

UNIT I**BASICS INTERNET PROTOCOLS, HTML5****9**

Basic Internet Protocols - The World Wide Web - HTTP messages - Web servers and clients - Introduction to HTML5 - Editing HTML5 - W3C HTML validation service - Headings - Linking - Images - Special characters and horizontal rules - Lists - Tables - Forms - Internal linking - Meta elements - New HTML5 Form input types.

PART-A (2 Marks)**1.DEFINE INTERNET .**

Network is an interconnection of systems to share data and information. Internet is network of network or collection of heterogeneous networks.

2. WHAT IS THE USE OF IP ADDRESSES AND PORTS?

It is very difficult to remember the IP address of each and every node.

In order to avoid this problem domain names are used.

Example googl.com, rediff.com etc.

PORTS : Ports are used in receiving and sending data to another server or client.

Example for port numbers

3. MENTION THE DIFFERENT INTERNET ADDRESS CLASS AND IT'S RANGE.

Internet addresses are assigned to different organizations by the Internet Assigned Numbers Authority (IANA).

ISP – Internet Service Providers gives a block addresses.

Class C address block specifies the first 3 bytes of address, for example 199.1.32.

4. DEFINE FIREWALL.

The hardware and software that sits between the Internet and the local network, checking all the data that comes and goes out is called —firewall. The security is provided using SSL(Secure Socket Layer) in internet.

5. DEFINE PROXY SERVERS

Proxy servers are related to firewalls prevents hosts on a network from making direct connections to the outside world, a proxy server can act as a go-between.

6. WHAT IS THE USE OF HTTP PROTOCOL?

HTTP is a standard protocol that defines how a web client talks to a server and how data is transferred from the server back to the client.

HTTP relies heavily on two other standards.

MIME (Multipurpose Internet Mail Extensions), HTML

7. WHAT IS THE USE OF MIME?(Multipurpose Internet Mail Extension)

MIME is a way to encode different kinds of data, such as sound and text, to be transmitted over a 7-bit ASCII connection. It also lets the recipient know what kind of data has been sent, so that it can be displayed properly. MIME was originally designed to facilitate multimedia email and to provide an encoding that could get binary data past the most train –damaged mail transfer programs.

8. DEFINE URL .

URL :Uniform Resource Locator is a way to unambiguously identify the location of a resource on the Internet.

URI: Uniform Resource Identifier is a string of characters in a particular syntax that identifies a resource.

9. EXPLAIN ABOUT URN

There are 2 types of URLs.

URL – Uniform Resource Locators (is a pointer to a particular resource on the Internet at a particular location.)

URNs – Uniform Resource Name (is a name for a particular resource but without reference to a particular location)

SYNTAX OF URN

urn:namespace:resource-name

10. WHAT IS MEANT BY RELATIVE URL?

URLs that are not complete but inherit pieces from their parent are called relative URLs. In contrast, a completely specified URL is called an absolute URL address.

13. LIST THE STEPS/FUNCTIONS OF HTTP PROTOCOL.

Standard protocol for communication between web browsers and web servers.

HTTP specifies how a client and server establish a connection, how the client requests data from the server, how the server responds to that request, and finally how the connection is closed.

14. WHAT IS DOMAIN & MENTION DIFFERENT TYPES OF DOMAINS

Domain is a place where information is available.

DOMAIN NAME EXTENSION

.edu – Servers that provide Educational services

.gov – About the government of a country.

.org – Provide information about the organizations in the world.

.com – Servers providing commercial services on the Internet.

15. WHAT DO YOU MEAN BY COLUMN SPANNING AND ROW SPANNING?

Row spanning is used to merge (combine) two or more rows.

Column spanning is used to merge (combine) two or more columns.

16. MENTION THE DIFFERENT TYPES OF LINKS

LINK – Changes the default color of a Hyperlink to whatever color is specified with this tag.

ALINK – Changes the default color of a hyperlink that is activated to whatever color is specified with this tag.

VLINK – Changes the default color of a hyperlink that is already visited to whatever color is specified with this tag

17. MENTION THE VARIOUS FORM ELEMENTS.

Various elements or controls can be created in FORM using <INPUT> tag. They are 1. Label 2. Text box 3. Text Area 4. Radio button 5. Check box 6. List box 7. Command button 8. Scroll bars

18. What is the difference between node and host?

A node is any addressable device connected to a network whereas the host is a more specific descriptor that refers to a networked general-purpose computer rather than a single purpose device (such as a printer).

19. Define protocol.

A protocol is a formal set of rules that must be followed in order to communicate.

20. Define port.

A port is a logical channel to an application running on a host. ie., The applications running on the host machines are uniquely identified by port numbers.

21. What do you mean by well-known ports?

Port numbers can range from 1 to 65535, however ports 1 to 1023 are reserved. These reserved ports are referred to as well-known ports because the Internet Assigned Numbers Authority publicly documents the applications that use them.

