

|                |                        |
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**தமிழ் நாடு அரசு**  
 தொழில்நுட்பக் கல்வித் துறை, சென்னை 600 025 - வாரியத் தேர்வுகள்  
 அடுத்தப் பக்கத்தில் கொடுக்கப்பட்டுள்ள குறிப்புகளை படிக்கவும் (Read the instructions given in the next page)

| Q. No. | A | B | C | Q. No. | A | B | C | Q. No. | A | B | C | Q. No.      | A | B | C |
|--------|---|---|---|--------|---|---|---|--------|---|---|---|-------------|---|---|---|
| 1.     |   |   |   | 9.     |   |   |   | 17.    |   |   |   | 25.         |   |   |   |
| 2.     |   |   |   | 10.    |   |   |   | 18.    |   |   |   | 26.         |   |   |   |
| 3.     |   |   |   | 11.    |   |   |   | 19.    |   |   |   | 27.         |   |   |   |
| 4.     |   |   |   | 12.    |   |   |   | 20.    |   |   |   | 28.         |   |   |   |
| 5.     |   |   |   | 13.    |   |   |   | 21.    |   |   |   | 29.         |   |   |   |
| 6.     |   |   |   | 14.    |   |   |   | 22.    |   |   |   | 30.         |   |   |   |
| 7.     |   |   |   | 15.    |   |   |   | 23.    |   |   |   | 31.         |   |   |   |
| 8.     |   |   |   | 16.    |   |   |   | 24.    |   |   |   | Total Marks |   |   |   |

**For Revaluation**

**For Central Valuation**

| Q. No. | A | B | C | Q. No. | A   | B  | C | Q. No. | A | B | C | Q. No. | A | B | C |
|--------|---|---|---|--------|-----|----|---|--------|---|---|---|--------|---|---|---|
| 1.     | 0 |   |   | 9.     | 2   |    |   | 17.    |   |   |   | 25.    |   |   |   |
| 2.     | 0 |   |   | 10.    | 2   |    |   | 18.    |   |   |   | 26.    |   |   |   |
| 3.     | 2 |   |   | 11.    | 12  |    |   | 19.    |   |   |   | 27.    |   |   |   |
| 4.     | 2 |   |   | 12.    | 6.5 |    |   | 20.    |   |   |   | 28.    |   |   |   |
| 5.     | 2 |   |   | 13.    | 14  |    |   | 21.    |   |   |   | 29.    |   |   |   |
| 6.     | 2 |   |   | 14.    |     | 12 |   | 22.    |   |   |   | 30.    |   |   |   |
| 7.     | 0 |   |   | 15.    |     | 14 |   | 23.    |   |   |   |        |   |   |   |
| 8.     | 2 |   |   | 16.    |     |    |   | 24.    |   |   |   |        |   |   |   |

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படத்தின் பெயர் Component Based Technology

26

Common Language Runtime

The above figure shows the .net architecture. .net architecture divided into three parts. They are

