p>Answer:</p> <p>Internet address follows the TCP/IP suite hence, it is also known as the IP address.</p> <ul style="list-style-type: none"> • Internet address has a job of identifying a node on the network. In other words, it is a numeric label attached to every system (computer or any other device). The basic function of IP address are two –Identification of computer or node or device and location addressing. • The designers of the Internet Protocol defined an IP address as a 32-bit number[1] and this system, known as Internet Protocol Version 4 (IPv4), is still in use today. However, due to the enormous growth of the Internet and the predicted depletion of available addresses, a new addressing system (IPv6), using 128 bits for the address, was developed in 1995,[3] standardized as RFC 2460 in 1998,[4] and is being deployed worldwide since the mid-2000s. • IP addresses are binary numbers, but they are usually stored in text files and displayed in human-readable notations, such as 172.16.254.1 (for IPv4) • IPV4 address is a 32 bit number, which uses the decimal dotted notation consisting of 4 decimal numbers each ranging from 0 to 255 separated by dots. Network administration divides the IP address into two parts. – the most significant 8 bits are called network address portion the remaining bits are known as rest bits or host bits or identifiers and they are used for host numbering in a network. • Although IPV4 provides 4.3 billion addresses, they are exhausted due to high demand and as a result, insufficient addresses available with IANA (Internet assigned numbers authority). The primary address pool of IANA is expected to get exhausted by mid 2011. To permanently address the problem, new version of IP i.e. IPV6 was brought forward, this version moved the size of IP address from 32 bit to 128 bits. • Both IPV4 as well as IPV6 have reserved addresses for private or internal networks. This is termed as private addressing. • Both IPV4 and IPV6 have subnetting effect. That mean, IP networks can be divided into smaller groups or subnets. IP addresses two constituents that is network address and host identifier or interface identifier are used for this purpose. • Internet Protocol addresses are assigned to a host either anew at the time of booting, or permanently by fixed configuration of its hardware or software. Persistent configuration is also known as using a <i>static IP address</i>. In contrast, in situations when the computer's IP address is assigned newly each time, this is known as using a <i>dynamic IP address</i>. 	
<p>d.</p>	<p>How hyperlinks are created in HTML? [3 marks]</p> <p>Explain with the help of an example. [2 marks]</p> <p>Answer:</p> <p>HTML uses a hyperlink to link to another document on the Web. A link is a connection</p>	

from one Web resource to another.

A *link* has two ends -- called *anchors* -- and a direction. The link starts at the "source" anchor and points to the "destination" anchor, which may be any Web resource (e.g., an image, a video clip, a sound bite, a program, an HTML document, an element within an HTML document, etc.).

HTML uses the **<a> (anchor) tag** to create a link to another document. The syntax of creating an anchor:

```
<a href="url">Text to be displayed</a>
```

The **<a>** tag is used to create an anchor to link from, the href attribute is used to address the document to link to, and the words between the open and close of the anchor tag will be displayed as a hyperlink.

This anchor defines a link to yahoo:

```
<a href="http://www.yahoo.com/">Visit yahoo!</a>
```

The Target Attribute-With the target attribute, you can define **where** the linked document will be opened. The line below will open the document in a new browser window:

```
<a href="http://www.yahoo.com/"target= "_blank">Visit yahoo!</a>
```

The Anchor Tag and the Name Attribute-

The name attribute is used to create a named anchor. When using named anchors we can create links that can jump directly into a specific section on a page, instead of letting the user scroll around to find what he/she is looking for. Below is the syntax of a named anchor:

```
<a name="label">Text to be displayed</a>
```

Following code establishes a named anchor within a document:

```
//Placing anchor tag
```

```
<A NAME= "top">
```

```
<H1>Table of Contents</H1>
```

```
</A>
```

```
... // some HTML tags and content
```

```
// at the end of page
```

```
<A HREF= "#top">TOP</A>
```

When a user is at the end of page, he can click on 'Top' to reach to the place where anchor tag is placed i.e. on the top of the page.

e. **What is search engine? [1 mark]**

Explain its working. [4 marks]

Answer:

Search Engine refers to a huge database of internet resources such as web pages, newsgroups, programs, images etc. It helps to locate information on World Wide Web.

User can search for any information by passing query in form of keywords or phrase. It then searches for relevant information in its database and return to the user.

Examples: Google, Bing, Ask, AltaVista, AOL Search, LYCOS, Alexa.

Search Engine Components:

Generally there are three basic components of a search engine as listed below:

1. Web Crawler- It is also known as **spider** or **bots**. It is a software component that traverses the web to gather information.

2. Database- All the information on the web is stored in database. It consists of huge web resources.

3. Search Interfaces- This component is an interface between user and the database. It helps the user to search through the database.

Search Engine Working:

Web crawler, database and the search interface are the major component of a search engine that actually makes search engine to work. Search engines make use of Boolean expression AND, OR, NOT to restrict and widen the results of a search. Following are the steps that are performed by the search engine:

- The search engine looks for the keyword in the index for predefined database instead of going directly to the web to search for the keyword.
- It then uses software to search for the information in the database. This software component is known as web crawler.
- Once web crawler finds the pages, the search engine then shows the relevant web pages as a result. These retrieved web pages generally include title of page, size of text portion, first several sentences etc.

These search criteria may vary from one search engine to the other. The retrieved information is ranked according to various factors such as frequency of keywords, relevancy of information, links etc.

- User can click on any of the search results to open it.

Architecture:

The search engine architecture comprises of the three basic layers listed below:

- Content collection and refinement.
- Search core
- User and application interfaces

Search Engine Processing:

Indexing Process

Indexing process comprises of the following three tasks:

- Text acquisition- It identifies and stores documents for indexing.
- Text transformation- It transforms document into index terms or features.
- Index creation- It takes index terms created by text transformations and create data structures to support fast searching.