22. What is meant by Name Resolution?

Name Resolution is the process of mapping a hostname to its corresponding IP Address. One way to translate a hostname to an IP address is to look it up in a simple text file. The second way is the domain name service, which is a distributed database containing all registered hostnames on the Internet and their IP addresses.

23. What are the components of HTTP URL?

The components are host, an optional port, path, filename, section and query string.

32. Define URL encoding.

URL encoding involves replacing all unsafe and nonprintable characters with a percent sign (%) followed by two hexadecimal digits corresponding to the character's ASCII value.

24. What are the issues of next generation IP?

The issues to be considered in IP next generation are

- o Addresses Space Growth
- o Support large Global networks
- o A clear way of transition from the existing IP to new IP next generation

25. What is the role of server?

The server

- Manages application tasks
- Handles storage
- Handles security
- Provides scalability
- Handles accounting and distribution

26. What are the necessities of using HTML forms?

1. Gathering user information
2. Conducting Surveys
3. Interactive services

27. What are the sequences of steps for each HTTP request from a client to the server?

1. Making the connection
2. Making a request
3. The response
4. Closing the connection

28. List the predefined MIME content types.

1. Text
2. Multipart
3. Message
4. Image
5. Audio
6. Video

- 7. Model
- 8. Application

29. Define HTML.

It is a simple page description language, which enables document creation for the web.

40. What is meant by loop back address?

A zone that enables the server to direct traffic to itself. The host number is almost always 127.0.0.1.

30. Explain about HTTP Connection.

It is a communication channel between web browser and web server. It begins on the client side with the browser sending a request to the web server for a document.

Request Header Fields are

- 1. From
- 2. Reference
- 3. If_modified_since 4. Pragma 5. User Agent

31. What do mean by search engine?

It is a program or web page that enables you to search an Internet site for a specific keywords or words.

32. How do search engine work?

When you enter a keyword, the search engine examines its online database and presents to you a listing of sites that, in theory , match your search criteria.

33. Discuss about the client/server strategies in Internet.

- Application Server
- Database Server
- Transaction Server
- Six client/server models

34. Explain about Internet servers.

- Mail servers
- Web servers
- FTP servers
- News server
- DNS servers

35. Explain the elements of WWW.

- Client & server
- Web languages & protocols
- Web pages • Home page
- Web browsers
- Web sites

36. What are the ways by which a server and a browser do communicate?

GET & POST method

Web server to CGI communication

- 1. URL interpretation
- 2. CGI environment variables

CGI program to web server communication

- Parsed header
- Bypassing the server

37. How do you change the color of background or text in HTML?

Include the element \"bgcolor\" with a color code in your body tag:

```
<BODY BGCOLOR=\"#ffffff\" TEXT=\"#000000\" LINK=\"#cc0000\"  
VLINK=\"#000066\" ALINK=\"#ffff00\">
```

38. How do you use a picture as the background in HTML?

Include the element \"background\" with the name of the graphics file:

```
<BODY BACKGROUND=\"gumby.gif\" BGCOLOR=\"#ffffff\" TEXT=\"#000000\"  
LINK=\"#cc0000\" VLINK=\"#000066\" ALINK=\"#ffff00\">
```

39. How do you add music to a web page?

```
<A HREF=\"http://www.snowhawk.com/sounds/hvnearth.mid\">Heaven on Earth</A>
```

40. How do you align text next to a graphic in HTML?

```
<IMG SRC=\"wflower.jpg\" WIDTH=\"25\" HEIGHT=\"25\" ALIGN=\"top\" BORDER=\"0\"  
ALT=\"wildflower photo\"> Photo of wildflowers in Texas</A> 55.
```

41. How do you make a graphic a link?

```
<AHREF=\"http://www.snowhawk.com/wildlife.html\"><IMG SRC=\"leopard.jpg\" WIDTH=\"25\"  
HEIGHT=\"25\" ALIGN=\"top\" BORDER=\"0\" ALT=\"link to wildlife\"></A>
```

42. How do you make a new paragraph in HTML?

Inserting the <P> tag at the beginning of your paragraph will drop the text down two lines. (If you insert the
 tag, it will drop your text down one line.)

43. WRITE THE FORMAT OF HTML PROGRAM

```
<HTML>  
<HEAD>  
<TITLE> This is the Title </TITLE>  
</HEAD>  
<BODY>  
.... Type the body of the program  
</BODY>  
</HTML>
```

Note: All the tags in HTML program are optional, however the file should be saved in .html extension.

44. MENTION SOME TEXT FORMATTING TAGS

<p> </p> - is used for introducing various paragraphs.

 - this tag is used for giving an empty blank line.

