



# PYTHON FULL STACK

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QUALIFICATION: MSc Computer Science

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This document serves as the module for the Python Fullstack course, encompassing the topics taught at CbTech. Please review and confirm the completion status of all topics. Additionally, kindly provide remarks for topics covered by your faculty.

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MONTH-1		
TOPIC	THEORY	PRACTICAL
<p><b>CORE PYTHON</b></p> <ul style="list-style-type: none"> <li>• Introduction to Python</li> <li>• Installing PyCharm/Vs code</li> <li>• Mathematical Operations in Python</li> <li>• Arithmetic operators</li> <li>• Assignment operators</li> <li>• Comparison operators</li> <li>• Logical operators</li> <li>• Identity operators</li> <li>• Membership operators</li> <li>• Conditional Statements</li> <li>• Looping</li> <li>• Control Statements</li> <li>• Python Primitive Data Types</li> </ul>		
<p><b>PYTHON NON-PRIMITIVE DATA TYPES</b></p> <p><b>List</b></p> <ul style="list-style-type: none"> <li>• Access Items</li> <li>• Change Item Value</li> </ul>		

- Append Items
- Remove List Items
- Loop Lists
- List Comprehension
- Sort Lists
- Copy Lists
- Join Lists
- List Methods

### **Tuples**

- Access Tuple
- Update Tuples
- Unpack Tuples
- Loop Tuples
- Join Tuples
- Tuple Methods

### **Sets**

- Access Set Items
- Add Set Items
- Remove Set Items
- Loop Sets
- Join Sets
- Set Methods

### **Dictionary**

- Accessing Items
- Change Values

<ul style="list-style-type: none"> <li>• Adding Items</li> <li>• Removing Items</li> <li>• Loop Dictionaries</li> <li>• Copy Dictionaries</li> <li>• Nested Dictionaries</li> <li>• Dictionary Methods</li> </ul>		
<b>PYTHON FUNCTIONS</b> <ul style="list-style-type: none"> <li>• Creating a Function</li> <li>• Calling a function</li> <li>• Required Arguments</li> <li>• Default Arguments</li> <li>• Keyword Arguments</li> <li>• Arbitrary Arguments</li> <li>• Arbitrary keyword Arguments</li> <li>• Return types from Functions</li> </ul> <b>OTHER BUILT-IN FUNCTIONS</b> <ul style="list-style-type: none"> <li>• Lambda Functions</li> <li>• Map</li> <li>• Filter</li> <li>• Reduce</li> <li>• Date Functions</li> <li>• Math and Random Functions</li> </ul>		

<b>MONTH 2</b>		
<b>MODULES &amp; PACKAGES</b> <ul style="list-style-type: none"> <li>• Modules</li> <li>• Import modules</li> <li>• Package creation</li> </ul>		
<b>FILE HANDLING</b> <ul style="list-style-type: none"> <li>• Python File Open</li> <li>• Working in Read mode</li> <li>• Read a file using the with statement</li> <li>• Read certain number of character</li> <li>• Readline and readlines</li> <li>• Creating a File using the write()</li> <li>• Write with()</li> <li>• Working of Append Mode</li> </ul>		
<b>EXCEPTION HANDLING</b> <ul style="list-style-type: none"> <li>• Use of exception handling</li> <li>• Types of exceptions in Python</li> <li>• Example</li> <li>• Raise exception and Example</li> </ul>		
<b>PYTHON GUI-TKINTER</b> <ul style="list-style-type: none"> <li>• Button in Tkinter</li> <li>• Add style to the Tkinter button</li> <li>• Add style to the Tkinter button</li> </ul>		

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| <ul style="list-style-type: none"><li>• Add style to the Tkinter button</li><li>• Canvas Widget</li><li>• Menu Bar</li><li>• Scroll Bar</li><li>• Form Labels – radio, checkbox, List Box</li><li>• Message Box</li><li>• Top-level widget</li><li>• Create a Register Form And store into Database</li></ul> |  |  |
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## OOPS CONCEPTS