**தேர்வாளர்களுக்கான அறிவுரைகள்**  
**INSTRUCTIONS TO CANDIDATES**

1. விடைத்தாள் மாற்றிப் பெறுவதற்கு.  
Get the answer book replaced, if
  - விடைத்தாள் சரியாக சேர்த்து பின் செய்யப்படாமல் இருந்தால்.
  - it is not stapled properly
  - விடைத்தாள் புத்தகப் பக்கங்களின் வரிசை எண் விடுபட்டிருந்தாலோ அல்லது வரிசையாக இல்லாமலிருந்தாலோ (மொத்தம் 30 பக்கங்கள்).
  - the page numbers are missing or not in order (there shall be 30 pages continuously numbered)
  - தலைப்பு பக்கத்தில் விடைத்தாள் புத்தகத்தின் கீழ்பகுதியில் வரிசை எண் அச்சிடப்படாமலிருந்தால்.
  - the serial number of the answer book is not printed at the bottom of the title page
2. உங்களுடைய பதிவு எண்ணையும், பெயரையும் அதற்காக கொடுக்கப்பட்டுள்ள தலைப்பு பக்கத்தின் கீழ்பகுதியில் மட்டும் எழுதவும்; அதைத் தவிர்த்து பதிவு எண், பெயர் ஆகியவற்றை விடைத்தாளில் மற்றப் பக்கங்களில் எழுதக்கூடாது. எந்தவிதமான அடையாளக் குறியீட்டையும் விடைத்தாளில் எழுதக்கூடாது.  
You are prohibited from writing your REGISTER NUMBER or NAME in any part of the answer book, other than the space provided at the bottom of the title page. You are prohibited from writing or leaving any distinguishing marks so as to identify your answer book.
3. தலைப்புப் பக்கத்தில் கொடுக்கப்பட்டுள்ள அதற்குரிய கட்டங்களில் விவரங்களை எழுதவும்.  
Fill up all the particulars, in the relevant boxes, in the title page.
4. கேள்விகளுக்கு பதில் எழுதும் போது விடைத்தாளில் இரண்டு பக்கங்களையும் பயன்படுத்த வேண்டும். பக்கங்களில் தொடர்ந்து விடை எழுதாமல் வெற்றிடம் விடக் கூடாது.  
Use both sides of the paper for answering questions, without leaving spaces/ lines in between.
5. இந்த விடைத்தாள் புத்தகம் போதுமான பக்கங்களை கொண்டிருக்கிறது. இதைத் தவிர கூடுதல் விடைத்தாள் அளிக்கப்படமாட்டாது.  
This answer book contains sufficient pages and no additional sheets will be issued.
6. கேள்விக்கு விடையளிக்கும் முன்பு வினாத்தாள் எண், வருடம், மாதம், காலம் இவைகளை சரிபார்க்கவும்.  
Check the Code Number, Month and year of Examination, Duration etc., in the question paper before answering the questions.
7. கொடுக்கப்பட்டுள்ள வரைப்படத்தாள் / கிராப் ஷூட் தவிர வேறு எந்த விடைத்தாளையும் சேர்க்க கூடாது. விடைத்தாள் புத்தகத்திலிருந்து எந்த பக்கத்தையும் கிழிக்கக் கூடாது.  
No extra sheet is to be attached except the drawing/graph sheets supplied and no sheet is to be teared from the answer book.
8. கைபேசி, துண்டுக் காகிதம் மற்றும் தடை செய்யப்பட்ட இதர பொருட்கள் வைத்திருத்தல், தேர்வுக்கு எதிரான முறைகேடுகளில் ஈடுபடுதல் அனைத்தும் தேர்வு வாரிய விதிகளின்படி தண்டனைக்குரிய குற்றமாகும்.  
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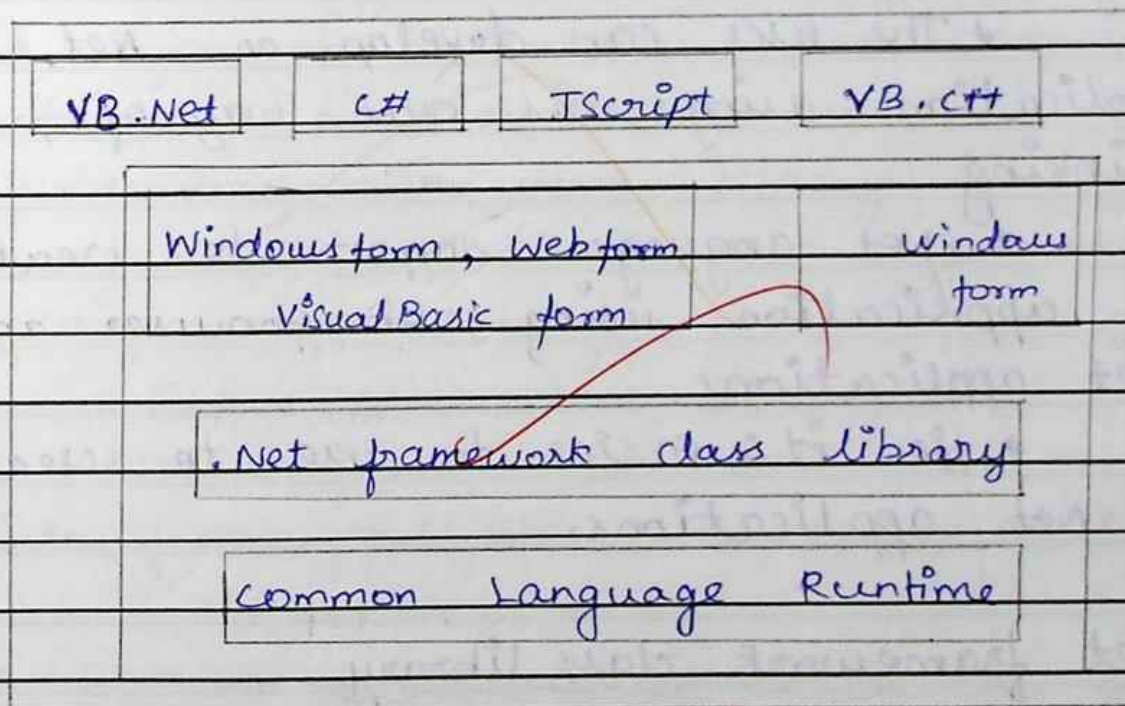


