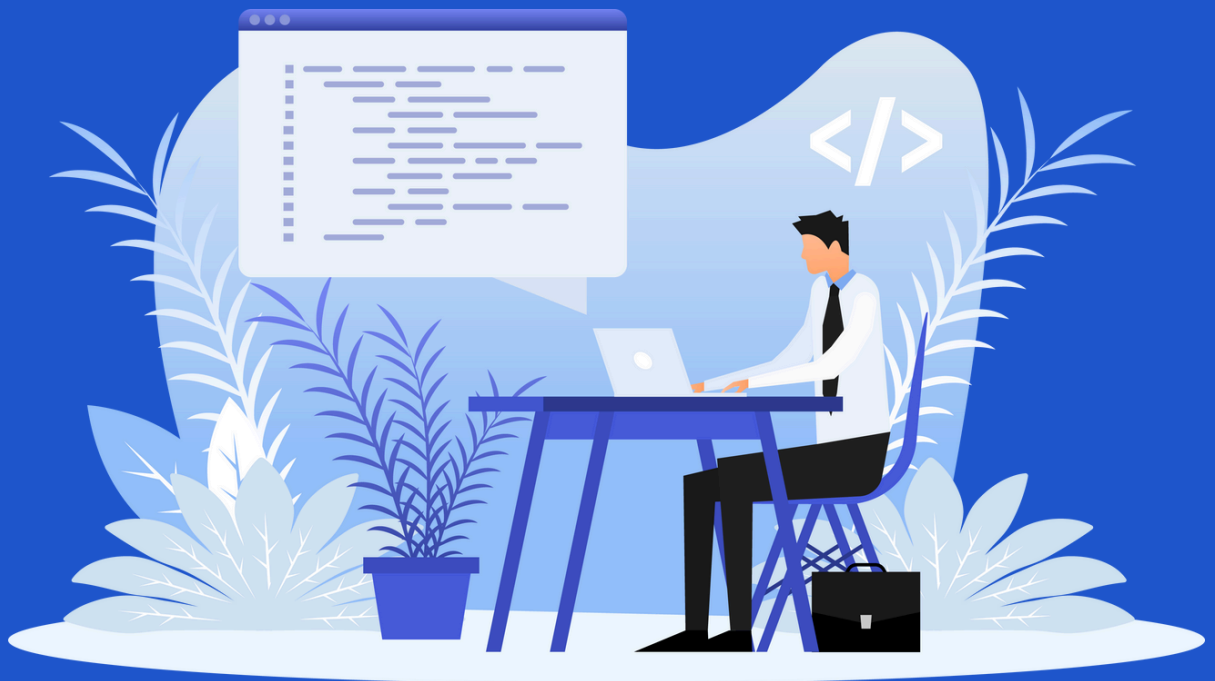


# DATA ANALYTICS

Empower Your Developer Journey  
DATA Analyst in **80+ Hours**



# ABOUT BTREE

Leading the Way in IT Education based in Chennai, we are dedicated to shaping the future of aspiring professionals through expert training in cutting-edge technologies. Join our trusted institute and unlock your true potential in the world of IT.

