

For Office use	Space for Digital Data
----------------	------------------------

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.	1			9.	1			17.				25.			
2.	1			10.	2			18.				26.			
3.	1			11.	10			19.				27.			
4.	3			12.	7+6			20.				28.			
5.	3			13.	14			21.				29.			
6.	3			14.		13		22.				30.			
7.	3			15.		10		23.							
8.	3			16.				24.							

591-1776-23506299



Marks

83

Question Paper Code No.

வினாத்தாள் கருவியுடன் எண்

1 7 7 6

No. of

எழுத்துப்பட்ட பக்கங்களின் எண்ணிக்கை

25

Date of Examination :

தேர்வு நாள்

16/11/2024

Subject Name :

படத்தின் பெயர்

Component Based Technology

	• Net framework class library Common Language Runtime (CLR) * The Above Languages and Applications are used in this .Net framework Architecture.
--	---

தேர்வாளர்களுக்கான அறிவுரைகள்
INSTRUCTIONS TO CANDIDATES

1. விடைத்தாள் மாற்றிப் பெறுவதற்கு,
Get the answer book replaced, if
 - விடைத்தாள் சரியாக சேர்ந்து 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 ஷீட் 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.

POSSESSION OF ANY PROHIBITED MATERIAL, CELL PHONE, BITS OF PAPERS, etc., AND INVOLVEMENT IN MALPRACTICE OF ANY NATURE SHALL BE PUNISHABLE AS PER BOARD'S RULES.



PART-B

11 a) .NET framework Architecture

There are three methods in .Net framework Architecture.

- i) .Net languages
- ii) .Net framework class library
- ii) CLR- Common Language Runtime

VB. Net

C#

J script

VC++.NET

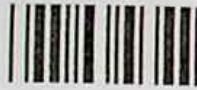
Window form, web form
Asp. Net

Window form

.Net framework class library

Common Language Runtime (CLR)

* The Above Languages and Applications are used in this .Net framework Architecture.



i) .Net Languages.

* .Net framework contains collection of languages like VB.Net, C#, Jscript, VC++ and C++ etc.

* Developers use this program to develop webform, windowform, webservice, xml service, window service etc.

* Most of the languages are combined and it can use .Net framework easily.

* So developers use the language who support .Net framework and they can create the source code by using this languages.

* This created source code will stored in the combined module.

* That source code will use in any operating system in that future.

* Managed module contains collection of source code for their future use.



ii) .Net framework class library.

- * This class library is used for developing and designing the Applications.

- * .Net framework class library contains collection of predefined keywords and Reserved words.

- * Developers use this predefined keywords to develop webform, windowform, webservice, xml Service and window service etc.

- * Microsoft and its system contains collection of namespaces to avoid conflicts.

- * All the languages in the .Net class Library can Access it.

Base class

- * it contains a copy of entire class Library.

Fractional class

- * it contains a superset copy of Base class library.



iii) Common Language Runtime.

* Common Language Runtime manages the whole execution of .Net framework.

* Common Language Runtime was also called "Heart of the .Net Architecture".

* CLR Also gives Resources and Services to the In Execution State.

* Resource like, Memory Management, garbage collection, Thread pooling, Resource Allocation and Security etc

* It converts the Source code into Machine code by using compiler.

* ".Net compiler" converts the CLR code into CIL code.

* "Just in Time" Converts the CIL code Machine level code.

* This code can be used in the operating system for future.



13

A) Architecture of ADO.NET.

