SECTION – A – Two Marks Questions

1.What is C#?

-> a modern, object-oriented, and type – safe programming language it enables to build secure and robust application that run in .NET C#

2. What is World Wide Web?

All the public websites or pages that users can access on their local computers and other devices through the internet

3. What is Web Browser?

It is application software for accessing websites. It retrieves information from other parts of the web and displays it on your desktop or mobile device.

4. What is Web Server?

It is a computer that stores web server software and a website’s component files (for eg: html, css and javascript files) web servers - Apache

5. What is Web Page?

It is a simple document displayable by a browser. It is written in HTML language

6. What is URL?

Uniform resource Locator, it tells the address of webpages

7. What is HTTP?

Hypertext Transfer Protocol is an application – layer protocol for transmitting hypermedia documents(Images and video), such as HTML

8. What is HTML?

Hyper text markup language for creating a web page

9. Define data type.

It is classification that specifies which type of value a variable has and what type of mathematical, relation or logical operation can be applied to it without causing an error.

10. Define variable.

A data-type who’s value can’t be fixed or it is like container where we can store the values in computer memory.

SECTION - B – 4 Marks Questions

**1.Explain the components of Web Browser.**

\*User interface- It is an area where user can use several options like address bar, back and forward button, menu, bookmarking

\*browser engine- It connects the User Interface and the rendering engine as a bridge. And queries and manipulates the rendering engine based on inputs from several user interface.

\*Rendering engine- it displays the requested content on the browser screen. And translates HTML,XML Files, and images, which are formatted by using the CSS.

\*Networking- retrieving the URLs using internet protocol like HTTP and maintain all aspects of internet communication and security.

\*JavaScript Interpreter- translating and executes the JavaScript code, which is included in a website

\*UI backend- draw basic combo and windows

\*Data- storage- it is persistence (strong) layer use for storing the information like cookies in browser.

**2.Explain how does Web Browser work in brief?**

Web browser helps us find information anywhere on the internet.

\*it is installed on the client computer and requests information from the web- server such a type of working model is called client – server model

Phir browser receive krta hai information HTTP protocol se. Jisme transmission of data is define rehta hai.

Jab browser data receive krta hai server se toh yeh render(lauta) deta hai HTML ki tarah user readable form m or information displayed on the device screen.

**3.How does Web Server work? Explain.**

\*Obtaining the IP Address from domain name

- web browser pehle IP address domain name obtain krta hai jaise is page ka hoga pubg.com jo ki domain name hai iss page kaa.

2 tarike se IP Address kr sakte hai

a)by searching its cache

b) By requesting one or more DNS(Domain Name System) server;

\*Browser requests the full URL

- IP address jaanne ke baad browser demands krta hai Full URL, web Server se..

\*Web Server responds to requests

-phir web server send krta hair browser ko uske desired pages or jab page found nhi hota toh error message show krta hai

For example: Error 404, jab webpage open krte hai or server ke paas page nhi hota toh, Error 404 show krta hai….

\*Browser display the web page

Browser akhir m webpages ko display krta hai ya error message show krta hai

Web servers are – Apache HTTP Server, Microsoft Internet Information service

**4.Explain Client Side Scripting and its languages.**

Yeh program hota hai jo client machine (browser) m run krta hai or user interface/display or other processing se deal krta hai jo ki client machine m hosakta hai like reading /writing cookies.

\*Interact with temporary storage

\*make interactive web pages

\*interact with local storage

\*Sending request for data to server

\*send request to server

\*work as an interface between server and user

Programming languages for client-side programming are:

\*Javascript \*HTML \*CSS \*VBScript

**5.Explain Server Side Scripting and its languages**.

Server-side scripting language are programming languages developed especially for creating HTML pages on the server side

\*source code is not visible to the user because its output of server-side is an HTML page.

\*it manipulates and provide access to the respective database as per the request.

\*It runs on the webserver

\*techniques that uses scripts on the web server to produce a response that Is customized for each client’s request.

Programming languages of Server Scripting

PHP,Python, JAVA, RUBY

**6.Explain the advantages of Scripting languages.**

\*Easy learning- user can learn to code in scripting languages quickly, web technology knowledge no require

\*Fast editing-highly efficient with the limited no. of data structure and variable to use.

\*functionality- there are different librarie which are part of different scripting languages. They help in creating new application in web browser and are different from normal programming languages.

\*interactivity- Help in adding visualization interfaces and combination in web pages. Modern web pages demand the used of scripting languages.

**7. Explain .Net Framework.**

It is used to develop from – based applications, web-based applications, and web services. There is a variety of programming languages available on the .Net platform,VB.Net and C#.

It is used to build application for Windows ,phones, web

Provides lot of functionalities and also supports industry standards.