## OUR HIGHLIGHTS



**Learn Under Expert Trainers**



**Dedicated Placement team**



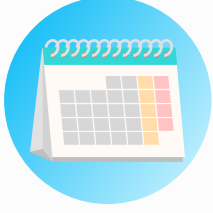
**Pay Fee in No Cost EMI**



**Live Instructor Led Training**



**Professional Certification**



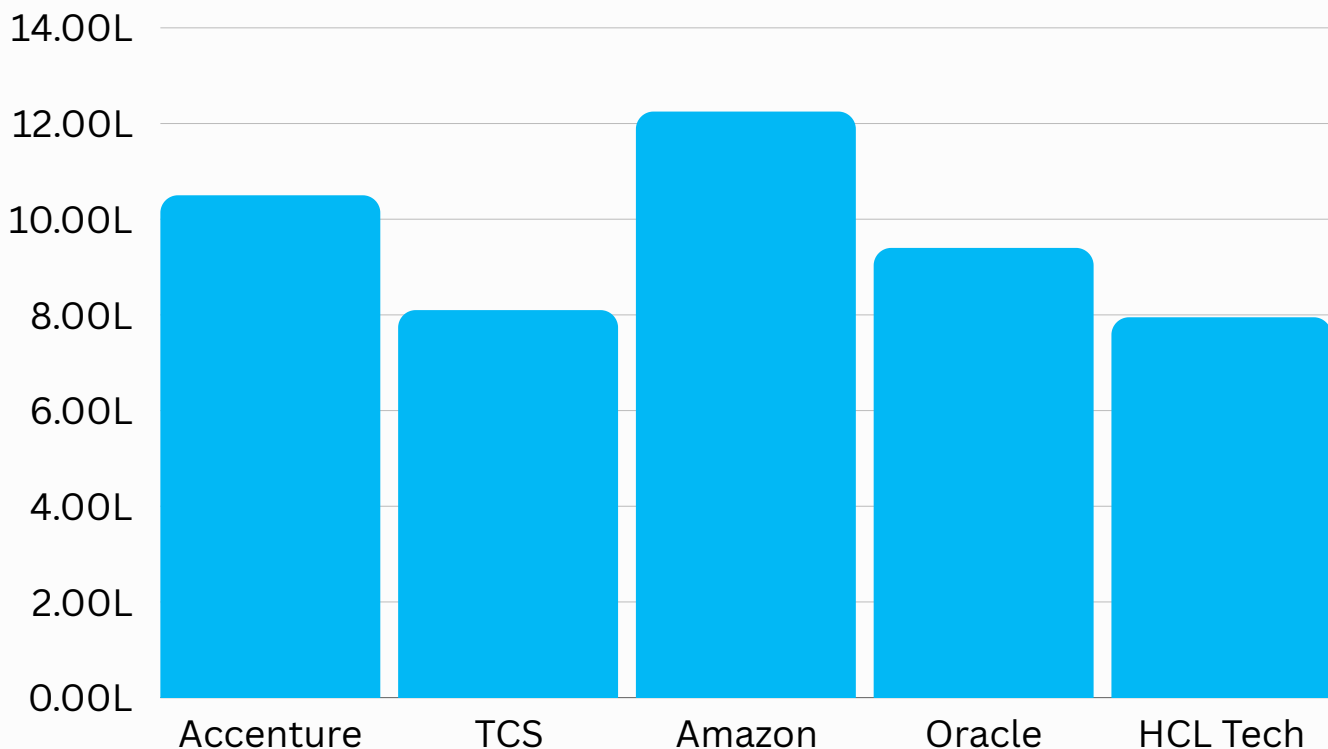
**Flexible Classes - Both WE/WD**

# WHY TO LEARN DATA ANALYST ?

- ✓ In India, the average salary for a Python Developer is 8 LPA. A skilled Python Developer can work on Full Stack Development and Software Testing with a 9.5 LPA Avg.
- ✓ The number of jobs available for these professionals will increase from 135,000 to over 853,000 by 2024.
- ✓ The demand for Full-Stack Developers has been increasing at 35% each year since 2015.

## AVERAGE SALARY OF DATA ANALYST IN TOP MNCS'

Source:  glassdoor



# WHY TO INVEST IN IT EDUCATION?



Standing Apart  
the Competition



Job Options  
Across The Globe



Higher Earning  
Potential



Fastest Growing  
Industry

## A LEARNING COMPARISON

Learning Options		Institutes	
Learn with hands-on experience	<input type="checkbox"/> NO 	<input checked="" type="checkbox"/> YES 	<input checked="" type="checkbox"/> YES 
Skill Credibility & Proof	<input type="checkbox"/> NO 	<input checked="" type="checkbox"/> YES 	<input checked="" type="checkbox"/> YES 
Industry Experts as Trainers	<input type="checkbox"/> NO 	<input checked="" type="checkbox"/> YES 	<input checked="" type="checkbox"/> YES 
Work on real-time projects	<input type="checkbox"/> NO 	<input type="checkbox"/> NO 	<input checked="" type="checkbox"/> YES 
Dedicated Placement Guidance	<input type="checkbox"/> NO 	<input type="checkbox"/> NO 	<input checked="" type="checkbox"/> YES 
Certification Support	<input type="checkbox"/> NO 	<input type="checkbox"/> NO 	<input checked="" type="checkbox"/> YES 



