Course CurriCulum For
Fresher training program

Detailed Syllabus On
(Dot Net)

Submitted to:

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1. Syllabus

The document contains detailed course curriculum for Fresher Training program on Dot Net. The fundamentals need to be taught to the students before they are trained on different technologies.

1.1 OOPs Concept

SL #	COURSE
1	What is OOP?
2	What is an Object?
3	What is a Class?
4	How to identify and design a Class?
5	What is Encapsulation (or information hiding)?
6	What is Association?
7	What is the difference between Association, Aggregation & Composition?
8	What is Abstraction and Generalization?
9	What is an Abstract class?
10	What is an Partial class?
11	What is an Sealed class?
12	What is an Interface?
13	What is the difference between a Class and an Interface?
14	What is the difference between an Interface and an Abstract class?
15	What are Implicit and Explicit interface implementations?
16	What is Inheritance?
17	Type of Inheritance
18	What is Polymorphism?
19	What is Method Overloading?
20	What is Operator overloading?
21	What is Method Overriding?

1.2 RDBMS Basics

Sl #	Course
1	Types of Data Base Management Soft and Classification
2	Codd's Rule (Golden Rule of Database)
3	Pure and significand Difference among DBMS, RDBMS, ORDBMS
4	What is Table ?
5	What is a Record ?
6	What is Field ?
7	Super Key
8	Candidate Key
9	Primary Key
10	Composite Key
11	Secondary or Alternative key
12	Non-key Attribute
13	Non-prime Attribute
14	Normalization
15	Problem Without Normalization
16	Normalization Rule
17	First Normal Form (1NF)
18	Second Normal Form (2NF)
19	Third Normal Form (3NF)
20	Byte and Code Normal Form (BCNF)
21	Relationship
22	Binary Relationship
23	Recursive Relationship
24	Ternary Relationship
25	Generalization
26	Specialization
27	Aggregation
28	Introduction to SQL
29	DDL : Data Definition Language
30	DML : Data Manipulation Language
31	TCL : Transaction Control Language

Sl #	Course
32	DCL : Data Control Language
33	DQL : Data Query Language
34	Creating a Database
35	Creating a Table
36	Datatype and Magnitude
37	Data Type and Magnitude with context to Performance of the Database
38	Sub Query and Co Related Sub Queries
39	WHERE clause
40	Operators (Relational(<,<=,>,>=,=,!=), Logical (And, Or, Not), Like, Between, in , Some, Any ,All
41	Order By Clause
42	Group By Clause
43	HAVING Clause
44	Distinct keyword
45	Concept of NULL
46	SQL Functions
47	System Define Procedure / Functions
48	Join in SQL (Difference between Pro SQL 99 and SQL 99 Standard)
49	Inner Join
50	Outer Join
51	Left Join
52	Right Join
53	Full Outer Join
54	Self-Join
55	Cross Apply
56	Outer Apply
57	SQL Alias
58	SQL View & Common Table Expression
59	Materialized View and its Use, with context to views, Different types of View i.e. Classification
60	SQL Functions and Procedure and there primary difference , Where what to be imposed
61	Exception Handling
62	INDEX
63	TRIGGER

1.3 JavaScript & J-query

SL #	Course
1	Introduction to JavaScript
2	Overview
3	Syntax
4	Variables
5	Operators
6	If...Else
7	Switch Case
8	While Loop
9	For Loop
10	For...in
11	Loop Control
12	Functions
13	Events
14	Cookies
15	Page Redirect
16	Dialog Boxes
17	Void Keyword
18	Page Printing
19	JavaScript Objects
20	Objects
21	Number
22	Boolean
23	Strings
24	Arrays
25	Date
26	Math
27	RegExp
28	HTML DOM
29	Error Handling
30	Validations
31	Debugging
32	Introduction to jQuery
33	Overview
34	jQuery - Basics
35	jQuery - Selectors
36	jQuery - Attributes
37	jQuery - Traversing
38	jQuery - CSS
39	jQuery - DOM
40	jQuery – Events & Effects
41	jQuery - AJAX

1.4 HTML & CSS

SL #	Course
1	Introduction to HTML
2	CSS Tutorial
3	CSS HOME
4	CSS Introduction
5	CSS Syntax
6	CSS How To
7	CSS Colors
8	CSS Backgrounds
9	CSS Borders
10	CSS Margins
11	CSS Padding
12	CSS Height/Width
13	CSS Box Model
14	CSS Outline
15	CSS Text
16	CSS Fonts
17	CSS Links
18	CSS Lists
19	CSS Tables
20	CSS Display
21	CSS Max-width
22	CSS Position
23	CSS Float
24	CSS Inline-block
25	CSS Align
26	CSS Combinators
27	CSS Pseudo-class
28	CSS Pseudo-element
29	CSS Opacity
30	CSS Navigation Bar
31	CSS Dropdowns
32	CSS Tooltips
33	CSS Image Gallery
34	CSS Image Sprites
35	CSS Attr Selectors
36	CSS Forms
37	CSS Counters