Query Process

Query process comprises of the following three tasks:

- User interaction- It supportst creation and refinement of user query and displays the results.
- Ranking- It uses query and indexes to create ranked list of documents.
- Evaluation- It monitors and measures the effectiveness and efficiency. It is done offline.

f. Write HTML code to design following web page: [5 marks]

- ```

A. Scripting Languages
 i. VB SCRIPT
 ii. JAVA SCRIPT
B. DBMS
 ■ ORACLE
 ■ MY SQL

```

#### **Answer:**

```

<!DOCTYPE html>
<html>
<body>
<ol type="A">
Scripting Languages
<ol type="i">
VB SCRIPT
JAVA SCRIPT

DBMS
<ul type="Square">
ORACLE

```

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|    | <pre> &lt;/li&gt;MY SQL&lt;/li&gt; &lt;/ul&gt; &lt;/li&gt; &lt;/ol&gt; &lt;/body&gt; &lt;/html&gt; </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |
| 2. | <b>Attempt any three of the following:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>15</b> |
| a. | <p><b>What is image map? [1 mark]</b><br/> <b>Write the difference between client-side and server-side image mapping. [4 marks]</b><br/> <b>Answer:</b><br/> <b>Imagemaps</b> are images with clickable areas (sometimes referred to as "hotspots") that usually link to another page. This image is "multilinked" and can take you to a number of places (pages). Such a multilinked image is called an <b>Imagemap</b>.</p> <p><b>Client-Side Imagemap:-</b><br/> In this type of Imagemapping, information about the hot region is downloaded on the client machine with HTML page. So any time (offline) client can use this Imagemap information. This method is more preferred. Client-side imagemaps gives faster imagemap processing and enhance the portability of your HTML documents. Client-side imagemaps involve sending the map data to the client as part of an HTML file rather than having the client contact the server each time the map data is needed.</p> <p><b>There are three steps involved in creating a client-side imagemap.</b> They are as follows:</p> <ol style="list-style-type: none"> <li>1. Create the graphic (image) that you want to map into an imagemap.</li> <li>2. Define the hot regions for the graphic (using &lt;AREA&gt; tag) and place that information between the &lt;MAP&gt; and &lt;/MAP&gt; tags in your HTML document.</li> <li>3. Use the &lt;IMG&gt; tag to insert the graphic for the imagemap and link it to the hot region information you defined in the &lt;MAP&gt; section by using USEMAP attribute of &lt;IMG&gt; tag.</li> </ol> <p>To set up a circular hot region, you would use code such as the following:</p> <pre> &lt;MAP NAME="circle"&gt; &lt;AREA SHAPE="circle" COORDS="123, 89, 49" ALT="Circle Link" HREF=http://www.myserver.com/circle.html&gt; &lt;/MAP&gt; </pre> <p>Now this mapping information should be linked with an image using:</p> <pre> &lt;IMG SRC="images/circular.gif" USEMAP="#circle"&gt; </pre> <p>E.g., creating client-side mapping for the image with three shapes viz., circle, rectangle and triangle, which is saved as shapes.gif.</p> <p>First Create Hot regions:</p> <pre> &lt;MAP NAME=shape&gt; &lt;AREA SHAPE="circle" COORDS="23,24,20" HREF=circle.html ALT="circle clicked"&gt; &lt;AREA SHAPE="rect" COORDS="28,61,92,93" HREF=rect.html ALT="rectangle clicked"&gt; &lt;AREA SHAPE="poly" COORDS="80,4,63,37,98,33,80,4" HREF=poly.html ALT="triangle clicked"&gt; &lt;/MAP&gt; </pre> <p>Link hot region with image:</p> <pre> &lt;IMG SRC="shapes.gif" ALT="showing different shapes" USEMAP=#shape&gt; </pre> <p>Note: If &lt;MAP&gt; tag is in some other file (work.htm) then use:</p> <pre> &lt;IMG SRC="shapes.gif" ALT="showing different shapes" USEMAP=work.htm#shape&gt; </pre> <p><b>Server-Side Imagemap:-</b><br/> In this type of Image mapping, information about the hot region is lying on the server. When any area or hot region of the Imagemap graphic is clicked, coordinates of that area are passed by browser to the server. Then server does processing and sends the output.</p> <p><b>Steps for creating a server-side imagemap</b><br/> There are three steps involved in creating a client-side imagemap. They are as follows:</p> |           |

1. Create the graphic (image) that you want to map into an imagemap.  
 2. Create map file. The map file is a text file that contains information about the hot regions of a specific imagemap graphics. A separate map file is needed for each imagemap graphic.  
 3. Link map file with image by using 'ISMAP' attribute of <IMG> tag and putting <IMG> tag into a hyperlink where 'HREF' is pointing to map file.  
 E.g., creating server-side imagemap for the image with three shapes viz., circle, rectangle and triangle, which is saved as shapes.gif.  
 First create a map file that will contain information about hot region. Type the following in notepad and save as shapes\_map.map:  
 circle http://myserver.com/map/circle.html 23,24,44,21  
 rect http://myserver.com/map/rect.html 28,61,92,93  
 poly http://myserver.com/map/poly.html 80,4,63,37,98,33,80,4  
 Setting ISMAP attribute and using <A> tag:  
 <A HREF= http://myserver.com/map/shapes\_map.map>  
 <IMG SRC=shapes.gif ISMAP>  
 </A>  
 When the link is clicked, the browser will request the given link, and add "?x,y" at the end of it, as the click offset from the left, top corner of the image (such as Shapes\_map.map ?47,8). If the user is not using a mouse (or equivalent), then the coordinates will be 0, 0.

**b. Write the purpose of using: rowspan, colspan, cellpadding in Table tag. Give example. [5 Marks]**  
**Answer: [purpose of using:3 marks + example:2 marks]**

- 1) **ROWSPAN:** number of rows to cover or merge.
- 2) **COLSPAN:** number of columns to cover or merge.

**Example:**

```
<html>
<body>
<table>
<caption>Student Details</caption>
<tr>
<th rowspan="2">Name</th>
<th colspan="2">Address</th>
</tr>
<tr>
<th>City</th>
<th>Street</th>
</tr>
<tr>
<td>Amit</td>
<td>Mumbai</td>
<td>D.N.Road</td>
</tr>
</table>
</body>
</html>
```

**Output:**

Name	Address	
	City	Street
Amit	Mumbai	D.N.Road

3) **CELLSPACING:** Space in between each of the individual cells

**Example:**

```
<html>
<body>
<table border="1" cellspacing="15">
<tr>
 <td>First</td>
 <td>Row</td>
</tr>
<tr>
 <td>Second</td>
 <td>Row</td>
</tr>
</table>
</body>
</html>
```

**Output:**

First	Row
Second	Row

4) **CELLPADDING:** space between the edge of a cell and the contents.