# WHY TO CHOOSE BTREE?

**80+**

Hours of Engaging  
live training

**7+**

Modules to make  
learning on point

**150+**

Industry experts as  
trainers

**870+**

Students trained  
across globe

**3+**


Projects for Hands  
on experience

**100%**

Dedicated  
Placement  
Guidance

# COURSE SYLLABUS



MODULE NAME	TOPICS
<p>Module 01 : Python</p>  <p><i><b>“Where Simplicity Meets Power”</b></i></p>	<p><b>Python Introduction :</b></p> <ul style="list-style-type: none"><li>• Introduction to Python</li><li>• History of Python</li><li>• Why Python?</li><li>• Python Environment Setup</li><li>• Comments in Python</li><li>• Variables in Python</li><li>• Operators in Python</li></ul> <p><b>Data Types :</b></p> <ul style="list-style-type: none"><li>• Input and Output in Python</li><li>• Data Types in Python</li><li>• Type Conversion</li><li>• Type Casting in Python</li><li>• Numeric Data type and its Methods</li><li>• Text Datatype and its Methods</li><li>• String Modification</li><li>• Strings are Arrays</li><li>• String Slicing</li><li>• Format String</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b><u>Practice Exercise :</u></b></p> <p>Task 1 :</p> <ul style="list-style-type: none"><li>• Write a function that takes a string as input and returns the string reversed.</li></ul> <p>Task 2 :</p> <ul style="list-style-type: none"><li>• Write a function that counts the number of vowels (a, e, i, o, u) in a given string.</li></ul> <p>Task 3 :</p> <ul style="list-style-type: none"><li>• Design a method to check given number is palindrome or not.</li></ul> <hr/> <p><b>Collections :</b></p> <ul style="list-style-type: none"><li>• Creating a List</li><li>• Accessing List Elements</li><li>• List Slicing</li><li>• Modifying Lists</li><li>• List Methods</li><li>• List Comprehension</li><li>• List Operations</li><li>• Creating a Tuple</li><li>• Accessing Tuple Elements</li><li>• Slicing Tuples</li><li>• Tuple Operations</li><li>• Tuple Methods</li><li>• Tuple Unpacking</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<ul style="list-style-type: none"><li>• Creating a Set</li><li>• Properties of a Set</li><li>• Adding Elements to a Set</li><li>• Removing Elements from a Set</li><li>• Set Operations</li><li>• Set Membership</li><li>• Frozenset</li><li>• Common Set Methods</li><li>• Creating a Dictionary</li><li>• Accessing Dictionary Elements</li><li>• Adding and Modifying Dictionary Elements</li><li>• Removing Elements from a Dictionary</li><li>• Dictionary Methods</li><li>• Iterating Over a Dictionary</li><li>• Nested Dictionaries</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b><u>Practice Exercise :</u></b></p> <p>Task 4 :</p> <ul style="list-style-type: none"><li>• Write a list comprehension that filters out all the even numbers from a given list of integers.</li></ul> <p>Task 5 :</p> <ul style="list-style-type: none"><li>• Write a list comprehension that converts all strings in a list to uppercase.</li></ul> <p>Task 6 :</p> <ul style="list-style-type: none"><li>• Write a list comprehension that removes all vowels from a given string.</li></ul> <p>Task 7 :</p> <ul style="list-style-type: none"><li>• Write a function that finds the longest word in a given sentence.</li></ul> <p>Task 8 :</p> <ul style="list-style-type: none"><li>• Design a method to check given number is palindrome or not.</li></ul> <p>Task 9 :</p> <ul style="list-style-type: none"><li>• Write a function that generates the Fibonacci sequence up to the n-th number.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b>Control Flow Statements :</b></p> <p><b>1.Conditional Statements :</b></p> <ul style="list-style-type: none"><li>• If-Else Statement</li><li>• Elif Statement</li><li>• Nested IF Statement</li></ul> <p><b>2.Loops in Python :</b></p> <ul style="list-style-type: none"><li>• Understanding of Iterators and Iterables</li><li>• For Loop</li><li>• For Loop Using Range</li><li>• Nested For Loop</li><li>• While Loop</li></ul> <p><b>3. Control Transfer Statements :</b></p> <ul style="list-style-type: none"><li>• Break</li><li>• Continue</li><li>• Pass</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b><u>Practice Exercise :</u></b></p> <p>Task 10 :</p> <ul style="list-style-type: none"><li>• Design a method to check given number is prime or not.</li></ul> <p>Task 11 :</p> <ul style="list-style-type: none"><li>• Design a method to check given number is even or odd.</li></ul> <p>Task 12 :</p> <ul style="list-style-type: none"><li>• Design a method to print factorials</li></ul> <p>Task 13 :</p> <ul style="list-style-type: none"><li>• Write a function that calculates the sum of the digits of a given number.</li></ul>



# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p data-bbox="699 504 1070 544"><b>Functions in Python :</b></p> <ul data-bbox="719 573 1281 1285" style="list-style-type: none"><li data-bbox="719 573 1066 607">• Built-in Functions</li><li data-bbox="719 640 1163 674">• User Defined Functions</li><li data-bbox="719 707 1062 741">• Define a function</li><li data-bbox="719 775 1075 808">• Calling a function</li><li data-bbox="719 842 1129 875">• Function Parameters</li><li data-bbox="719 909 1142 943">• Passing an Argument</li><li data-bbox="719 976 1118 1010">• Arbitrary Arguments</li><li data-bbox="719 1043 1118 1077">• Keyword Arguments</li><li data-bbox="719 1111 1278 1144">• Arbitrary Keyword Arguments</li><li data-bbox="719 1178 1086 1211">• Default Parameter</li><li data-bbox="719 1245 1070 1279">• Lambda Function</li></ul> <p data-bbox="699 1395 997 1435"><b><u>Practice Exercise :</u></b></p> <p data-bbox="699 1458 826 1491">Task 14 :</p> <ul data-bbox="719 1520 1505 1675" style="list-style-type: none"><li data-bbox="719 1520 1505 1675">• Write a lambda function that multiplies two numbers and use it to calculate the product of 7 and 5.</li></ul> <p data-bbox="699 1704 826 1738">Task 15 :</p> <ul data-bbox="719 1767 1493 1865" style="list-style-type: none"><li data-bbox="719 1767 1493 1865">• Write a function average that takes a variable number of arguments and returns their avg.</li></ul> <p data-bbox="699 1895 826 1928">Task 16 :</p> <ul data-bbox="719 1957 1513 2056" style="list-style-type: none"><li data-bbox="719 1957 1513 2056">• Write a function sum_of_three that takes three numbers as arguments and returns their sum.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b>File Handling :</b></p> <ul style="list-style-type: none"><li>• Opening a File</li><li>• Reading a File</li><li>• Writing to a File</li><li>• Appending to a File</li><li>• Closing a File</li><li>• File Methods</li><li>• Working With Text Files</li><li>• Delete a File</li><li>• Working Binary Files[videos, audios and images]</li><li>• Context Manager</li><li>• File Pointer</li><li>• Checking if File Exists</li><li>• Delete a Folder</li><li>• Working with CSV Files</li><li>• Working with ZIP Files</li><li>• Handling Exceptions in File Handling</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b><u>Practice Exercise :</u></b></p> <p>Task 17 :</p> <ul style="list-style-type: none"><li>• Write a Python program to read a text file and print its contents line by line.</li></ul> <p>Task 18 :</p> <ul style="list-style-type: none"><li>• Write a Python program to read the contents of a binary file and create a new binary file with the same contents.</li></ul> <p>Task 19 :</p> <ul style="list-style-type: none"><li>• Write a Python program that reads a text file and counts the number of words in it.</li></ul> <p>Task 20 :</p> <ul style="list-style-type: none"><li>• Write a Python program to read a CSV file and print each row.</li></ul>
	<p><b>Exception Handling :</b></p> <ul style="list-style-type: none"><li>• What is Exception?</li><li>• Common Built-in Exceptions</li><li>• Basic Syntax of Exception Handling</li><li>• Catching Multiple Exceptions</li><li>• Catching All Exceptions</li><li>• The else Clause</li><li>• The finally Clause</li><li>• Raising Exceptions</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b><u>Practice Exercise :</u></b></p> <p>Task 21 :</p> <ul style="list-style-type: none"><li>• Write a function <code>divide_numbers(a, b)</code> that divides two numbers <code>a</code> and <code>b</code>. Implement exception handling to catch division by zero and return a message "Cannot divide by zero" if <code>b</code> is zero.