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| <ul style="list-style-type: none"><li>• OOPS Concepts</li><li>• Classes and Objects</li><li>• Inheritance</li><li>• Polymorphism</li><li>• Scope</li><li>• Encapsulation</li><li>• Abstract Classes</li><li>• Interfaces</li></ul> |  |  |
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MONTH 3		
TOPIC	THEORY	PRACTICAL
<b>FRONT END TECHNOLOGIES</b>  <b>HTML</b> <ul style="list-style-type: none"> <li>• HTML Elements</li> <li>• HTML Attributes</li> <li>• HTML Headings</li> <li>• HTML Paragraphs</li> <li>• HTML Text Formatting</li> <li>• HTML Images</li> <li>• Block &amp; Inline Elements</li> <li>• Divisions</li> <li>• Class, Id</li> <li>• HTML Layout</li> <li>• HTML Forms</li> <li>• HTML Lists</li> <li>• HTML Link</li> <li>• HTML Table</li> </ul>		
<b>CSS</b> <ul style="list-style-type: none"> <li>• CSS syntax</li> <li>• Type of Css</li> <li>• CSS Selectors</li> <li>• CSS Colors</li> <li>• CSS Backgrounds</li> </ul>		

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| <ul style="list-style-type: none"><li>• CSS Borders</li><li>• CSS Margins</li><li>• display Property</li><li>• position Property</li><li>• Layout - Overflow</li><li>• float and clear</li><li>• CSS Combinators</li><li>• Pseudo-classes</li><li>• Pseudo-elements</li></ul> <p><b>Web Page design using HTML and CSS</b></p> <p><b>JAVASCRIPT</b></p> <ul style="list-style-type: none"><li>• JavaScript Introduction</li><li>• JavaScript Display Possibilities</li><li>• JavaScript Statements,syntax</li><li>• Js const,var,let</li><li>• Js data types</li><li>• JavaScript Functions</li><li>• JavaScript Objects</li><li>• JavaScript Events</li><li>• Js Strings,Numbers,Array</li><li>• Js date</li><li>• Js if else, switch, loop</li><li>• JS RegExp</li><li>• JS Functions</li><li>• Function Parameters</li></ul> |  |  |
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- Invocation
- Closures
- JavaScript html dom
- Form Validation

#### **Calculator Simple js project**

### **JQUERY**

- Introduction
- Syntax
- jQuery Selectors
- jQuery Event Methods
- jQuery Effects - Hide and Show
- Effects - Fading
- Effects - Sliding
- Effects - Animation
- Stop Animations
- Callback Functions
- Chaining

### **BOOTSTRAP**

- Introduction of Bootstrap
- Syntax of Bootstrap
- Container and Container-fluid
- Jumbotron
- Button
- Grid

<ul style="list-style-type: none"> <li>• Table</li> <li>• Form</li> <li>• Alert</li> <li>• Badge and label</li> <li>• Pagination</li> <li>• Image</li> <li>• Carousel</li> <li>• Progress Bar</li> <li>• List Group</li> <li>• Dropdown</li> <li>• Navbar</li> <li>• Bootstrap Colors</li> <li>• Display Property</li> <li>• Typography</li> </ul> <p><b>Web page design using Bootstrap</b>  <b>Edit and use free templates</b>  <b>Git Introduction and Push code into Git</b></p>		
MONTH 3		
TOPIC	THEORY	PRACTICAL
<p><b>SQL</b></p> <ul style="list-style-type: none"> <li>• DDL Commands</li> <li>• DML Commands</li> <li>• DQL Commands</li> <li>• Primary Key</li> <li>• Foreign Key</li> <li>• Order By</li> <li>• Group By</li> <li>• JOINS</li> </ul>		

## DJANGO

- Web Site Management
- Migrations
- Database Connectivity
- Model Views Templates in Django
- URL Configuration
- Django Filters
- Django Templates Integration
- Relation Models
- Extend Tag
- Crispy Forms
- Login /Registration with Django
- CRUD with Django
- Customized Login/Registration with Django
- Class views and Function views
- Ajax Project
- Email Send Django
- Sessions in Django

## SAMPLE PROJECT

- TO DO Application
- Templates Project
- Photo Gallery
- Hospital Website Mini Project
- E-Commerce Website
- Host Website In Python anywhere
- Blog Application

MONTH 4

## MAIN PROJECT

I hereby acknowledge that all the above topics have been covered by my faculty during my learning of the Python Full Stack course at Cbtech.

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Signature: 

Date: 30/7/2024