

# Training Syllabus (Python)

## Lecture wise

## Foundation of 'C'

L.N.	Contents	Hours
1	1) Introduction of programming 2) Translator 3) Introduction of 'C' 4) History of 'C' 5) C tokens <ul style="list-style-type: none"> <li>a. Keywords</li> <li>b. Identifiers</li> <li>c. Variables/Constant</li> <li>d. Data types</li> <li>e. Operators</li> <li>f. Function</li> <li>g. Header Files</li> </ul>	2
2	1) Decision making statements <ul style="list-style-type: none"> <li>a. If               <ul style="list-style-type: none"> <li>i. Simple if</li> <li>ii. Else if</li> <li>iii. Nested if</li> <li>iv. Else if ladder</li> </ul> </li> <li>b. Switch case</li> <li>c. Goto</li> </ul> 2) Looping statements / Iterative statements <ul style="list-style-type: none"> <li>a. While loop</li> <li>b. For loop</li> <li>c. Do while loop</li> </ul>	2
3	1) Array <ul style="list-style-type: none"> <li>a. Single Dimensional Arrays</li> <li>b. Double Dimensional Arrays</li> </ul> 2) String <ul style="list-style-type: none"> <li>a. String Handling</li> <li>b. String Function</li> </ul>	2

4	<p><b>1) Function</b></p> <ul style="list-style-type: none"> <li>a. Built in/Library Functions</li> <li>b. User Define Functions           <ul style="list-style-type: none"> <li>i. Declaring a function</li> <li>ii. Defining a function               <ul style="list-style-type: none"> <li>1. No Return, No Parameter</li> <li>2. Return, No Parameter</li> <li>3. No Return, Parameter</li> <li>4. Return, Parameter</li> </ul> </li> <li>iii. Calling a function</li> </ul> </li> </ul>	2
5	<p>1) Recursion</p> <p>2) Type Casting</p> <p>3) Scope of variable</p> <ul style="list-style-type: none"> <li>a. Local variable</li> <li>b. Global variable</li> </ul> <p>4) Storage Classes</p> <ul style="list-style-type: none"> <li>a. Automatic</li> <li>b. Register</li> <li>c. Static</li> <li>d. External</li> </ul>	2
6	<p>1) Preprocessors</p> <ul style="list-style-type: none"> <li>a. File inclusion (#include)</li> <li>b. Macro Expansion (#define)</li> </ul> <p>2) Header files</p> <ul style="list-style-type: none"> <li>a. Built in/Library header Files</li> <li>b. User Define header file           <ul style="list-style-type: none"> <li>i. Creating user define header file</li> <li>ii. Using user define header file</li> </ul> </li> </ul>	2
7	<p>1) Problem Solving &amp; Recovery Session</p> <p>2) Test</p>	2

## HTML & CSS

<b>L.N.</b>	<b>Content</b>	<b>Hours</b>
8	<p>1) Introduction of Web pages</p> <p>2) Introduction of Websites</p> <p>3) Introduction of Web Browsers</p> <p>4) Introduction of HTML</p> <ul style="list-style-type: none"> <li>a. What is Hypertext?</li> <li>b. What is Markup language</li> </ul>	2

	<p>5) History of HTML      6) How to use HTML to create web pages?      7) What is tag?      8) What is element?      9) HTML tag      10) Head tag</p> <ul style="list-style-type: none"> <li>a. Title tag</li> <li>b. Style tag</li> <li>c. Script tag</li> <li>d. Noscript tag</li> <li>e. Link tag</li> <li>f. Meta tag</li> <li>g. Base tag</li> </ul> <p>11) Body tag      12) Attributes</p>	
9	<p>1) Text Editing tags</p> <ul style="list-style-type: none"> <li>a. H1, h2, h3, h4, h5, h6, p, pre, center, br, hr, b, strong, i, em, u, ins, s, strike, del, sup, sub, big, small</li> </ul> <p>2) Lists</p> <ul style="list-style-type: none"> <li>a. Ordered List (ol, li)</li> <li>b. Unordered list (ul, li)</li> <li>c. Definition list (dl, dt, dd)</li> </ul> <p>3) Table (table, tr, th, td, thead, tbody, tfoot)      4) Marquee (marquee)      5) Image (img)      6) Hyperlink (a)</p>	2
10	<p>1) Form</p> <ul style="list-style-type: none"> <li>a. input (type=text, number, date, email, password, url, range, button, submit, reset, radio, checkbox)</li> <li>b. textarea</li> <li>c. label</li> <li>d. fieldset</li> <li>e. legend</li> <li>f. select</li> <li>g. option</li> <li>h. optgroup</li> <li>i. button</li> <li>j. datalist</li> </ul>	2
11	<p>1) div      2) span      3) iframe      4) video      5) audio</p>	2