</li></ul> <p><b>OOPS in Python :</b></p> <p><b>Class and Objects :</b></p> <ul style="list-style-type: none"><li>• How to Define a Class?</li><li>• Creating a Objects</li><li>• Use of Self Keyword</li><li>• Methods and Attributes</li><li>• Constructor(<code>__init__</code>)</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<p><b>Inheritance :</b></p> <ul style="list-style-type: none"><li>• What is Inheritance?</li><li>• Types of Inheritance</li><li>• Single Inheritance</li><li>• Multiple Inheritance</li><li>• Multilevel Inheritance</li><li>• Hierarchical Inheritance</li><li>• Hybrid Inheritance</li></ul> <p><b>Polymorphism :</b></p> <ul style="list-style-type: none"><li>• What is Polymorphism?</li><li>• Method Overloading</li><li>• Method Overriding</li></ul> <p><b>Encapsulation:</b></p> <ul style="list-style-type: none"><li>• What is Encapsulation?</li><li>• Access Modifiers</li><li>• Using Public Members</li><li>• Using Private Members</li><li>• Using Protected Members</li></ul> <p><b>Abstraction :</b></p> <ul style="list-style-type: none"><li>• import the ABC module</li><li>• Abstract Base Class</li><li>• Abstract Class</li><li>• Abstract Method</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 01: Python(cont..)	<ul style="list-style-type: none"><li>• How to Use Abstract in Python</li><li>• Why Use Abstraction?</li><li>• Real World Example</li></ul>
	<p><b><u>Practice Exercise :</u></b></p> <p>Task 24 :</p> <ul style="list-style-type: none"><li>• Create a BankAccount class that represents a bank account. The class should have:</li><li>• An <code>__init__</code> method to initialize the account with an account holder's name and an initial balance.</li></ul> <p>Methods to deposit and withdraw money. A method to check the balance. A method to display account details.</p> <p>Task 25 :</p> <ul style="list-style-type: none"><li>• Create two base classes: Person with attributes name and age, and Employee with an attribute <code>employee_id</code>. Create a derived class Manager that inherits from both Person and Employee, and add an additional attribute <code>department</code></li></ul> <p>Task 26 :</p> <ul style="list-style-type: none"><li>• Define a class MathOperation with a method <code>add()</code> that can handle both integer and float types. Implement method overloading to support addition of integers and floats.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
<b>Module 01 : Python(cont..)</b>	<p>Task 27 :</p> <ul style="list-style-type: none"><li>• Create a library management system Project using Python Abstraction</li></ul> <p>Task 28 :</p> <ul style="list-style-type: none"><li>• Develop calculator app implementing mathematical operations.</li></ul>
	<p><b>Python for Data Analytics</b></p> <p><b>Numpy</b></p> <p><b>Arrays</b></p> <ul style="list-style-type: none"><li>• Array operation</li><li>• Indexing and slicing</li><li>• Shape and reshape</li><li>• Data types</li><li>• Mathematical functions</li><li>• Statistical functions</li></ul> <p><b>Random</b></p>
	<p><b><u>Practice Exercise :</u></b></p> <p>Task 29 :</p> <ul style="list-style-type: none"><li>• Create a NumPy array of shape (3, 3) filled with random integers between 1 and 100.</li><li>• Perform element-wise addition of two NumPy arrays of the same shape.</li><li>• Find the mean, median, and standard deviation of a NumPy array.</li></ul>