HEADING TAGS - <h1> </h1> .. <h6> </h6> is used to introduce various headings.

<h1> is the biggest and h6 is the smallest heading tag.

<HR> TAG – is used to draw lines and horizontal rules.

, <I>, <U> for bold, italic and underline respectively.

45.EXPLAIN ABOUT LIST TAG.TYPES OF LISTS

UNORDERED LISTS

It starts with and ends with Attributes of Unordered lists

TYPE:Unordered listsOrdered lists

TYPE = FILLROUND or TYPE =

SQUAREEXAMPLE

```
<UL TYPE = FILLGROUND>
```

```
<LI> CSE </LI>
```

```
<LI> IT </LI>
```

```
</UL>
```

ORDERED LISTS (NUMBERING>

TYPE: Controls the numbering scheme to be used

TYPE = —1|| will give counting numbers

(1,2,...>

46.EXPLAIN THE ATTRIBUTES OF TABLE TAG WITH AN EXAMPLE

A table is a two dimensional matrix, consisting of rows and columns. All table related tags areincluded between <TABLE> </TABLE> tags.

```
<TABLE>
```

```
<TH> Heading </TH>
```

```
<TR> Row elements </TR>
```

```
<TD> Table data values </TD>
```

```
</TABLE>
```

ATTRIBUTES OF TABLE TAG

ALIGN Horizontal alignment is controlled by the ALIGN attribute. It can be set to

LEFT, CENTER,or RIGHT VALIGN Controls the vertical alignment of cell contents.

It accepts the values TOP,

MIDDLE or BOTTOM WIDTH Sets the WIDTH of a specific number of pixels or to a percentage of the available screen width.

BORDER Controls the border to be placed around the table.

CELLPADDING This attribute controls the distance between the data in a cell and the boundaries of the cell

CELLSPACING Controls the spacing between

adjacent cells COLSPAN Used to split the single

cell to one or more columns ROWSPAN Used to

split the single cell to one or more rows.

EXAMPLE

```
<TABLE BORDER = 3 WIDTH = 100 HEIGHT = 200>
```

```
<TR>
```

```
<TH> Roll Number </TH>
```

```
<TH> Age </TH>
```

```
<TR>
```

```
<TR> <TD> 1 </TD> <TD> 35 </TD> </TR>
```

```
</TABLE>
```

ALIGN: ALIGN = TOP, MIDDLE, BOTTOM

BORDER: Specifies the size of the border to place around the

image. WIDTH: Specifies the width of the image in pixels.

HEIGHT: Specifies the height of the image in pixels

HSPACE: Indicates the amount of space to the left and right of the

image VSPACE: Indicates the amount of space to the top and bottom

of the image.

47. WHAT DO YOU MEAN BY COLUMN SPANNING AND ROW SPANNING?

Row spanning is used to merge (combine) two or more

rows. Column spanning is used to merge (combine) two

or more columns.

48. MENTION THE DIFFERENT TYPES OF LINKS

HTML allows linking to other HTML documents as well as images. There are 3

attributes that can be introduced in BODY tag.

LINK – Changes the default color of a Hyperlink to whatever color is specified with this

tag. ALINK – Changes the default color of a hyperlink that is activated to whatever color is specified with this tag.

VLINK – Changes the default color of a hyperlink that is already visited to whatever color is specified with this tag.

NOTE: User can specify the color name of a hyperlink or an equivalent hexadecimal number. EXTERNAL LINKS

SYNTAX

 Hyper Text Message

49. EXPLAIN IMAGE MAPS WITH ITS SYNTAX

When a hyperlink is created on an image, clicking on any part of the image will lead to opening of the document specified in the <A HREF TAG>. Linked regions of an image map are called hot regions and each hot region is associated with a filename.html. Syntax

<MAP NAME =
—map name—>

ATTRIBUTES OF IMAGE MAPS

COORDS: Each of the above shapes takes different coordinates as parameters. Rectangle – 4 coordinates (x1,y2,x3,y2)

POLYGON: 3 or more coordinates.

HREF – Takes the name of the .html file that is linked to the particular area on the image.

<MAP NAME = —fish.jpg—>

<AREA SHAPE = —rect— COORDS = —52,65,122,89— HREF = —sct.html—>
</MAP>

50. EXPLAIN ABOUT HTML FORM TAG WITH ITS ATTRIBUTES.

HTML form provides several mechanisms to collect information from people viewing your site. The syntax of the form is

<FORM METHOD = —POST| ACTION = —/cgi-bin/formmail>

- The METHOD attribute indicates the way the web server will organize and send you the form output.
- Use METHOD = —post| in a form that causes changes to server data, for example when updating a database.
- The ACTION attribute in the FORM tag is the path to this script; in this case, it is a common script which emails form data to an address. Most Internet Service Providers will have a script like this on their site.