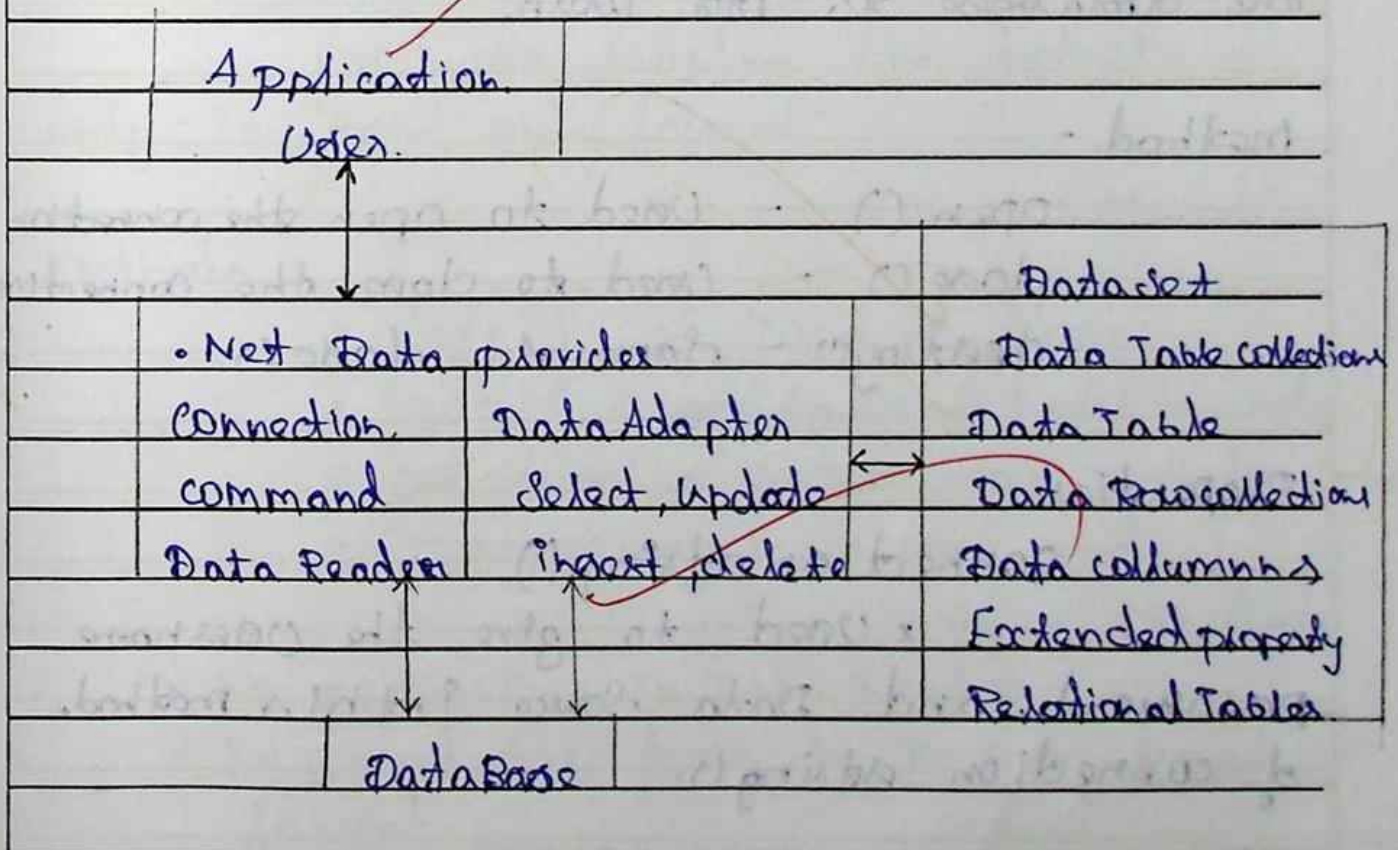
* ADO.NET is defined as a collection of objects, classes and properties used to manage the direct Access to the Relational Database.

* It contains three methods for Access System, Data, System.Sql, System.data.SqlClient.

Two methods in Architecture of ADO.NET.

i) .Net Data provides

ii) Data Set





* .Net provides ADO as an interface between the Application and database.

* The User can retrieve the data and modify it, After modifying it will stored in Database.

* Microsoft used SQL Server for in ADO Architecture.

i) Connection string

Connection string is used to connect the database to its users.

Method -

open() - Used to open the connection.

close() - Used to close the connection.

destroy() - Same as close().

Properties

connection string()

* Used to give the username, password, and Data Source in this method of connection string().



i) Command.

Used to the insert, update, delete and database commands in database.

Methods

- * `close()` - Used to close
- * `getConnection()` - Used to read
- * `executeQuery()` - retrieve data
- * `executeNonQuery()` - retrieve without data.

Properties

- * `connection`
- * `commandText`

ii) Data Reader

Used to retrieve the data in only in "Read only format"

Methods

- * `close()` - Used to close.
- * `Read()` - Used to Read until it ends
- * `getarding()` - Used to Row of particular column
- * `executeQuery()` - execute and retrieve the data.

* No properties in Data Reader.

* It send the data in Row by Row format.



Data Adapter

Data Adapter Acts as a Interface Between the DataBase and the DataSet.

DATA SET

* data set is a temporary storage Area to store the Data.

* Once the connection is disabled between the DataSet and Adapter, it also remains the data in the DataSet.

* It stores the record inside the data set until connection was enabled.

ADO.NET features.

i) Data Set

ii) Data Reader

iii) Data Adapter

iv) XML coded Data

v) platform independent database

These Are like features of ADO.NET as Above.