# COURSE SYLLABUS



MODULE NAME	TOPICS
<p>Module 01 : Python(cont..)</p>	<p><b>Pandas</b></p> <p><b>Data structures</b></p> <ul style="list-style-type: none"><li>• Series</li><li>• Data Frame</li></ul> <p><b>Data operations</b></p> <ul style="list-style-type: none"><li>• Creation</li><li>• Indexing and selecting data</li><li>• Filtering</li><li>• Sorting</li></ul> <p><b>Data manipulation</b></p> <ul style="list-style-type: none"><li>• Adding/removing columns and rows</li><li>• Merging</li></ul> <p><b>Data manipulation</b></p> <ul style="list-style-type: none"><li>• Adding/removing columns and rows</li><li>• Merging</li></ul>
	<p><b><u>Practice Exercise :</u></b></p> <p>Task 30 :</p> <ul style="list-style-type: none"><li>• Create a Pandas Data Frame from a dictionary containing names, ages, and salaries of employees.</li><li>• Filter rows in the Data Frame where the age is greater than 30.</li><li>• Group the Data Frame by the department column and calculate the average salary for each department.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
<p>Module 01 : Python(cont..)</p>	<p><b>Handling a Missing Values</b></p> <ul style="list-style-type: none"><li>• Finding Missing values and Duplicates</li><li>• Removing Duplicates</li><li>• Filling Missing Values</li></ul> <p><b>EDA</b></p> <ul style="list-style-type: none"><li>• Data Collection</li><li>• Data Understanding</li><li>• Data Cleaning</li><li>• Data Transformation</li><li>• Data Visualization</li></ul> <p><b>Matplotlib and Sea born</b></p> <ul style="list-style-type: none"><li>• Bar Chart</li><li>• Box plot</li><li>• Violin Plot</li><li>• Histogram</li><li>• Line Chart</li><li>• Scatter Plot</li><li>• Heat Map</li></ul>
	<p><b><u>Practice Exercise :</u></b></p> <p>Task 31 :</p> <ul style="list-style-type: none"><li>• You are monitoring the average temperature of a city over a year to study seasonal changes and identify any unusual weather patterns.</li><li>• You're assessing whether there's a relationship between advertising spending and revenue growth for a series of marketing campaigns.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 02 : SQL	<p><b>Why DataBase ?</b></p> <p><b>Types of DataBase</b></p> <ul style="list-style-type: none"><li>• Relational DataBase</li><li>• Non-Relational DataBase</li></ul> <p><b>Why Postgre SQL</b></p> <ul style="list-style-type: none"><li>• PostgreSQL follows standard SQL syntax, making it compatible with MySQL and SQL Server, while offering advanced features and high extensibility. MySQL is simpler for basic needs, and SQL Server is robust but costly for enterprise use.</li></ul> <p><b>Installation</b></p> <p><b>SQL Languages</b></p> <ul style="list-style-type: none"><li>• Data Definition Language (DDL)</li><li>• Data Manipulation Language (DML)</li><li>• Data Query Language (DQL)</li><li>• Data Control Language (DCL)</li><li>• Transaction Control Language (TCL)</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 02 : SQL(cont..)	