**Example:**

```
<html>
<body>
<table border="1" cellpadding="15">
<tr>
 <td>First</td>
 <td>Row</td>
</tr>
<tr>
 <td>Second</td>
 <td>Row</td>
</tr>
</table>
</body>
</html>
```

**Output:**

First	Row
Second	Row

c. **Write HTML code for embedding an audio and video in a web page. [5 marks]**

**Answer:**

```
<!DOCTYPE html>
<html>
<head>
<title> Embedding an Audio and Video </title>
</head>
<body>
```

```

Video:

<video width="400" controls>
 <source src="myvideo.mp4" type="video/mp4">
 <source src="myvideo.ogv" type="video/ogg">
 Your browser does not support HTML5 video.
</video>

Audio:

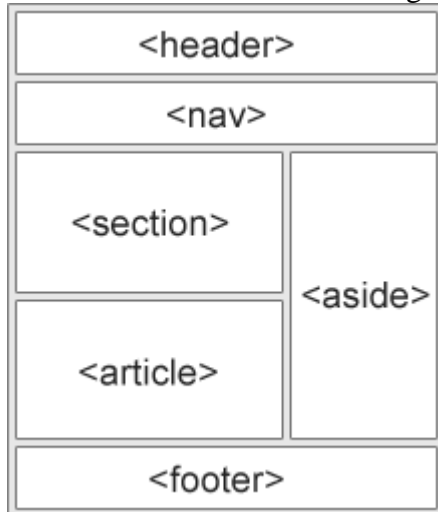
<audio controls>
 <source src="myaudio.ogg" type="audio/ogg">
 <source src="myaudio.mp3" type="audio/mpeg">
 Your browser does not support the audio element.
</audio>
</body>
</html>

```

**d. Explain the semantic tags of HTML5. [5 marks]**

**Answer:(Any Five:1 mark for each)**

HTML5 offers new semantic tags to define different parts of a web page:



**1) <header>-** The <header> element specifies a header for a document or section. The <header> element should be used as a container for introductory content.

Example:

```

<header>
 <h1>What Does WWF Do?</h1>
 <p>WWF's mission:</p>
</header>

```

**2) <nav>-** The <nav> element defines a set of navigation links.

Example:

```

<nav>
 HTML |
 CSS |
 JavaScript |
 jQuery
</nav>

```

**3) <section>-** The <section> element defines a section in a document. A section is a thematic grouping of content, typically with a heading."

Example:

```

<section>
 <h1>WWF</h1>
 <p>The World Wide Fund for Nature (WWF) is....</p>
</section>

```



**4) <article>:** The <article> element specifies independent, self-contained content.<article> element can be used for Forum post,Blog post,Newspaper article etc.

Example:

```
<article>
 <h1>What Does WWF Do?</h1>
 <p>WWF's mission is to stop the degradation of our planet's natural environment,
 and build a future in which humans live in harmony with nature.</p>
</article>
```

**5) <aside>-**The <aside> element defines some content aside from the content it is placed in (like a sidebar).

Example:

```
<aside>
 <h4>Epcot Center</h4>
 <p>The Epcot Center is a theme park in Disney World, Florida.</p>
</aside>
```

**6) <footer>-** The <footer> element specifies a footer for a document or section.

Example:

```
<footer>
 <p>Posted by: Hege Refsnes</p>
 <p>Contact information:
 someone@example.com.</p>
</footer>
```

**e. Write HTML code to design a form to enter name of the user, his password, and gender (radio button for male/female), hobbies (checkbox for reading/singing/sports), favorite color (list box red/green/blue) and submit and reset button. [5 marks]**

**Answer:**

```
<!DOCTYPE html>
<html>
<body>
<form >
User Name : <input type="text" name="user_name" />

Password: <input type="password" name="password" />

Gender:
<input type="radio" name="gender" value="male"/> Male
<input type="radio" name="gender" value="female"/> Female

Hobbies:
<input type="checkbox" name="hobbies1" value="reading"/> Reading
<input type="checkbox" name="hobbies2" value="singing"/> Singing
<input type="checkbox" name="hobbies3" value="sports"/> Sports

Favorite color :
<select name="favoritecolor">
<option value="Red">Red</option>
<option value="Green">Green</option>
<option value="Blue">Blue</option>
</select>

<input type="submit" name="submit" value="Submit" />
<input type="reset" name="reset" value="Reset" />
</form>
</body>
</html>
```