51.MENTION THE VARIOUS FORM ELEMENTS.

Various elements or controls can be created in FORM using <INPUT> tag. They are 1. Label 2.Text box 3. Text Area 4. Radio button 5. Check box 6. List box 7. Command button 8. Scroll bars

52.WHAT IS THE USE OF FRAMES IN HTML GIVE THE SYNTAX OF FRAMES

Frames are used to call many html files at the same time. This can be done using <FRAMESET>

</FRAMESET>
tags.

ATTRIBUTES OF FRAMES

ROWS – This attribute is used to divide the screen into multiple rows. It can be set equal to a list of values. Depending on the required size of each row. The values can

- A number of pixels
- Expressed as a percentage of the screen resolution
- The symbol *, which indicates the remaining space.

COLS – This attribute is used to divide the screen into multiple columns. EXAMPLE

<FRAMESET ROWS = —30%,*|> => Divides the screen into 2 rows,

- occupying the remaining space

<FRAMESET COLS = —50%,50%|> => Divides the first row
into 2 equal columns

<FRAME SRC = —file1.html|>

<FRAME SRC = —file2.html|>

<FRAMESET COLS = —50%,50%||> => Divides

the second row into 2 equal columns

<FRAME SRC = file3.html||>

<FRAME SRC = file4.html||>

</FRAMESET>

</FRAMESET>

How to create a hyperlink in HTML?

The HTML provides an anchor tag to create a hyperlink that links one page to another page. These tags can appear in any of the following ways:

- Unvisited link - It is displayed, underlined and blue.
- Visited link - It is displayed, underlined and purple.
- Active link - It is displayed, underlined and red.

What does an HTML5 web worker do?

Ans. A script that executes in the background on a different thread from the main web page is known as a “web worker” in HTML5. Long tasks can be completed with the help of web workers without slowing down the website. The following JavaScript objects cannot be accessed by web workers because web workers reside in external files:

- The window object
- The document object
- The parent object

1. Briefly Explain the Internet concepts

Ans:

- *A very brief history of the internet
- *Basic internet protocols
- *About TCP/IP
- *Network of lowest bidders
- *Addresses
- *Subnets

2. Explain About The World Wide Web

Ans:

WWW
Linking
Dynamic updates of web pages
Caching

3. Explain the Components of HTTP

Ans:

About Hypertext Transfer Protocol -- HTTP/1.0
Terminology
Overall Operation
HTTP and MIME
Protocol Parameters
Uniform Resource Identifiers
HTTP URL
Date/Time Formats
Character Sets
Content Codings
Media Types
HTTP Message

4. Compare Web servers with Web Clients

Ans :

Web servers
Web clients

5. Explain the Fundamental HTML Elements

Ans:

What is HTML?
HTML Tags
HTML Documents
HTML Elements
HTML Element Syntax
Nested HTML Elements
HTML Document Example
EMPTY HTML ELEMENTS
HTML Attributes

HTML HEADINGS

HTML Formatting Tags

6. Write a short notes on HTML Tables

Ans:

HTML Tables and the Border Attribute

HTML Table Headers

7. Write a Short notes on HTML LISTS and HTML Forms

Ans :

HTML LISTS

HTML Unordered Lists

HTML Ordered Lists

HTML Definition Lists

HTML List Tags

HTML FORMS

HTML Forms - The Input Element

Text Fields

Password Field

Radio Buttons

Checkboxes

Checkboxes

Submit Button

HTML Form Tags .

8. Write short notes on the following

- i. IMG tag
- ii. TABLE tag
- iii. FRAME tag

9. Write an HTML document to provide a form that collect name and telephone numbers.

10. Explain HTML forms in detail along with form elements, attributes & methods.

- iv. `<form method=||how to send|| ACTION=||URL of script||>`
- v. ...form data...
- vi. `</form>`
- vii. Form fields & attributes:
 - `<TEXTAREA>` element
 - `<INPUT>` tag: text, password, checkbox, radio, hidden, reset, submit,
- viii. button
 - `<SELECT>` tag

11. Design a web page that allows the user to choose from a series of images and to view the image in color and grayscale.

12. Develop a html page which accepts

- ix. -Any mathematical expression
- x. -Evaluate the expression
- xi. -Displays the result of the evaluation

13.How to create user interactive web pages using form objects and form elements?

14.What are the necessities of using HTML forms?What is the use of HTML Forms?
Create a HTML Form page for Railway Registration Form.

15.Develop a html web page for the following design using frame and frameset.

<u><frame 1></u>	DEMONSTRATION OF FRAMES
<u><frame2></u> <link1> <link2> <link3>	<u><frame3></u> <content t be displayed in this frame>

16.How to create user interactive web pages using Form elements and Form objects? Develop anStudent registration form using HTML Form elements.
(Assume your own fields).