12	<ul style="list-style-type: none"> <li>1) Introduction of CSS</li> <li>2) Selectors</li> <li>3) Properties &amp; values</li> <li>4) Text Styling Properties           <ul style="list-style-type: none"> <li>a. Font-family</li> <li>b. Font-size</li> <li>c. Font-weight</li> <li>d. Text-decoration</li> <li>e. Text-transform</li> <li>f. Color</li> <li>g. Line-height</li> <li>h. Word-spacing</li> <li>i. Text-shadow</li> </ul> </li> <li>5) Text-align</li> <li>6) Box Modal Properties           <ul style="list-style-type: none"> <li>a. Width</li> <li>b. Height</li> <li>c. Padding</li> <li>d. Margin</li> <li>e. Border</li> <li>f. Box-shadow</li> <li>g. Border-radius</li> <li>h. Float</li> <li>i. Outline</li> </ul> </li> </ul>	2
13	<ul style="list-style-type: none"> <li>1) Background           <ul style="list-style-type: none"> <li>a. Background-color</li> <li>b. Background-image</li> <li>c. Background-repeat</li> <li>d. Background-size</li> <li>e. Background-position</li> <li>f. Background-attachment</li> <li>g. Background (rbga)</li> </ul> </li> <li>2) List (list-style-type, list-style-image)</li> <li>3) Table (border, border-collapse)</li> <li>4) Position</li> <li>5) Z-index</li> <li>6) opacity</li> </ul>	2
14	<ul style="list-style-type: none"> <li>1) Pseudo-classes           <ul style="list-style-type: none"> <li>a. Hover</li> <li>b. Focus</li> <li>c. Active</li> <li>d. Visited</li> <li>e. Link</li> <li>f. Disabled</li> </ul> </li> </ul>	2

	<ul style="list-style-type: none"> <li>g. Enabled</li> <li>h. First-child</li> <li>i. Last-child</li> <li>j. Nth-child (odd,even,2n+1,1)</li> </ul> <p>2) Designing a simple menu 3) Designing a menu have sub menu</p>	
15	<p>1) Designing a simple home page of a website 2) Designing a Registration page of a website 3) Designing a login page of a website</p>	2

## Foundation of 'JavaScript'

L.N.	Content	Hours
16	<p>1) Introduction of Scripting language 2) Difference between Client &amp; Server Side Scripting 3) Introduction of JavaScript 4) JavaScript Tokens           <ul style="list-style-type: none"> <li>a. Keywords</li> <li>b. Identifiers</li> <li>c. Variables</li> <li>d. Data types</li> <li>e. Operators</li> <li>f. Variable declaration</li> </ul> <p>5) Document object Modal 6) Write &amp; writeln &amp; message (alert) box 7) Events 8) DOM traversing</p> </p>	2
17	<p>1) Conditional Statements (if, else if, nested if, else if ladder) 2) Looping Statements (while, for, do while) 3) Arrays 4) Objects 5) Functions 6) Call function on events</p>	2
18	<p>1) Dialog boxes           <ul style="list-style-type: none"> <li>a. Alert Box</li> <li>b. Confirm Box</li> <li>c. Prompt Box</li> </ul> <p>2) String Functions 3) Number Functions 4) Math's Functions 5) Date Functions</p> </p>	2

19	1) Creating a Simple Slider 2) Form validation using JavaScript (using regular expression)	2
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## Fundamentals of 'Python'