1.5 Dot Net

SL #	Course
1	Overview
	Introduction to .Net Platform
	Introduction to .Net Framework
	Overview of .Net Platform
	Overview of .Net Framework
2	**Why .NET?**
	Phases of internet
	Net Defined
	What are Web Services?
	UDDI
	WSDL
	SOAP
	XML
	HTTP
	SMTP
	What is NET built on?
	.Net and XML
	.Net VS JAVA
3	**Components of.NET**
	Software platform
	Managed Code
	Type-Safe environment
	Cross Language Compatibility
	Common Language Runtime {CLR}
	Class Libraries
	Common Language Specification{CLS}
	Common Type System {CTS}
4	**Introduction to C#.NET**
	Overview
	Introduction to C#.NET
	History of C#.NET
	Feature of C#.NET

SL #	Course
5	**Programming Concept in C#.Net**
	Data types
	Variables
	Constants
	Operators
	Arithmetical
	Logical
	Relational
	Concatenation
	Assignment
	Conditional
	Increment & Decrement
	Is & as
	Construct
	If{….}
	If{….}Else{…}
	If{…}ElseIf{…}ElseIf{…} else{…} Nested if
	Switch Case
6	Looping Construct
	The While Loop
	The Do While Loop
	The For Loop
	The For each Loop
	Goto statement
	Break Statement
	Continue Statement
	Return Statement
	CASE STUDIES
7	**Collection**
	Collections
	Array
	The Stack Class
	The Queue Class
	The Sorted List Class
8	**Event Driven Program**
	What is an Event?
	How to write an event for a control?
	What is an EDP?

SL #	Course
9	**Multithreading**
	What is multitasking
	What is multithreading
	Using system. Threading namespace
	Use of thread class
	Use of thread members
	Implementing threading concept in C#.net
	Priority of threads
	Background thread
	Suspends and resumes a thread
10	**Debugging in C#.NET Application**
	Errors
	Types Of Errors
	Syntax Error
	Runtime Error
	Logical Error
	Debugging Modes
	Run
	Break
	Debug
	Break Point
	Debugging Tools
	Step Into, Step Over & Step Out
	Debugging Windows
	Autos
	Locals
	Me
	Immediate
	Call Stack
11	**Handling Errors and Exception**
	Introduction to Exception
	Unstructured Error handling Using
	Try ...Catch....Finally block
	Error Object
	Structure Exception Handling
	User Defined Exception
	CASE STUDIES

SL #	Course
12	**Manipulating Files**
	Working with files and Directory
	Open, Read and writing to file
	Usages of File Stream Class
	Usages of Stream Reader Class
	Usages of Stream Writer Class
13	**Connectivity through ADO.Net**
	Difference between ADO & ADO.NET
	Evolution of ADO.NET
	Why ADO.NET
	ADO.NET Data Architecture
	Dataset
	Data Provider
	Data Access with ADO.NET
	ADO.NET Component Classes
	Connection Object
	Data Adapter Object
	Command Object
	Parameter Object
	Data Reader Object
	Data Access through Data Controls
	From MS-SQL Server
	From Oracle/ MySQL
	Data Access through Binding Concept
	CASE STUDIES

SL #	Course
14	**Introduction to ASP.NET**
	Introduction to ASP.NET
	Server side scripting
	History of ASP.NET
	ASP.NET with .NET Framework
	Features of ASP.NET
	Advantages of ASP.NET
	Getting Started with ASP.NET
	Using Visual Studio.NET
	Virtual Directory
	Using Notepad
	Code Behind
	Web Form Inheritance
	Complied code behind files
	Compiling multiple files into one assembly
	Importing namespace
	Addressing code behind
	Global.asax code behind
	Application events
	ASP.NET Configuration
	Working with controls in ASP.NET
	Server Controls
	Advantages of server control
	Adding server controls to the web page
	Adding controls using form designer
	Adding controls using ASP.NET
	Syntax
	Setting Colors
	ARGB Color value
	.NET Color Name
	HTML Color name
	Setting Fonts
	Categories of server controls
	Text Entry
	Control Transfer
	Selection

	Images
	Containers
	Generic
	Types of Server Controls
	Html Server controls
	HTML Form Controls
	HTML Button
	HTML Image
	HTML Select
	HTML Table
	HTML Input Check Box
	HTML Input Text
	HTML Text Area
	Web server Controls
	Advantages of web controls
	Basic web control classes
	Properties of web controls
	Frequently used web controls
	Button Controls
	Calendar Controls
	Drop Down List
	Hyperlink
	Radio Button
	Table
	Validation Server Controls
	Types of validation controls
	Custom Validator Controls
	Range Validator Controls
	Regular Expression Validator Controls
	Required Field Validator Controls
	Validation Summery Controls
	Runtime Programming with controls
	Multiple Forms
	Adding controls at runtime
	Dynamically generating forms
	Dynamically generating List Items
	CASE STUDIES