f.	<p><b>Explain &lt;DIV&gt; tag with the help of suitable example. [5 Marks]</b>  <b>Answer: [Marks: explanation 4 Marks + example 1 Mark]</b>  <b>&lt;DIV&gt; tag:</b></p> <ul style="list-style-type: none"> <li>• The HTML &lt;div&gt; tag is used for defining a division or a section in an HTML document.</li> <li>• With the div tag, you can group large sections of HTML elements together and format them with CSS.</li> <li>• So, the &lt;div&gt; tag is used to group block-elements to format them with CSS.</li> <li>• The &lt;div&gt; element is very often used together with CSS, to layout a web page.</li> <li>• By default, browsers always place a line break before and after the &lt;div&gt; element. However, this can be changed with CSS.</li> <li>• The &lt;div&gt; element is often used as a container for other HTML elements.</li> <li>• The &lt;div&gt; element has no required attributes, but both <b>style</b> and <b>class</b> are common.</li> <li>• The &lt;div&gt; tag also supports the Global and the Event Attributes in HTML.</li> <li>• When used together with CSS, the &lt;div&gt; element can be used to style blocks of content:</li> </ul> <p><b>Example:</b>  A section in a document that will be displayed in blue:  &lt;div style="color:#0000FF"&gt;    &lt;h3&gt;This is a heading&lt;/h3&gt;    &lt;p&gt;This is a paragraph.&lt;/p&gt;  &lt;/div&gt;</p>	
3.	<p><b>Attempt any three of the following:</b></p>	15
a.	<p><b>Differentiate between client side and server side JavaScript. [5 marks]</b>  <b>Answer: (Any Five Points: 1 mark for each point)</b></p> <p>JavaScript that runs at the client side (i.e. at the client's browser) is client side JavaScript (CCJS) and JavaScript that runs at the server is server side JavaScript (SSJS).</p> <p><b>Client side JavaScript:</b></p> <ul style="list-style-type: none"> <li>• Client side JavaScript runs on your computer after you load a web page.</li> <li>• The script should be included in or referenced by an HTML document for the code to be interpreted by the browser.</li> <li>• It means a web page need not be a static HTML, but can include code that interact with the user, controls the browser and dynamically create HTML contents.</li> <li>• The JavaScript Code is executed when the user submits the form, and only if all the entries are valid, they would be submitted to the web server.</li> <li>• It enables web pages on browsers to run active online content.</li> <li>• It uses &lt;SCRIPT&gt;tag in HTML document.</li> <li>• This script is interpreted by the browser at run time.</li> </ul> <p><b>Server side JavaScript:</b></p> <ul style="list-style-type: none"> <li>• Server side JavaScript refers to JavaScript that runs on the server side and is therefore not downloaded to the browser.</li> <li>• There are many languages that support Server side scripts like ASP, JSP etc.</li> <li>• The advantage of the Server side JavaScript is that the code can validate data on both the client for immediate user validations and on the server for security.</li> <li>• It enables back-end access to databases, file systems and servers.</li> <li>• It uses &lt;SERVER&gt;tag in HTML document.</li> <li>• The Server side JavaScript is deployed only after compilation.</li> </ul>	
b.	<p><b>Write a JavaScript program to display all the prime numbers between 1 and 100. [5 marks]</b>  <b>Answer:</b>  &lt;!DOCTYPE html&gt;</p>	

```

<html>
<head>
<title>Prime number between 1 and 100</title>
</head>
<body>
<script>
for(var i=2;i<=100;i++)
{
var flag=0;
for(var j=2;j<=i/2;j++)
{
if(i%j==0)
{
flag=1;
break;
}
}
if(flag==0)
{
document.write(i+"
");
}
}
</script>
</body>
</html>

```

c. **List and explain the methods of string object of JavaScript. [5 marks]**  
**Answer: (Any Five:1 mark for each)**

Method	Description
charAt()	Returns the character at the specified index (position)
concat()	Joins two or more strings, and returns a new joined strings
indexOf()	Returns the position of the first found occurrence of a specified value in a string
lastIndexOf()	Returns the position of the last found occurrence of a specified value in a string
match()	Searches a string for a match against a regular expression, and returns the matches
replace()	Searches a string for a specified value, or a regular expression, and returns a new string where the specified values are replaced
search()	Searches a string for a specified value, or regular expression, and returns the position of the match
slice()	Extracts a part of a string and returns a new string
split()	Splits a string into an array of substrings
substr()	Extracts the characters from a string, beginning at a specified start position, and through the specified number of character
substring()	Extracts the characters from a string, between two specified indices

toLowerCase()	Converts a string to lowercase letters
toString()	Returns the value of a String object
toUpperCase()	Converts a string to uppercase letters
trim()	Removes whitespace from both ends of a string
valueOf()	Returns the primitive value of a String object

**d. Explain the following operators of JavaScript: [5 marks]**  
**Answer: (1 mark for each)**  
**(i) new** –The new operator is used to Create a new instance of the object.  
 Example:  
 var x= new Fn( )  
 In the above statement x becomes new instance of function Fn and gets all its properties and methods.  
**(ii) delete**-The delete operator is deletes the properties from objects and array elements from arrays making them undefined.  
 Example:  
 delete myobj;  
 delete myarray[3];  
**(iii) this**-this operator is used to refer to the current object.  
 Example:  
 this.window  
 this.value  
**(iv) void**- The void operator evaluates expression and returns undefined.  
 Example:  
 void expr  
**(v),(Comma)**-Comma operator executes all expressions from left to right. It evaluates both the operands frm left to right and returns the result.  
 Example x=4, y= 5;

**e. Write the codes to design following web page and validate all the controls placed on the form using JavaScript as given:**  
**Name should not be blank,**  
**Check email-id is valid,**  
**Check Pin code is 6 digits long.**

**Name:**

**Email-id:**

**Pin code:**

**Answer: [5 marks]**

```
<!DOCTYPE html>
<html>
<head>
<title>Form Validation</title>
<script type="text/javascript">
```

```

function validate()
{
if(document.myForm.Name.value == "")
{
alert("Please enter your name!");
document.myForm.Name.focus();
return false;
}
email=document.myForm.EMail.value;
if(email == "")
{
alert("Please provide your Email-id");
document.myForm.EMail.focus();
return false;
}
var x=email.indexOf("@");
var y=email.indexOf(".");
if((x<1)||(y<x+2)||(y+2>=x.length))
{
alert("Enter username@domain");
document.myForm.EMail.focus();
return false;
}
if(document.myForm.Pincode.value == "" ||isNaN(document.myForm.Pincode.value) ||
document.myForm.Pincode.value.length != 6)
{
alert("Please enter 6 digit Pin code");
document.myForm.Pincode.focus();
return false;
}
return(true);
}
</script>
</head>
<body>
<form name="myForm" onsubmit="return(validate());">
<table>
<tr>
<td align="right">Name:</td>
<td><input type="text" name="Name" /></td>
</tr>
<tr>
<td align="right">Email-id:</td>
<td><input type="text" name="EMail" /></td>
</tr>
<tr>
<td align="right">Pin code:</td>
<td><input type="text" name="Pincode" /></td>
</tr>
<tr>
<td align="right"></td>
<td><input type="submit" value="Submit" /></td>
</tr>
</table>
</form>
</body>
</html>

```

**f. Define events and event handlers. [3 marks]**

**List various types of mouse event. [2 marks]**

**Answer:**

**Events** are actions that can be detected by JavaScript. Every element on a web page has certain events which can trigger a JavaScript. For example, we can use the onClick event of a button element to indicate that a function will run when a user clicks on the button.