## Part-B

### 11) a) Architecture of .Net Framework.

\* .Net framework consists of classes, objects, methods and functions to access the data from any .Net languages.

\* .Net framework have two components they are OLEDB and SQLClient. The following figure shows the .Net Framework architecture.



The above figure shows the .net architecture. .Net architecture divided into three parts. They are



- \* .Net language.
- \* .Net framework class library.
- \* Common Language Runtime.

## i) .Net language.

\* .Net language has most of the architecture.

\* .Net languages such as visual basic, C#, J#, VB.Net etc. are used to write program.

\* The user can develop an .Net application using his own way of thinking.

\* .Net languages support to create an application using web browser and .Net applications.

\* So it is easier to use to create an .Net applications.

## ii) .Net framework class library.

\* .Net framework class library has prewritten class libraries.

\* These class libraries are used to create an application in .Net.





\* These class libraries are in hierarchy in order.

\* .net framework class library has two types of components. They are.

⇒ Base class library.

⇒ Framework class library.

\* Base class library is a library object and subset of the super class library.

\* Base class library includes mscorlib.dll and system.dll and other libraries to create an .net application.

\* Framework class library is a library object and it is the super set of the base class library.

\* Framework class library is a includes winforms, visual basic form, windowsforms application, web form application.

### iii) CLR [Common Language Runtime]

\* Common Language Runtime is heart of the .net architecture

\* Common Language Runtime (CLR) works like an engine in an application





\* CLR common language runtime manage and process the data such as

⇒ memory management

⇒ thread management

⇒ process the data

⇒ manage the data.

\* The common language runtime compile the source code using the Compilers.

\* The source code converted into Common Intermediate language or MSIL. Microsoft Intermediate language.

\* The MSIL code is compiled at the runtime using just in time (JIT) compiler then the MSIL code converted to native to the operating system.

\* The CLR manages the following operations. They are

\* Memory management

\* Thread management

\* process management

\* Exception handling

\* Garbage collection

\* Data management



## 12) a) i) Events.

\* Events occurs the user can press the key in keyboard or press the mouse button is called Events.

Form1  
C# code editor

- □ X

```
public void Form1_Load (EventArgs e,  
                        object sender)  
{  
:  
}
```

\* The Events are occurred when the user press the key on the keyboard to give the input to the program.

\* Then the Event is generated in the program.

\* The Events are occurred such as button, label etc.

## Mouse Events.

\* The various mouse events are given below. They are.

\* ⇒ mouse move

⇒ mouse down





⇒ Mouse up.

\* Mouse move is the process of moving the mouse control that means the mouse pointer can change from one point to another point is called mouse move.