L.N.	Content	Hours
20	1) Introduction of Python 2) Overview of Python 3) History of Python 4) Features of Python 5) Python Environment Setup 6) Setting Up Path Variable 7) Python Environment Variable 8) Running Python 9) First Program in Python	2
21	1) Python Identifiers 2) Python Keywords 3) Line and Indentations 4) Multi-Line Statements 5) Comments in Python 6) Quotations in Python 7) Multiple Statements in Single Line 8) Command Line Arguments 9) Display Output in various format 10) User Input 11) Input Parsing	2
22	1) Variable Declarations 2) Accessing / Assigning Value to Variables 3) Multiple Assignments 4) Standard Data Types 5) Python String 6) Python Operators 7) Arithmetic, Logical and Assignment Operators 8) Members Operators 9) Identity Operators	2

23	<ul style="list-style-type: none"><li>1) If Statement</li><li>2) If...Else Statement</li><li>3) Nested if Statement</li><li>4) Elif Statement</li><li>5) Single Statements</li><li>6) Looping in Python</li><li>7) While Loop</li><li>8) Using Single and Multiple Statements in Loop</li><li>9) Using Else Statement with loop</li></ul>	2
24	<ul style="list-style-type: none"><li>1) For Loop</li><li>2) Nested Loops</li><li>3) Loop Control Statements</li><li>4) Break Statement</li><li>5) Continue Statement</li><li>6) Pass Statement</li><li>7) Python Number and its Operations</li><li>8) Random Number</li><li>9) String Functions in Python</li></ul>	2
25	<ul style="list-style-type: none"><li>1) List in Python</li><li>2) List Operations</li><li>3) List Functions</li><li>4) Tuple in Python</li><li>5) Tuple Operations</li><li>6) Tuple Functions</li><li>7) Dictionary in Python</li><li>8) Dictionary Operator</li><li>9) Dictionary Functions</li></ul>	2
26	<ul style="list-style-type: none"><li>1) Date and Time in Python</li><li>2) Date Time Operations in Python</li><li>3) Date Time Functions in Python</li><li>4) Function in Python</li><li>5) User Define Functions</li><li>6) Defining a Functions</li><li>7) Calling a Function</li></ul>	2

27	<ul style="list-style-type: none"> <li>1) Passing by Reference Versus Passing by Values</li> <li>2) Function Arguments</li> <li>3) Required Arguments</li> <li>4) Keyword Arguments</li> <li>5) Default Arguments</li> <li>6) Variable length Arguments</li> <li>7) The return Statement</li> <li>8) Scope of Variable</li> <li>9) Global vs. Local Variables</li> </ul>	2
28	<ul style="list-style-type: none"> <li>1) Python Modules</li> <li>2) Import module</li> <li>3) From.....import statement</li> <li>4) From.....import * statement</li> <li>5) Locating Modules</li> <li>6) Namespaces and scoping</li> <li>7) Packages in Python</li> <li>8) Exceptions in Python</li> <li>9) Exceptions Handling in Python</li> </ul>	2
29	<ul style="list-style-type: none"> <li>1) OOPs in Python</li> <li>2) Class and object in python</li> <li>3) Creating Class</li> <li>4) Creating Object</li> <li>5) Accessing Attributes</li> <li>6) Destroying objects</li> <li>7) Overriding Methods</li> <li>8) Base Overloading Methods</li> <li>9) Data Hiding</li> </ul>	2

## Fundamentals of 'Python CGI'

L.N.	Content	Hours
30	<ul style="list-style-type: none"> <li>1) CGI Introduction</li> <li>2) CGI Environment Setup for Python</li> <li>3) CGI Architecture</li> <li>4) Web Server Configuration</li> <li>5) First CGI Program</li> <li>6) CGI Scripting</li> <li>7) Python Scripting on Web Server</li> </ul>	2