**Examples of events:**

- A mouse click
- A web page or an image loading
- Mousing over a hot spot on the web page
- Selecting an input field in an HTML form
- Submitting an HTML form
- A keystroke

Events are normally used in combination with functions, and the function will not be executed before the event occurs.

**Event handlers** are JavaScript code that are not added inside the <script> tags, but rather, inside the html tags, that execute JavaScript when something happens, such as pressing a button, moving your mouse over a link, submitting a form etc.

The basic syntax of these event handlers is:

name\_of\_handler="JavaScript code here"

**Example:**

<a href="http://google.com" onClick="alert('hello!')">Google</a>

When events are associated with functions, the functions are written in the head section within the <script> tag and are called from the event handlers.

**List various types of mouse event:**

Events	The event occurs when...
onmousedown	A mouse button is pressed
onmousemove	The mouse is moved
onmouseout	The mouse is moved off an element
onmouseover	The mouse is moved over an element
onmouseup	A mouse button is released

**Example:**

< h1 onmouseover= "style.color= 'blue'" onmouseout= "style.color= 'red'">Mouse over this text</h1>

**4. Attempt any three of the following:**

**15**

**a Write the difference between GET and POST methods in PHP. [5 marks]**

**Answer:**

There are two ways the browser client can send information to the web server.

- The GET Method
- The POST Method

Before the browser sends the information, it encodes it using a scheme called URL encoding. In this scheme, name/value pairs are joined with equal signs and different pairs are separated by the ampersand.

name1=value1&name2=value2&name3=value3

**The GET Method:-**

The GET method sends the encoded user information appended to the page request. The page and the encoded information are separated by the ? character.

```
http://www.test.com/index.htm?name1=value1&name2=value2
```

- The GET method produces a long string that appears in your server logs, in the browser's Location: box.
- The GET method is restricted to send upto 1024 characters only.
- Never use GET method if you have password or other sensitive information to be sent to the server.
- GET can't be used to send binary data, like images or word documents, to the server.
- The data sent by GET method can be accessed using QUERY\_STRING environment variable.
- The PHP provides \$\_GET associative array to access all the sent information using GET method.

**Example:**

```
<html>
<body>
<form action="welcome_get.php" method="get">
Name: <input type="text" name="name">

E-mail: <input type="text" name="email">

<input type="submit">
</form>
</body>
</html>
"welcome_get.php":
<html>
<body>
Welcome <?php echo $_GET["name"]; ?>

Your email address is: <?php echo $_GET["email"]; ?>
</body>
</html>
```

**The POST Method:-**

The POST method transfers information via HTTP headers. The information is encoded as described in case of GET method and put into a header called QUERY\_STRING.

- The POST method does not have any restriction on data size to be sent.
- The POST method can be used to send ASCII as well as binary data.
- The data sent by POST method goes through HTTP header so security depends on HTTP protocol. By using Secure HTTP you can make sure that your information is secure.
- The PHP provides \$\_POST associative array to access all the sent information using POST method.

**Example:**

```
<html>
<body>
<form action="welcome.php" method="post">
Name: <input type="text" name="name">

E-mail: <input type="text" name="email">

<input type="submit">
</form>
</body>
</html>
"welcome.php":
<html>
<body>
```

```
Welcome <?php echo $_POST["name"]; ?>

Your email address is: <?php echo $_POST["email"]; ?>
</body>
</html>
```

**b Explain different types of arrays available in PHP. [5 marks]**

**Answer:**

In PHP, there are three types of arrays:

**1) Numeric/Indexed arrays** are Arrays with a numeric index.

There are two ways to create indexed arrays:

The index can be assigned automatically (index always starts at 0), like this:

```
$cars = array("Volvo", "BMW", "Toyota");
```

or the index can be assigned manually:

```
$cars[0] = "Volvo";
```

```
$cars[1] = "BMW";
```

```
$cars[2] = "Toyota";
```

**2) Associative arrays** are arrays that use named keys that you assign to them.

There are two ways to create an associative array:

```
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");
```

or:

```
$age['Peter'] = "35";
```

```
$age['Ben'] = "37";
```

```
$age['Joe'] = "43";
```

The named keys can then be used in a script:

```
<?php
```

```
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");
```

```
echo "Peter is " . $age['Peter'] . " years old.";
```

```
?>
```

**3) Multidimensional array** is an array containing one or more arrays.

PHP understands multidimensional arrays that are two, three, four, five, or more levels deep. The dimension of an array indicates the number of indices you need to select an element.

- For a two-dimensional array you need two indices to select an element
- For a three-dimensional array you need three indices to select an element

We can store the data from the table above in a two-dimensional array, like this:

```
$cars = array
```

```
(
```

```
array("Volvo",22,18),
```

```
array("BMW",15,13),
```

```
array("Saab",5,2),
```

```
array("Land Rover",17,15)
```

```
);
```

Now the two-dimensional \$cars array contains four arrays, and it has two indices: row and column.

To get access to the elements of the \$cars array we must point to the two indices (row and column):

Example:

```
<?php
```

```
echo $cars[0][0].": In stock: ".$cars[0][1].", sold: ".$cars[0][2]."
";
```

```
echo $cars[1][0].": In stock: ".$cars[1][1].", sold: ".$cars[1][2]."
";
```

```
echo $cars[2][0].": In stock: ".$cars[2][1].", sold: ".$cars[2][2]."
";
```

```
echo $cars[3][0].": In stock: ".$cars[3][1].", sold: ".$cars[3][2]."
";
```

```
?>
```



**c Write a PHP program to demonstrate the use of different string functions. [5 marks]**

**Answer: (Any Five:1 mark for each)**

```
<?php
echo strlen("Hello");
echo "
";
echo strpos("Hello world!","world");
echo "
";
echo str_replace("world","Peter","Hello world!");
echo "
";
echo str_word_count("Hello world!");
echo "
";
echo strpos("I love php, I love php too!","php");
echo "
";
echo substr_count("Hello world. The world is nice","world");
echo "
";
echo substr("Hello world",6);
echo "
";
echo strtolower("HELLO WORLD.");
echo "
";
echo strtoupper("hello world.");
echo "
";
echo strcmp("Hello world!","Hello world!");
echo "
";
echo strcasecmp("Hello world!","Hello world!");
?>
```

**Output:**

```
5
world!
Hello Peter!
2
7
2
world
hello world.
HELLO WORLD.
0
0
```

**d Explain error handling in PHP. [5 marks]**

**Answer:**

The default error handling in PHP is very simple. An error message with filename, line number and a message describing the error is sent to the browser.