\* Mouse down is the process press the mouse button is called mouse down

\* Mouse up is the process of release the pressed mouse button is called mouse up.

Example:

```
private void mouse_clicked (object  
sender, EventArgs e)
```

```
{
```

```
    i = 0;
```

```
    for (i = 0; i < n; i++)
```

```
    {
```

```
        message box.show("Mouse is clicked");
```

```
    }
```





## 12) a) ii) Steps to create context menu.

\* The form which menu appears when right click on a form or control is called context menu.

\* The context menu can create automatically and create by the user. The following are the two methods to create an context menu. They are.

\* System Context menu

\* Custom context menu.

### i) System context menu

System context menu appears automatically the user can right click on the form or control.

|       |  |            |   |   |
|-------|--|------------|---|---|
| Form1 |  | -          | □ | x |
|       |  |            |   |   |
|       |  | New window |   |   |
|       |  | Paste      |   |   |
|       |  | Properties |   |   |
|       |  |            |   |   |
|       |  |            |   |   |



## Custom context menu.

\* Custom context menu is created by the user.

These steps to create custom context menu.

⇒ open the microsoft visual studio and create a new project.

⇒ File menu new → project and click ok.

⇒ The following form window appears then create a context menu with new window, close

|                                                                                     |       |            |   |   |
|-------------------------------------------------------------------------------------|-------|------------|---|---|
|  | Form1 | -          | □ | x |
| context menu                                                                        |       |            |   |   |
|                                                                                     |       | new window |   |   |
|                                                                                     |       | Paste      |   |   |
|                                                                                     |       | Close      |   |   |
| context menu strip1                                                                 |       |            |   |   |

⇒ Run the application (press F5).

Then Right click on the form the custom context menu will appear on the form.





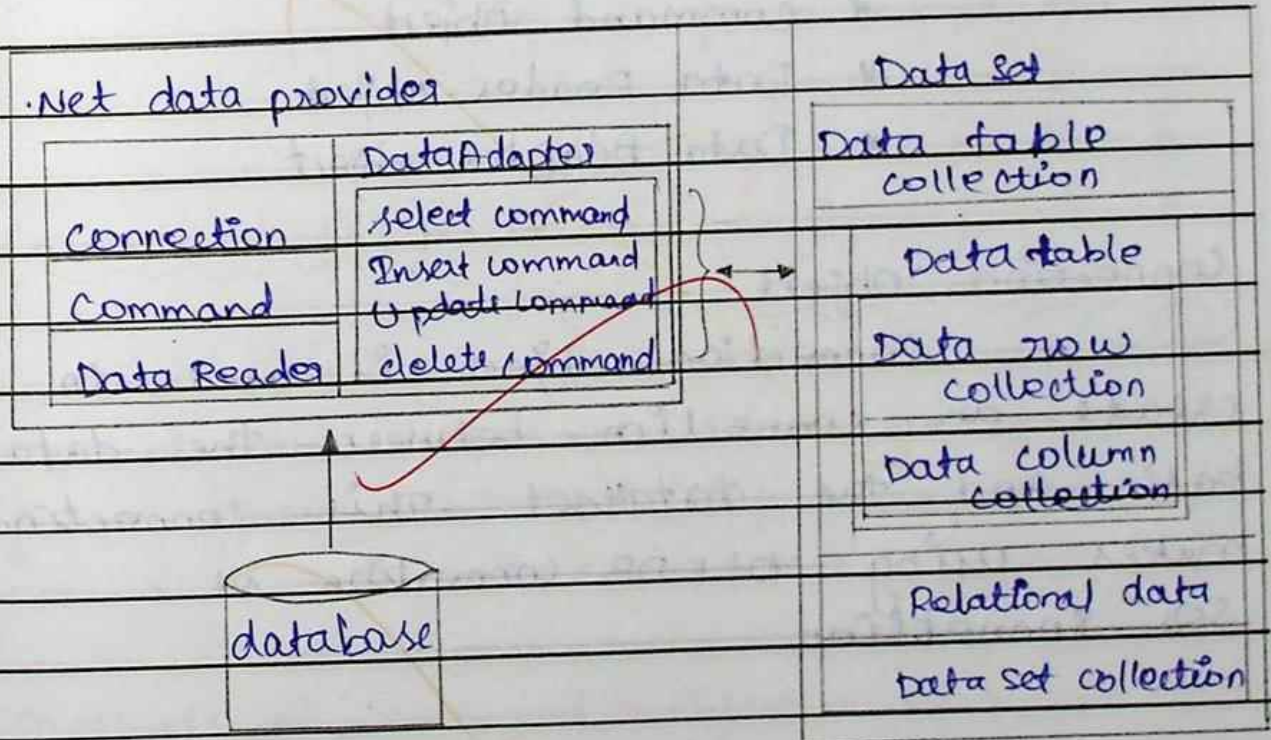
### 13) a) Architecture of ADO .Net .