DATA SET.

- * It was a temporary storage area to store the data, and connection is disabled. It also remains the data in data set.

DATA ADAPTER

- * Acts as an interface between the Data Set and Interface.

- * Fill () method was used in this Data Adapter (select, insert, update, delete).

DATA READER

- * Data Reader is used to read the data in "Read Only format".

- * It reads "Row by Row" method.

XML coded Data

- * ADO.NET supports XML coded data to its in the program of execution.

14 Platform independent Database.

- * It has the ability to access the data from different Database and its Database was available to everyone.



14

B) ASP. Net contains Two Life cycle

i) Application Life cycle

ii) page Life cycle

^{PAGE}
~~Application~~ Life cycle

page start

page request

page Initialization
(or) utilimation

pag load

validation

post Back
event handling

Page Rendering

Unload

from memory



page start.

- * page start was the first step in page life cycle.

- * When the user request data, it checks the user if it was first time it compiles the data.

Page Request.

- * In this stage, Request and Response was created.

- * It stores the data of Request and Response.

Page Initialization.

- * In this stage All the controls like button, label, toolbox and Button etc. are initialized.

Page Load.

- * page load is used to restart the process and all the initial values are set to the default value.

- * Refresh page was also called Page Load.



VALIDATION.

Valid is used to show the error message like, text box was empty.

POST BACK EVENT HANDLING.

- * it was triggered once when the page was loaded.

- * It was used to handle event handling.

PAGE RENDERING.

- * page rendering is used to before the output was sent to the user.

- * It was mainly used to display the interface to requested user.

PAGE UNLOAD.

- * It was the last step in ASP.NET page life cycle.

- * when user sees the output and it was unloaded from the memory.



15 B)

15B) SOAP FUNDAMENTALS

* Soap is defined As the Simple Object Access protocols

* SOAP protocol is used to exchange the information between the client and the server.

* SOAP protocol is Based on Http and its platform was independent.

FUNDAMENTALS IN SOAP ARE

Http Based: SOAP is a Http based protocol to share the data.

platform independent - It supports multiple language so it was independent.

10) Simplicity - It was simple and Easy to send the messages.



Extensibility: It was easy to Add data on document in SOAP.

Message passing: It was easy to pass the message in SOAP.

BUILDING BLOCKS.

- * SOAP Envelope

- * SOAP Head

- * SOAP Body

- * SOAP Fault

i) SOAP Envelope

- * it contains the path and the Address of the SOAP message.

ii) SOAP Head.

- * It is used for giving security like Authentication and Authorization.

iii) SOAP BODY.

- * SOAP Body contains the Actual Message.

iv) SOAP Fault.

- * It occurs error message when fault occurs.

SOAP EXAMPLE

		Missing.
Name :		field is empty
Age :	15	18 - 56
Password :	***	
confirm :	*****	Not match
e-mail :	cbt@gmail.com	missing @ symbol
Pin code :	638103	starts from 64

i) Name field is empty so it gives error message.

ii) Age limit is 18-56 so it was error.

iii) password was mismatch

iv) missing @ symbol.

v) starting by not valid Number.

Required field validator

it is used to display the error message when text box was empty.



Range field validator.

it is used to give the input between the Range

Regular exceptional validator.

If predefined symbol must was used gmail.

Comparison validator.

Used to compare the validation Between Two Boxes.

Customize validation.

Used to customize the controls

<?ASX Name = "required field" sumat "Server"
error message "field is empty"
control to validate "Text1"

compare

<?ASX "Range field validator = "password" sumat "Server"
error message "Not match"
compare to validate = "Text3" and "Text4"

<?ASX Range field validator = "Age" sumat "Server"
error message = "Not valid"
control to validate = "Text2"



EXAMPLE

<HTML>

<SOAPHEAD> Raju. </HEAD>

^{SOAP.}
<BODY>

<BOOK> CBT </BOOK>

</SOAP BODY>

</HTML>

* No page fault occurs!

12)

A. i) Events

* Event is defined as the set of actions when key or mouse is pressed.

Click event.

* This event occurs when the mouse was clicked.

For: { i = 10

for (i = 0; i = 10; i++)

{ console.WriteLine("Mouse is clicked")

}

console.ReadLine();

}



Load event

Load event is occurred when the page was in loading condition or still in process is called Load event.

Example

{

minimum = 1;

maximum = 200;

for (i=1; i=200; i++)

{ console.write line ("in progress");

}

console.readline ();

}

Mouse Event

i) Mouse UP - when the mouse was released is mouse up.

ii) Mouse down - when the mouse was pressed is mouse down.

iii) Mouse move - when the mouse was moved left or right.