When creating scripts and web applications, error handling is an important part. If your code lacks error checking code, your program may look very unprofessional and you may be open to security risks.

Different error handling methods:

- Simple "die()" statements
- Custom errors and error triggers
- Error reporting

**Basic Error Handling: Using the die() function**

The die() function is used to check the code for errors, display appropriate error messages and exit the script.

For example in the following program, the code checks to see if the welcome.txt file is found. If the file does not exist you get an error like this: File not found.

```
<?php
if(!file_exists("welcome.txt")) {
 die("File not found");
} else {
 $file=fopen("welcome.txt","r");
}
?>
```

### Creating a Custom Error Handler

Creating a custom error handler is quite simple. We simply create a special function that can be called when an error occurs in PHP.

This function must be able to handle a minimum of two parameters (error level and error message) but can accept up to five parameters (optionally: file, line-number, and the error context):

Syntax

```
error_function(error_level,error_message,error_file,error_line,error_context)
```

Parameter	Description
error_level	Required. Specifies the error report level for the user-defined error. Must be a value number. See table below for possible error report levels
error_message	Required. Specifies the error message for the user-defined error
error_file	Optional. Specifies the filename in which the error occurred
error_line	Optional. Specifies the line number in which the error occurred
error_context	Optional. Specifies an array containing every variable, and their values, in use when the error occurred

### Example:

```
function customError($errno, $errstr) {
 echo "Error: [$errno] $errstr
";
 echo "Ending Script";
 die();
}
```

The code above is a simple error handling function. When it is triggered, it gets the error level and an error message. It then outputs the error level and message and terminates the script.

Testing the error handler by trying to output variable that does not exist:

```
<?php
//error handler function
function customError($errno, $errstr) {
 echo "Error: [$errno] $errstr";
}
//set error handler
set_error_handler("customError");
//trigger error
echo($test);
?>
```

Output:

**Error:** [8] Undefined variable: test

e **Write a short note on variables in PHP. [5 marks]**

**Answer:**

As with other programming languages, PHP allows you to define variables. In PHP there

are several variable types, but the most common is called a String. It can hold text and numbers. All strings begin with a \$ sign. To assign some text to a string you would use the following code:

```
$text = "welcome to my website.";
```

This is quite a simple line to understand, everything inside the quotation marks will be assigned to the string. You must remember a few rules about strings:

1. Strings are case sensitive so \$Text is not the same as \$text
2. String names can contain letters, numbers and underscores but cannot begin with a number or underscore.

When assigning numbers to strings you do not need to include the quotes so:

```
$emp_id = 456
```

would be allowed.

### Variable Types

Variable Type	Explanation
Integer	whole number
Double	real number
String	string of characters
Boolean	true or false
Array	list of items
Object	instance of a class

PHP is weakly typed, meaning that variables do not need to be assigned a type (E.g., Integer) at the time they are declared. Rather, the type of a PHP variable is determined by the value the variable holds and the way in which it is used.

PHP Code:

```
<?php
```

```
$hello = "Hello World!";
```

```
$a_number = 4;
```

```
$anotherNumber = 8;
```

```
?>
```

Note: PHP does not require variables to be declared before being initialized.

### Variable Naming Conventions:

There are a few rules that you need to follow when choosing a name for your PHP variables.

1. PHP variables must start with a letter or underscore "\_".
2. PHP variables may only be comprised of alpha-numeric characters and underscores. a-z, A-Z, 0-9, or \_ .
3. Variables with more than one word should be separated with underscores. \$my\_variable
4. Variables with more than one word can also be distinguished with capitalization.

```
$myVariable
```

**f Write a PHP program to create one dimensional array. [5 marks]**

**Answer:**

```
<?php
```

```
$cars = array("Volvo", "BMW", "Toyota");
```

```
echo "I like " . $cars[0] . ", " . $cars[1] . " and " . $cars[2] . " .";
```

```
echo "
";
```

```
echo count($cars);
```

```
echo "
";
```

```
$arrlength = count($cars);
```

```
for($x = 0; $x < $arrlength; $x++)
```

```
{
```

```
echo $cars[$x];
```

```
echo "
";
```

```
}
```

```
?>
```

**Output:**

	<p>I like Volvo, BMW and Toyota.</p> <p>3</p> <p>Volvo</p> <p>BMW</p> <p>Toyota</p>	
<p><b>5. Attempt any three of the following:</b></p> <p><b>a. What is a cookie? [1 mark]</b></p> <p><b>How to store and retrieve the values in cookie in PHP? [4 marks]</b></p>	<p><b>Answer:</b></p> <p><b>A cookie</b> is often used to identify a user. A cookie is a small file that the server embeds on the user's computer. Each time the same computer requests a page with a browser, it will send the cookie too. With PHP, you can both create and retrieve cookie values.</p> <p><b>Create Cookies With PHP</b></p> <p>A cookie is created with the setcookie() function.</p> <p>Syntax</p> <pre>setcookie(name, value, expire, path, domain, secure, httponly);</pre> <p>Only the <i>name</i> parameter is required. All other parameters are optional.</p> <p><b>PHP Create/Retrieve a Cookie</b></p> <p>The following example creates a cookie named "user" with the value "John Doe". The cookie will expire after 30 days (86400 * 30). The "/" means that the cookie is available in entire website (otherwise, select the directory you prefer).</p> <p>We then retrieve the value of the cookie "user" (using the global variable \$_COOKIE). We also use the isset() function to find out if the cookie is set:</p> <p><b>Example:</b></p> <pre>&lt;?php \$cookie_name = "user"; \$cookie_value = "John Doe"; setcookie(\$cookie_name, \$cookie_value, time() + (86400 * 30), "/"); // 86400 = 1 day ?&gt; &lt;html&gt; &lt;body&gt;  &lt;?php if(!isset(\$_COOKIE[\$cookie_name])) {     echo "Cookie named '" . \$cookie_name . "' is not set!"; } else {     echo "Cookie '" . \$cookie_name . "' is set!&lt;br&gt;";     echo "Value is: " . \$_COOKIE[\$cookie_name]; } ?&gt; &lt;/body&gt; &lt;/html&gt;</pre>	<p><b>15</b></p>
<p><b>b. Explain any five PHP/MYSQL functions with example. [5 marks]</b></p>	<p><b>Answer: [Marks: explanation 3 Marks + example 2 Marks]:</b></p>	

1) **mysql\_connect**- PHP provides **mysql\_connect** function to open a database connection.