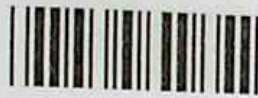
\* The Architecture of ADO .Net contains the various types of classes, objects, functions and methods etc..

\* These are all used to connect the database to .Net application.

\* ADO .Net contains the two components they are OLEDB and SQL client.

The following figure shows the architecture of ADO .Net given below.





ADO.NET architecture contains two types they are

- \* Data provider

- \* Data set

.Net Data provider

- \* .Net data provider used to transfer the data from the database to the data set.

- \* .Net data provider components are given below. They are

- \* Connection object

- \* Command object

- \* Data Reader object

- \* Data Adapter object

i) Connection Object

Connection object is used to create an connection between the data base and the data set. This connection makes using OLEDB connection or SQL connection.

Methods of Connection object

Open() - This method is used to open the connection





`close()` - This method is used to close the connections

`connections` - This method creates an connection between database and data set.

### Properties of Connection object.

`connection` - used to connect the database and dataset

`connectionstring` - used to write query in in the form about the database queries.

### ii) Command Object

Command object is used to execute the database command in the form. These are done by using `OLEDB` command and `SQL` command.

### Methods of command object

`CommandText()` - This method is used to command the text in the form



ConnectionString() - This method is used to execute the database queries in the form.

### Properties of Command object

ExecuteReader - This method is used to execute the query.  
ExecuteNonQuery - This method is used to execute the commands in the form.

### iii) Data Reader object

Data Reader object is used to execute an database queries in the form is called Data Reader object. These are all done by using OleDbDataReader and SqlDataReader.

### Methods of dataReader object

Execute reader() - This method is used to read the data row wise.

read() - This method is used to read the row wise data.





`getString()` - This method is used to get the column selected value.

`close()` - This method is used to close the reading process.

### DataAdapter object.

Data Adapter object is used to connect the database and the dataset. Act as a bridge between the dataAdapter object. These are all done by using `OLEDBDataAdapter` and `SQL dataadapter`.

### Methods in dataadapter

`Fill()` - This method is used to write the data in the database what will written in form.

### Properties of dataadapter

Select command - used to select the common data in database.

Update command - used to update the data in the database.

Insert command - used to insert the data into the database.



delete command - used to delete the data in the database.

### Features of ADO. Net.

- \* Data Access
- \* Data adapters
- \* Data set
- \* Independent of data
- \* Xml coded data.

### 14) b) ASP .NET Page Life cycle.

\* ASP.NET life cycle is defined as a process of creating an ASP.Net application is called life cycle.

\* ASP.Net have two types of life cycle. They are.

- ⇒ Application life cycle
- ⇒ Page life cycle.