31	1) Form Designing 2) Form data Handling 3) Receiving Form Data 4) Form Validation on Server 5) Validating Form Data using Python 6) Send Form Data using Get Method 7) Send Form Data using Post Method	2
32	1) Receiving Radio Button Data 2) Passing Form Data Using Checkbox 3) Passing Text area data to CGI Program 4) Passing Dropdown Data to CGI Program 5) Complete Form Data Receiving 6) Complete Form Validation on Server Side 7) Python HTTP Headers	2
33	1) Python Cookies 2) Setting Cookies 3) Retrieve Cookies 4) File Upload Control in Python 5) File Uploading to Server 6) Deleting File from Server 7) Download File from Server	2

## Fundamentals of 'MySQL DBMS'

L.N.	Content	Hours
34	1) Introduction of database 2) Introduction of DBMS / RDBMS 3) Introduction of SQL (Structured Query Language) 4) Introduction of DDL commands 5) Introduction of DML commands 6) Introduction of DCL commands 7) Create Command <ul style="list-style-type: none"> <li>a. Create Database</li> <li>b. Create table</li> </ul> 8) Drop Command <ul style="list-style-type: none"> <li>a. Drop database</li> <li>b. Drop table</li> </ul> 9) Truncate Command <ul style="list-style-type: none"> <li>a. Truncate table</li> </ul>	2
35	1) Alter Command <ul style="list-style-type: none"> <li>a. Modify table column</li> <li>b. Drop Table column</li> <li>c. Add new column into table</li> </ul>	2

	<p>2) Insert Command</p> <ul style="list-style-type: none"> <li>a. Insert single record into table</li> <li>b. Insert multiple records into table</li> </ul> <p>3) Select Command</p> <ul style="list-style-type: none"> <li>a. Select all columns from table</li> <li>b. Select specific columns from table</li> <li>c. Select using where clause</li> </ul> <p>4) Update Command</p> <ul style="list-style-type: none"> <li>a. Update all records of table</li> <li>b. Update single record of table using where clause</li> </ul> <p>5) Delete Command</p> <ul style="list-style-type: none"> <li>a. Delete all records from table</li> <li>b. Delete single multiple records from table using where clause</li> </ul>	
36	<p>1) Keys</p> <ul style="list-style-type: none"> <li>a. Unique Key</li> <li>b. Primary Key</li> <li>c. Foreign key</li> </ul> <p>2) Not Null</p> <p>3) Default</p> <p>4) Auto Increment</p> <p>5) AND &amp; OR Operators</p> <p>6) Order By (Ascending or Descending Orders)</p> <p>7) Top or Limit</p> <p>8) Like</p>	2
37	<p>1) Distinct</p> <p>2) Between</p> <p>3) Joins</p> <ul style="list-style-type: none"> <li>a. Inner join</li> <li>b. Left Join</li> <li>c. Right Join</li> </ul> <p>4) Full Join</p> <p>5) SQL Aggregate Functions</p> <ul style="list-style-type: none"> <li>a. Avg()</li> <li>b. Count()</li> <li>c. Min()</li> <li>d. Max()</li> <li>e. Sum()</li> <li>f. Now()</li> </ul>	2

## Python Database Access using MySQL

L.N.	Content	Hours
38	1) Overview of Database Access 2) Environment Setup for MySQLdb 3) Database Connection 4) Connection Exception Handling 5) Connection validating 6) First Query Execution 7) Displaying Query Results	2
39	1) Establishing Database Connection Object 2) Receiving Form Data 3) Insert for Data into Database 4) Insert Multiple Data 5) Fetching Data from Database 6) Displaying All Records 7) Displaying Single Record	2
40	1) Complete Form Data Insertion into Database 2) Uploading Media File on server and Database 3) Retrieving Data from Database 4) Show Media File from Database 5) Create Delete Button 6) Perform Delete Operation	2
41	1) Delete Operation 2) Delete File from Server 3) Delete Single Data 4) Delete multiple Data 5) Create Edit button 6) Perform Edit Operation 7) Display Data into text box after clicking edit	3
42	1) Perform Edit Operation 2) Perform Update Operation 3) Prepare Complete Form 4) Edit, Update, Delete Operation Combination 5) Full Details Displaying with All Required Actions	2
<u>43</u>	<b><u>Project Distribution</u></b> <b><u>Project Team Divide</u></b> <b><u>6 to 7 days to Complete project</u></b>	<u>2*7</u>