Three significant phases of the development of .NET technology

a)OLE Technology (Object linking Embedding)

it links elements from different application with each other.

b)COM technology (Common Object Model)

it creates reusable software components, linking components together to build applications.

It creates with a wide range of programming languages.

c).NET Technology

collection of technologies to develop windows and web applications.

**8. Explain literals with example.**

The fixed values are called as Literal

It is a value that is used by variables. Values can be either an integer, float or string

Integer Literals(It is integer type)

Int x = 101;

Floating – point literals

Double d = 3.14145

Character literals

Single quote

Char ch = ‘a’;

String literals

Literals which are enclosed in Double quotes(“”)

String s1=”Hello Geeks”;

String s2 = @”Hello geeks”;

Null Literals

Boolean Literals

Only two values are allowed for Boolean literals

Bool b=true;

Bool c= false;

SECTION- C – 8 Marks Questions

1. **Explain the components of .Net Framework.**

*CLR(Common language runtime)*

it works like a virtual component of the .NET Framework to executes the different languages program like c#. It converts source code into the byte code this is known as CIL(Common intermediate language)

*CTS(Common type System)*

It specifies a standard that represent what type of data and value can be defined and managed in computer memory at runtime.

*BCL(Base Class Library)*

It has rich collection of libraries features and function that help to implement many programming languages in the .NET Framework, such as c#

*CLS(Common Language specification)*

It is subset of CTS the defines a set of rules and regulations which should be followed by every language that comes under the .net framework.

*FCL(Framework class Library)*

It provides the various system functionality in the .NET framework that includes classes, interfaces and data types to create multiple functions and different type of application such as desktop, web, mobile application

*.NET Assemblies*

Main building block of the .NET Framework. It is small unit of code that contains a logical compiled code in the common language infrastructure which is used for development, security and versioning.

*XML web services*

*Window services*

1. **Explain the features of .Net Framework.**
2. **portable-** provides a common platform to write portable programs using different languages of .NET environment.
3. **Language independent** – it means code written in any language can be used by other language.
4. **Type safety**

During program execution it checks that all object and values, and the references to those objects and values, have a valid type. Eg: type checker ensures that only an integer value is assigned to an integer variable**.**

1. **Managed multithreading support**

Application running in the CLR can utilize the managed multithreading support.

1. **Performance**

Its clr environment promotes safe execution of code,eliminates performance bottlenecks through its garbage collector.

d)Platform independent

e)good design- application banana samay interface or baaki jagah design rich rehta hai

f) Garbage collection- memory ko deallocate krne ki responsbilty khud krta hai

g)security

h)object oriented programming

**3. Differentiate between Web Pages and Web Sites.**

|  |  |
| --- | --- |
| **Web page** | **Web sites** |
| Single page like text, media | Multiple pages |
| Different link | Only one link |
| Development is easy | Development is tough |
| Only damaged page can’t be accessible but others do | If website is down then it can’t be accessible |
| Common domain name | Only one link, nothing common |
|  |  |

1. **Explain the differences between scripting languages and programming languages.**

|  |  |
| --- | --- |
| **Scripting languages** | **Programming languages** |
| Interpreter based | Compiler based |
| Reduced syntax | More syntax |
| Run statement by statement | Convert all code to binary and run |
| Smaller code | For bigger and complex |
| Faster for small code | Faster for large code |
| No extra memory  Eg: python,javascript, php,Ruby | Extra memory  Eg: java,c,c++ ,c# |

1. **Explain the differences between server side scripting and server side scripting.**

|  |  |
| --- | --- |
| **Server side scripting** | **Server side scripting** |
| **Web browser receive all script code from server** | **Web Browser receive only data(not script) from server** |
| **Script visible on browser to user** | **Script code NOT visible on browser to user** |
| **Performs actions without going to the server**  **Eg: check password length/format** | **Performs actions by going to the server**  **Eg: check username and password match** |
| **Faster response times** | **Slower response as require accessing the server** |
| **Does not provide security for data** | **Provides more security for data** |
| **Eg: HTML, CSS and JavaScript** | **Eg: PHP,Python, JAVA, Ruby,javascript** |

1. **Explain the features of Web Browser.**

**Refresh button**

Reload the content

**Stop button**

-cancel the communication

**Home button**

-predefined home page

**Bookmarks**

**-**save it for the later retrieval of information

**Web address bar**

-allows the users to enter a web address in the address bar and visit the website

**Tabbed browsing**

- provides users the option to open multiple websites on single window. Reads different website at the same time.

Eg; when you search for anything on the browser, it provides you a list of search result for your query. You can open all the results staying on the same page

1. **Explain the operators in C# .Net with example.**