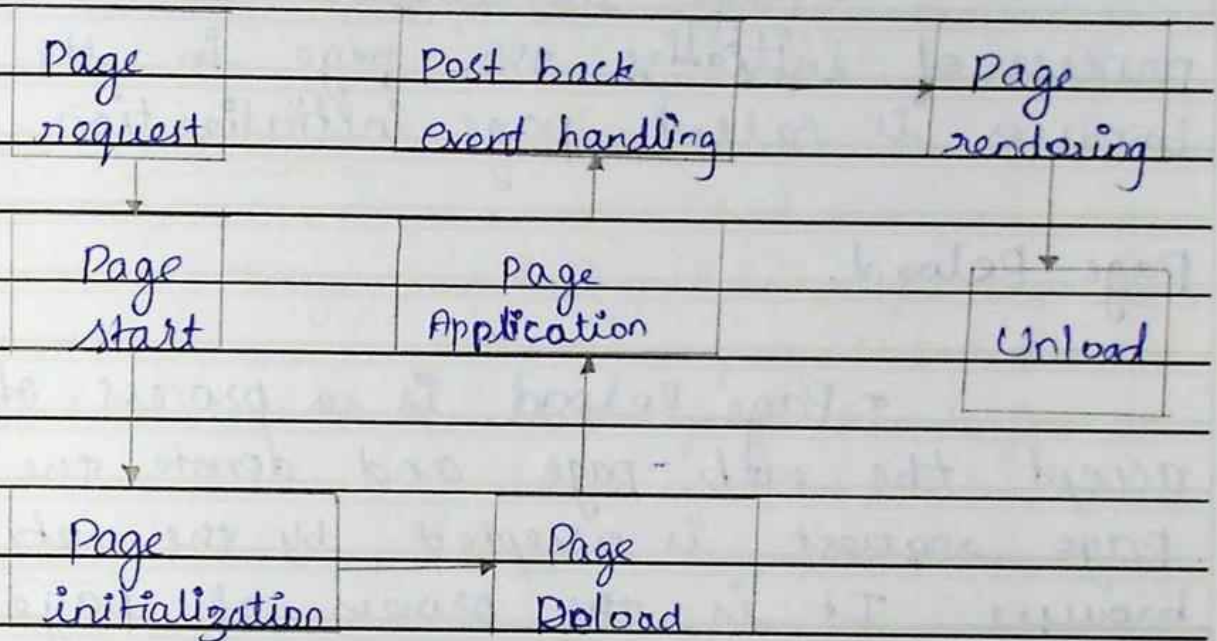
### Page life cycle.

The page life cycle process is





given below in the following diagram.



### Page request

\* First the page is requested to create an web application to run an applications on the browser.

\* So First we can request the page to create web page.

### Page start

\* The requested page is created then start the page creation process to create a web page.



## page initialization

\* Page initialization is a process of initialize the page in the browser is called page initialization

## Page Reload.

\* Page Reload is a process of accept the web page and denote the page request is accepted by the web browser. It is the process of page Reload.

## Page application

\* Page application is a process of create an application using page is called page application. The requested page will start to create an application on the web browser.

## Post back event handling.

\* Post back event handling is the process of reload the untransmitted





page in the web browser. It is called as post back event handling. Reload the not loaded web pages.

### Page rendering

\*Page rendering is a process of accept and run the web page in the web browser is called page rendering.

### Unload.

\*Unload is a process of give it back to the web browser. The web page is executed then the web page is get from the web browser.

The above processes is called as ASP.NET page life cycle. The page life cycle is an creating web page using web browser. The process of page life cycle are given above.



## 15) a) SOAP Fundamental

\* SOAP (Simple Object Access protocol) is used to access the data from the web browser.

\* The SOAP simple object access protocol is very useful and most commonly used protocol.

\* The SOAP simple object access protocol objects are used to access the web browser object.

\* The following are the features of SOAP. They are

11

⇒ Http based

⇒ Simplicity

⇒ Extensibility

⇒ Independent of object

⇒ Web browser.

Http based → SOAP simple object access protocol uses the Http protocol to send and receive the data through internet

Simplicity → Simple access object protocol is easy to use and understand





It is so simple to use. That's why SOAP is simplicity.

Extensibility → Extensibility is a process of adding a element into the SOAP is called extensibility.