SL #	Course
15	Data Access in ASP.NET- ADO.NET
	Data Binding in web forms
	Types of data binding
	Simple Data Binding
	Repeated value data binding
	Data Binding methods
	Working with simple data binding
	Working with Repeated value data binding
16	Data Binding with DATABASE
	Server Side Data Access
	Steps for Data Access
	Connection
	Connection string
	Data Adapter
	Dataset
	Data Provider
	XML
	Data Binding with Templates
	Controls that support Templates
	Types of templates
	Creating a Template
	Through Code
	In the web Form Designer
	Data List Control
	Templates and Events
	Repeater Controls
	Templates
	Working with Repeater Controls
	CASE STUDIES

SL #	Course
17	Basic of LINQ & Generics
	Web Services-wcf
	Consuming Web Services
	Creating a Web reference in VS.NET
	CASE STUDIES
	Advance Features of ASP.NET
	Objects in ASP.NET
	Request Object
	Collection of the Request Object
	Properties of the Request Object
	Methods of the Request Object
	Response Object
	Collection of the Response Object
	Properties of the Response Object
	Methods of the Response Object
	Server Object
	Collection of the Server Object
	Properties of the Server Object
	Methods of the Server Object
	Session Object
	Collection of the Session Object
	Properties of the Session Object
	Methods of the Session Object
	Events of the Session object
	Application Object
	Collection of the Application Object
	Properties of the Application Object
	Methods of the Application Object
	Events of the Application object

SL #	Course
18	ASP.NET State management
	ASP.NET Security
	ASP.NET Security Model
	ASP.NET Authentication
	ASP.NET Authorization
	ASP.NET Impersonation
	Caching
	Types of caching
	Output Caching
	Data Caching
19	Using XML in ASP.NET
	Revisiting XML
	Working with XML server Control
	Binding XML data to Web Form Control
	XML to HTML
	HTML to XML
	Converting Relational Data to XML Document
	Dataset to XML
	XML to Dataset
	Master Page
	Deploying ASP.NET Application
	Describing Assemblies
	Choosing a deployment strategy
	Deploying application
	Packaging a component assembly
	Deploying Web based application

SL #	Course
20	**ASP.NET Core - Introduction**
	ASP.NET Core - Overview
	ASP.NET Core - .NET Core vs .NET Framework
	ASP.NET Core - Environment Setup
	ASP.NET Core - New Project
	ASP.NET Core - Project Layout
	ASP.NET Core - Project.Json
	ASP.NET Core - Configuration
	ASP.NET Core - Middleware
	ASP.NET Core - Exceptions
	ASP.NET Core - Static Files
	ASP.NET Core - Setup MVC
	ASP.NET Core - MVC Design Pattern
	ASP.NET Core - Routing
	ASP.NET Core - Attribute Routes
	ASP.NET Core - Action Results
	ASP.NET Core - Views
	Setup Entity Framework
	ASP.NET Core – DB Context
	ASP.NET Core - Razor Layout Views
	ASP.NET Core - Razor View Start
	ASP.NET Core - Razor View Import
	ASP.NET Core - Razor Tag Helpers
	ASP.NET Core - Razor Edit Form
	ASP.NET Core - Identity Overview
	ASP.NET Core - Authorize Attribute
	ASP.NET Core - Validations & Data Annotations
	Identity Configuration
	ASP.NET Core - Identity Migrations
	ASP.NET Core - User Registration
	ASP.NET Core - Create a User
	ASP.NET Core - Log In and Log Out
	ASP.NET Core - Hosting in Multiple Environments

2. Review Strategy

For proper monitoring and review the following steps will be followed during the Training program.

2.1 Technical Evaluation

Technical Managers from CSM will visit to college campus and evaluate the technical/functional understanding of students on defined curriculum.

The mode of evaluation will be either by face to face interaction or through assigned task, depending upon the course completion.

Evaluation Feedback will be shared with college authorities for further improvisation and Gap closure.

2.2 Industrial Visit

The students will visit to CSM premises to get an Industrial work exposure.

They will be Trained on latest Technologies and complete SDLC by CSM subject matter experts & domain experts.

Frequency of visit will be mutually planned by College authorities and CSM personnel depending upon course completion and availability of experts.

3. Training Expectation

On successful completion of Training Program, students are expected to have a thorough knowledge on Fundamentals and Basics of Technology.

They should have deep understanding on application programming with proper Logic, Coding Standard, System Architecture, Error handling etc.

After the Training program, the students should be able to run an application independently and get proper project output within the assigned time frame.