Key Board Events Are

i) Key up

ii) Key down

12 a) ii) CONTEXT MENU

1 → Open a visual studio and create a new form in new project.

2 → Open the design window and search the "context menustrip" in the toolbox.

3 → place the context menu in the form window.

| | |
|---------------|-------|
| File | - □ x |
| Enter a text. | |
| Form Window. | |

4 → create a File option in the context menustrip.

5 → Then Add what the controls are required and needed by the user or client.



| | |
|---------------|-------|
| File | - □ × |
| New | |
| Save | |
| Enter a Text. | |

6 → Add the controls in text box of what they need.

7 → if you want to give Access key use Alt "key" for fast Accessing methods.

| | |
|---------------|-------|
| File | - □ × |
| New | |
| Save | |
| Quit | |
| delete | |
| Enter a Text. | |

8 → The user Added what are the controls are needed.

9 → If The user want to give "Short cut" key, they use "ctrl key" for this

10 → The user can also change their name and size in property window.

11 → Double click the form to enter the code window for their more needed to display context Menu items.



PART-A.

1. Use of . Net framework.

- * It supports multiple Language
- * Hardware Are independent for client
- * Applications are portable for Both App development.
- * framework is used to design the window
- * Garbage collection
- * Thread pooling.

2) Object

- * object is defined as the collection of Entity and Attributes.
- * collection of Objects are combined to form a class.

Creating object Syntax

Create object objectname;

Ex: Create object CBT;



3) Window forms.

* Window forms are used to design the form windows.

* Window forms do, do some operation in the execution time.

* Text box is a window form to get input as the text.

* List box is a window form to list the group of items.

4. Tool tip.

Form - [] [X]

Button ?

→ Tool Tip.

* Tool Tip is used to display the information about the tool.

* It gives small tip about the tool.

public void button (Event Args, object sender).

{

message box. show ("It was a button")

}



5. Data Set.

* Data Set is a temporary storage Area to store the data.

* Data do the work while it was disconnected from the Data Adapter.

* DataSet contains collection Tables and Rows and columns of Information.

6. DATAREADER

* Used to read the data.

* Used Only in "Read only format."

* DataAdapter needs Data in "Data reader."

* connect with direct to database.

DATASET.

Used to get the data from data Adapter.

* Used to view in All format.

* collects All data from database while in connection.

* connect with the data Adapter.

7. HTML controls:

i) Label

ii) Text box

iii) List box

iv) Button.



8) WEB API

* WEB API is defined as the Web Application program Interface.

* It Acts As a Interface between the Browser and the devices.

Mobite,
Laptop etc

Web API.

Browser.

Browsers Such As.

* Opera

* Mozilla Firefox

* Microsoft edge.

* Chrome

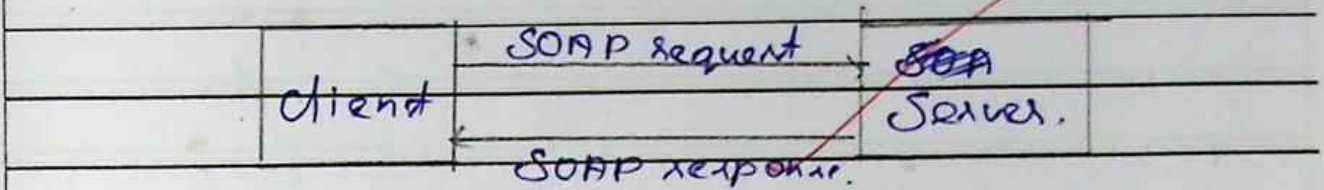
* Google etc.

10) SOAP.

* Simple Object Access Protocol.

* SOAP is used to exchange the information between the client and server.

* SOAP will Act as Http Request and Response model.



* The client sent the request to the server through SOAP

* Server Response to the client through SOAP Response.

| INTERNAL DTD | EXTERNAL DTD |
|--|---|
| * Inside the XML | * outside the XML |
| * do operations and functions inside of XML. | * do operations and functions outside of XML. |
| * responsible for inside | * responsible for outside |

This answer book Contains

25

Written Pages

Principal/Chief Co-ordinator

705, Kongunadu Polytechnic College

Namakkal - Trichy Main Road,

Tholurpatti, Thottiam,

Trichy - 621 215

K. Arjunad 12/02/25



[Faint, mirrored text from the reverse side of the page is visible through the paper. The text is mostly illegible but appears to be a list or set of instructions.]