**Syntax:**

```
mysql_connect(server,user,password);
```

2) **mysql\_close**- PHP provides function **mysql\_close** to close a database connection.

**Syntax:**

```
mysql_close (resource $link_identifier);
```

3) **mysql\_query**- PHP uses **mysql\_query** function to create a MySQL database and table.

**Syntax:**

```
mysql_query(sql, connection);
```

4) **mysql\_select\_db**- PHP provides function **mysql\_select\_db** to select a database. It returns TRUE on success or FALSE on failure.

**Syntax:**

```
mysql_select_db(db_name, connection);
```

5) **mysql\_error**-Returns the text of the error message from previous MySQL Operation.

**Syntax:**

```
mysql_error();
```

**Example to insert record into employee table.**

```
<?php
$dbhost = 'localhost:3036';
$dbuser = 'root';
$dbpass = 'rootpassword';
$conn = mysql_connect($dbhost, $dbuser, $dbpass);
if(! $conn) {
 die('Could not connect: ' . mysql_error());
}
$sql = 'INSERT INTO employee '
 '(emp_name,emp_address, emp_salary, join_date) '
 'VALUES ("guest", "XYZ", 2000, NOW())';
mysql_select_db('test_db');
$retval = mysql_query($sql, $conn);
if(! $retval) {
 die('Could not enter data: ' . mysql_error());
}
echo "Entered data successfully\n";
mysql_close($conn);
?>
```

c. **Write a PHP program to send email with attachment. [5 marks]**

**Answer:**

```
<?php
// request variables // important
$from = $_REQUEST["from"];
$email = $_REQUEST["email"];
$file = $_REQUEST["file"];
if ($file) {
 function mail_attachment ($from , $to, $subject, $message, $attachment){
 $fileatt = $attachment; // Path to the file
 $fileatt_type = "application/octet-stream"; // File Type

 $start = strrpos($attachment, '/') == -1 ?
 strrpos($attachment, '/') : strrpos($attachment, '/')+1;
```

```

$fileatt_name = substr($attachment, $start,
 strlen($attachment)); // Filename that will be used for the file as the attachment

$email_from = $from; // Who the email is from
$subject = "New Attachment Message";

$email_subject = $subject; // The Subject of the email
$email_txt = $message; // Message that the email has in it
$email_to = $to; // Who the email is to

$headers = "From: ".$email_from;
$file = fopen($fileatt,'rb');
$data = fread($file,filesize($fileatt));
fclose($file);

$msg_txt="\n\n You have recieved a new attachment message from $from";
$semi_rand = md5(time());
$mime_boundary = "=="Multipart_Boundary_x{$semi_rand}x";
$headers .= "\nMIME-Version: 1.0\n" . "Content-Type: multipart/mixed;\n" . "
 boundary=\"{$mime_boundary}\"";

$email_txt .= $msg_txt;

$email_message .= "This is a multi-part message in MIME format.\n\n" .
 "--{$mime_boundary}\n" . "Content-Type:text/html;
 charset = \"iso-8859-1\"\n" . "Content-Transfer-Encoding: 7bit\n\n" .
 $email_txt . "\n\n";

$data = chunk_split(base64_encode($data));

$email_message .= "--{$mime_boundary}\n" . "Content-Type: {$fileatt_type};\n" .
 " name = \"{$fileatt_name}\".\n" . "Content-Disposition: attachment;\n" .
 //" filename = \"{$fileatt_name}\".\n" . "Content-Transfer-Encoding:
 base64\n\n" . $data . "\n\n" . "--{$mime_boundary}--\n";
$ok = mail($email_to, $email_subject, $email_message, $headers);
if($ok) {
 echo "File Sent Successfully.";
 unlink($attachment); // delete a file after attachment sent.
}else {
 die("Sorry but the email could not be sent. Please go back and try again!");
}
}
move_uploaded_file($_FILES["filea"]["tmp_name"],
 'temp/'.basename($_FILES['filea']['name']));
mail_attachment("$from", "youremailaddress@gmail.com",
 "subject", "message", ("temp/".$_FILES["filea"]["name"]));
}
?>
<html>
<head>
<script language = "javascript" type = "text/javascript">
function CheckData45() {
with(document.filepost) {
if(filea.value != "") {
document.getElementById('one').innerText =
 "Attaching File ... Please Wait";
}
}
}

```

```

 }
 }
</script>
</head>
<body>
 <form name = "filepost" method = "post" action = "file.php" enctype =
"multipart/form-data" id = "file">
 Your Name:<input name = "from" type = "text" id = "from" size = "30">

Your Email Address:<input name = "emaila" type = "text" id = "emaila" size = "30">

Attach File:<input name = "filea" type = "file" id = "filea" size = "16">

<input name = "Reset2" type = "reset" id = "Reset2" value = "Reset">
<input name = "Submit2" type = "submit" value = "Submit" onClick = "return
CheckData45()">
</body>
</html>

```

**d. How to start and destroy a session and how to store a session variable in PHP?  
Explain. [5 marks]**

**Answer:**

Session variables hold information about one single user, and are available to all pages in one application.

**Start a PHP Session:**

A session is started with the session\_start() function.

Session variables are set with the PHP global variable: \$\_SESSION.

**Example:**

In this page("demo\_session1.php")., we start a new PHP session and set some session variables:

```

<?php
// Start the session
session_start();
?>
<!DOCTYPE html>
<html>
<body>
<?php
// Set session variables
$_SESSION["favcolor"] = "green";
$_SESSION["favourite"] = "cat";
echo "Session variables are set.";
?>
</body>
</html>

```

**Get PHP Session Variable Values:**

Next, we create another page called "demo\_session2.php". From this page, we will access the session information we set on the first page ("demo\_session1.php").