Independent of objects → SOAP object are used in anywhere in the web browser. So the SOAP simple object Access protocol is independent of objects.

### Building blocks of SOAP.

\* The Building block of Simple object access protocol (SOAP) is given below.

\* It is used to create an application using SOAP objects.

\* The following are the elements of building block of SOAP.

They are

⇒ SOAP Header Element

⇒ SOAP body element

⇒ SOAP fault element

⇒ SOAP Envelope element.



The building block of soap is given below here,

```
< Soap: envelope >  
  < soap: header >  
  
    < soap: body >  
  
      < soap: fault > < / soap: fault >  
    < / soap: body >  
  < / soap: header >  
< / Soap: envelope >
```

Soap envelope is used to collection of objects that are downloaded from this soap envelope.

Soap header is a name of the objects collect by the soap envelope. These name are used to identify the envelope where it is from. This is called soap header.

Soap body is a process of process about the soap envelope soap fault is find the faulted objects and return





the object to soap envelop.

Example:

<?xml version="1.0" ?>

< Soap: envelope >

< Soap: header >

Books

< Soap: Body >

Author Name : Edwin dayanand

Year : 2012 Title : Python programming

< Soap: fault >

Author Name : R.k. Selvaraj

</ Soap: fault >

</ Soap: body >

</ Soap: header >

</ Soap: envelope >

### Part - A.

#### 1. Uses of .Net framework.

The following versions are the uses of .Net framework. They are.

\* .Net Version 1.0



\*.Net Version 1.1

\*.Net Version 1.5

\*.Net Version 2.0

\*.Net Version 3.0

\*.Net Version 4.0

\*.Net Version 4.5

## 2. Object

Object is defined as a variable or an element declared in the program. That is called object. The general form for creating object is given below.

### Syntax.

```
const datatype variable name = value;
```

where

const - keyword

datatype - type of the data

variable name - user defined name.

= - assignment operator

value - Integer, Alphabets etc.





### 3. Use of Window forms.

The following are the use of windows forms. They are

\* The windows forms are used to create an web form to run on browser.

\* The windows forms uses the control such as toolbox controls to create an form.

\* The windows can create and giving input at runtime.

### 4. Tool tip control.

Tool tip control is used to show the text if mouse pointer move over the control. is called tool tip control.

The screenshot shows a Windows application window titled "Form1". In the center of the window, there is a button with a question mark "?". A tooltip is displayed over this button, containing the text "Press the OK button". Below the question mark button, there is another button labeled "OK". The window's title bar includes standard controls: a minimize button, a maximize button, and a close button (X).



## 5. Dataset

\* Data set is defined as a table in the data base. The dataset contains the data about the database in table format.

\* The data set stored, managed and process the data in the data base.

\* The data set can give and get the data through the data provider.

\* This is the process of dataset. The dataset working in store the data process the data maintain the data.

## 6. Data reader

\* Data reader is used to read the data from the database.

\* Data reader reads the data row by row and give the output result to user.

## Dataset

\* Dataset is a table that contain all the details about data.

\* Dataset is process the data, manage the data and maintain the data safely.





## 7. HTML control

The following are the controls that are used in the HTML. are given below. They are

\* ~~headers~~

\* ~~Body~~

\* ~~Title~~

\* ~~Content~~

## 8. Web API

\* Application programming Interface is a standards for API.

\* The web API is used to create an web application in the browser.

\* The browser allow to create an application using web API (Application programming Interface).

\* The web API is a web development web browsers. These are all used to create an applications.



## 9. DTD (Data Type Definition)

The DTD data type definition is a process of define the object in the program.

| Internal DTD                                                                   | External DTD                                                                    |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| * The Internal DTD are declare in inside of the program is called Internal DTD | * The External DTD is declared in outside of the program is called External DTD |

## 10. SOAP (Simple Object access protocol)

\* SOAP (simple object access protocol)

\* It is used to access the data from the browser.

\* A Simple object access protocol uses the http protocol to send and receive an data.

\* This send the data to the client and receive the data request from the client.