Notice that session variables are not passed individually to each new page, instead they are retrieved from the session we open at the beginning of each page (session\_start()).

Also notice that all session variable values are stored in the global \$\_SESSION variable:

**Example:**

```

<?php
session_start();

```

```
?>
<!DOCTYPE html>
<html>
<body>
<?php
// Echo session variables that were set on previous page
echo "Favorite color is " . $_SESSION["favcolor"] . "
";
echo "Favorite animal is " . $_SESSION["fanimal"] . ".";
?>
</body>
</html>
```

**Destroy a PHP Session:**

To remove all global session variables and destroy the session, use session\_unset() and session\_destroy():

**Example:**

```
<?php
session_start();
?>
<!DOCTYPE html>
<html>
<body>
<?php
// remove all session variables
session_unset();

// destroy the session
session_destroy();
?>
</body>
</html>
```

**e. Write a short note on regular expressions in PHP. [5 marks]**

**Answer:**

Regular expressions are a sequence or pattern of characters itself. They provide the foundation for pattern-matching functionality.

HP offers functions specific to two sets of regular expression functions, each corresponding to a certain type of regular expression.

- 1)POSIX Regular Expressions
- 2)PERL Style Regular Expressions

**1) POSIX Regular Expressions**

The structure of a POSIX regular expression is not dissimilar to that of a typical arithmetic expression: various elements (operators) are combined to form more complex expressions.

**Brackets:**

Brackets ([]) have a special meaning when used in the context of regular expressions. They are used to find a range of characters.

Sr.No	Expression & Description
1	<b>[0-9]</b> It matches any decimal digit from 0 through 9.
2	<b>[a-z]</b> It matches any character from lower-case a through lowercase z.
3	<b>[A-Z]</b> It matches any character from uppercase A through uppercase Z.



4      **[a-Z]**  
It matches any character from lowercase a through uppercase Z.

### PHP's Regexp POSIX Functions

PHP currently offers seven functions for searching strings using POSIX-style regular expressions –

Sr.No	Function & Description
1	<b><u>ereg()</u></b> The <code>ereg()</code> function searches a string specified by string for a string specified by pattern, returning true if the pattern is found, and false otherwise.
2	<b><u>ereg_replace()</u></b> The <code>ereg_replace()</code> function searches for string specified by pattern and replaces pattern with replacement if found.
3	<b><u>eregi()</u></b> The <code>eregi()</code> function searches throughout a string specified by pattern for a string specified by string. The search is not case sensitive.
4	<b><u>eregi_replace()</u></b> The <code>eregi_replace()</code> function operates exactly like <code>ereg_replace()</code> , except that the search for pattern in string is not case sensitive.
5	<b><u>split()</u></b> The <code>split()</code> function will divide a string into various elements, the boundaries of each element based on the occurrence of pattern in string.
6	<b><u>spliti()</u></b> The <code>spliti()</code> function operates exactly in the same manner as its sibling <code>split()</code> , except that it is not case sensitive.
7	<b><u>sql_regcase()</u></b> The <code>sql_regcase()</code> function can be thought of as a utility function, converting each character in the input parameter string into a bracketed expression containing two characters.

#### Example:

```
<?php
$password = "abc";
if (!ereg ("[:alnum:]{8,10}", $password))
{
 print "Invalid password! Passwords must be from 8 - 10 chars";
}
else
{
 print "Valid password";
}
?>
```

This will produce the following result –

Invalid password! Passwords must be from 8 - 10 chars

## 2) PERL Style Regular Expressions

Perl-style regular expressions are similar to their POSIX counterparts.

### Meta characters

A meta character is simply an alphabetical character preceded by a backslash that acts to give the combination a special meaning.

Following is the list of meta characters which can be used in PERL Style Regular Expressions.

Character	Description
.	a single character
\s	a whitespace character (space, tab, newline)
\S	non-whitespace character
\d	a digit (0-9)
\D	a non-digit
\w	a word character (a-z, A-Z, 0-9, _)
\W	a non-word character
[aeiou]	matches a single character in the given set
[^aeiou]	matches a single character outside the given set
(foo bar baz)	matches any of the alternatives specified

### PHP's Regexp PERL Compatible Functions

PHP offers following functions for searching strings using Perl-compatible regular expressions –

Sr.No	Function & Description
1	<b><u>preg_match()</u></b> The preg_match() function searches string for pattern, returning true if pattern exists, and false otherwise.
2	<b><u>preg_match_all()</u></b> The preg_match_all() function matches all occurrences of pattern in string.
3	<b><u>preg_replace()</u></b> The preg_replace() function operates just like ereg_replace(), except that regular expressions can be used in the pattern and replacement input parameters.
4	<b><u>preg_split()</u></b> The preg_split() function operates exactly like split(), except that regular expressions are accepted as input parameters for pattern.
5	<b><u>preg_grep()</u></b> The preg_grep() function searches all elements of input_array, returning all elements matching the regexp pattern.
6	<b><u>preg_quote()</u></b> Quote regular expression characters

### Example:

```
<?php
$line = "Vi is the greatest word processor ever created!";
// perform a case-Insensitive search for the word "Vi"

if (preg_match("/\bVi\b/i", $line, $match)) :
 print "Match found!";
endif;
?>
```

This will produce the following result –

Match found!

f. Write a PHP code to create a database “Company” and to create a table “Employee” (emp\_id, emp\_name,emp\_dept,emp\_salary). [5 marks]

**Answer:**

```
<?php
//to create database
$con=mysql_connect("localhost","root","");
if(!$con)
die('could not connect:'.mysql_error());
if(mysql_query("create database Company",$con))
echo"Database Created successfully";
else
echo "Error creating database:".mysql_error();
//to create table
mysql_select_db("Company",$con);
$query="create table Employee(emp_id int,emp_name varchar(50), emp_dept
varchar(50),emp_salary int)";
if(mysql_query($query,$con))
echo"Table Created successfully";
else
echo "Error creating table:".mysql_error();
mysql_close($con);
?>
```