<p><b>Constraints</b></p> <ul style="list-style-type: none"><li>• PRIMARY KEY</li><li>• UNIQUE</li><li>• FOREIGN KEY</li><li>• CHECK</li><li>• NOT NULL</li><li>• DEFAULT</li><li>• EXCLUDE</li></ul> <p><b>Clauses of SELECT statement</b></p> <ul style="list-style-type: none"><li>• FROM</li><li>• WHERE</li><li>• GROUP BY</li><li>• HAVING</li><li>• ORDER BY</li><li>• DISTINCT</li><li>• LIMIT/OFFSET</li></ul> <p><b>Subquery</b></p> <p><b>JOINS</b></p> <ul style="list-style-type: none"><li>• INNER JOIN,</li><li>• OUTER JOIN</li><li>• (LEFT OUTER JOIN, RIGHT OUTER JOIN, FULL OUTER JOIN)</li><li>• SELF JOIN and CROSS JOIN</li></ul> <p><b>Windows Function</b></p> <ul style="list-style-type: none"><li>• ROW_NUMBER</li><li>• RANK</li><li>• DENSE_RANK</li><li>• LEAD</li><li>• LAG</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 02 : SQL(cont..)	<p><b>Aggregate function</b> <b>UNION/UNION ALL</b> <b>Normalization</b> <b>Special Operators</b> <b>Stored Procedure</b></p> <ul style="list-style-type: none"><li>• CRUD Operations</li></ul> <p><b><u>Practice Exercise :</u></b></p> <p>Task 01 :</p> <ul style="list-style-type: none"><li>• Get department-wise maximum salary from Employee Detail table Order by Salary Ascending.</li></ul> <p>Task 02 :</p> <ul style="list-style-type: none"><li>• Write down the query to fetch project name assign to more than one employee.</li></ul> <p>Task 03 :</p> <ul style="list-style-type: none"><li>• What will execute first, tell the order of every keyword.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 03 : Excel	<p><b>Introduction to Excel</b></p> <ul style="list-style-type: none"><li>• Navigating workbooks and worksheets</li><li>• Excel Window Components</li><li>• Ribbon components</li></ul> <p><b>Understanding the Worksheet</b></p> <ul style="list-style-type: none"><li>• Rows and Columns</li><li>• Sheets and Workbooks</li><li>• Basic Formatting in Excel</li></ul> <p><b><u>Practice Exercise :</u></b></p> <p>Task 04 :</p> <ul style="list-style-type: none"><li>• Create a new Excel workbook</li></ul> <p>Task 05 :</p> <ul style="list-style-type: none"><li>• Enter sample data (e.g., student names, ages, grades) into separate columns</li></ul> <p>Task 06 :</p> <ul style="list-style-type: none"><li>• Apply basic formatting (e.g., bold headers, cell borders, number formatting)</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 03 : Excel(cont..)	<p><b>Cell Referencing</b></p> <ul style="list-style-type: none"><li>• Absolute Cell References</li><li>• Relative Cell References</li><li>• Mixed Cell References</li></ul> <p><b>Basic Functions</b></p> <ul style="list-style-type: none"><li>• SUM</li><li>• AVERAGE</li><li>• MIN</li><li>• MAX</li><li>• COUNT</li></ul> <p><b>Names in Formula</b></p> <p><b>Date Functions</b></p> <ul style="list-style-type: none"><li>• TODAY</li><li>• DATE</li><li>• YEAR</li><li>• MONTH</li><li>• DAY</li></ul> <p><b>Sorting Data</b></p> <p><b>Filter Data</b></p> <p><b>Control Flow Statements</b></p> <ul style="list-style-type: none"><li>• IF</li><li>• AND</li><li>• OR</li></ul>



# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 03 : Excel(cont..)	<p><b><u>Practice Exercise :</u></b></p> <p>Task 07 :</p> <ul style="list-style-type: none"><li>• Add a column "Sales Category" that categorizes sales as "Excellent" for Sales greater than 2000, "Good" for Sales between 1500 and 2000, and "Needs Improvement" for Sales less than 1500.</li></ul> <p>Task 08 :</p> <ul style="list-style-type: none"><li>• Create a column "Discount &amp; High Sales" that uses an IF statement to flag "Yes" if both Discount Applied is "Yes" and Sales is Greater than Target, and "No" otherwise.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 03 : Excel(cont..)	<p><b>Data Cleaning</b></p> <p><b>Using Excel Functions</b></p> <ul style="list-style-type: none"><li>• CONCATENATE</li><li>• LEFT</li><li>• RIGHT</li><li>• MID</li><li>• TRIM</li><li>• UPPER</li><li>• LOWER</li><li>• FIND</li><li>• SEARCH</li><li>• SUBSTITUTE</li><li>• REPLACE</li><li>• LEN</li><li>• CHAR</li><li>• ROUND, FLOOR</li></ul> <p><b>Conditional formatting</b></p> <p><b>Text to Columns</b></p>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 03 : Excel(cont..)	<p><b><u>Practice Exercise :</u></b></p> <p>Task 10 :</p> <ul style="list-style-type: none"><li>• Import a dataset with customer information with missing values Use functions to identify and handle missing data</li><li>• Replace missing values with appropriate alternatives (e.g., mean, median)</li></ul> <p>Task 11 :</p> <ul style="list-style-type: none"><li>• Highlight Underperforming Products: Use conditional formatting to highlight rows where the sales are below the target value.</li></ul>
Module 04 : Data Mapping Using Excel	<p><b>Lookup Functions</b></p> <ul style="list-style-type: none"><li>• VLOOKUP</li><li>• HLOOKUP</li><li>• INDEX and MATCH</li></ul> <p><b><u>Practice Exercise :</u></b></p> <p>Task 12:</p> <ul style="list-style-type: none"><li>• : Find the city where the applicant named "John Hoover" resides.</li></ul> <p>Task 13:</p> <ul style="list-style-type: none"><li>• Find the job title for the applicant with the Applicant ID 1010.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
<p>Module 05: Data Visualization Using Excel</p>	<p><b>Basic Charts</b></p> <ul style="list-style-type: none"><li>• Bar Chart</li><li>• Pie Chart</li><li>• Doughnut Chart</li><li>• Line Chart</li><li>• Histogram</li></ul> <p><b>Advanced Charts</b></p> <ul style="list-style-type: none"><li>• Combination Chart</li><li>• Scatter Plot</li><li>• Pivot Charts</li><li>• Radar Chart</li><li>• Area Chart</li></ul> <p><b><u>Practice Exercise :</u></b></p> <p>Task 14 :</p> <ul style="list-style-type: none"><li>• Create visualizations from a provided dataset</li><li>• Analyze and interpret trends using various chart types</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 06: Analytics Using Excel	<p><b>Descriptive Statistics</b></p> <ul style="list-style-type: none"><li>• Overview and importance</li><li>• Measures of central tendency<ul style="list-style-type: none"><li>◦ Mean</li><li>◦ Median</li><li>◦ Mode</li></ul></li><li>• Measures of dispersion<ul style="list-style-type: none"><li>◦ Range</li><li>◦ Variance</li><li>◦ Standard Deviation</li></ul></li></ul> <p><b>Pivot Tables</b></p> <ul style="list-style-type: none"><li>• Introduction and benefits</li><li>• Creating and summarizing data with pivot tables</li><li>• Using recommended pivot tables for quick summaries</li></ul> <p><b>Enhancing Pivot Table Analysis</b></p> <ul style="list-style-type: none"><li>• Adding slicers for interactive filtering</li><li>• Calculated Field</li><li>• Grouping and ungrouping data</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
<b>Module 06: Analytics Using Excel(cont..)</b>	<b><u>Practice Exercise :</u></b> Task 10 : <ul style="list-style-type: none"><li>• Calculate descriptive statistics for a sales dataset</li><li>• Create a pivot table to summarize sales data using aggregation functions</li><li>• Use slicers to filter and analyze sales data dynamically</li><li>• Create calculated fields for custom calculations (e.g., total revenue, profit margin)</li></ul>
<b>Module 07: Advanced Excel</b>	<b>What-If Analysis</b> <ul style="list-style-type: none"><li>• Introduction to What-If Analysis</li><li>• Using Goal Seek</li><li>• Scenario Analysis and creating scenarios</li></ul> <b>Hyperlink</b> <ul style="list-style-type: none"><li>• Creating and managing hyperlinks.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 07: Advanced Excel(cont..)	<p><b>Advanced Functions and Formulas</b></p> <ul style="list-style-type: none"><li>• SUM</li><li>• AVERAGE</li><li>• COUNT</li><li>• COUNTA</li><li>• COUNTIF</li><li>• COUNTIFS</li><li>• SUMIFS</li><li>• IFERROR</li></ul> <p><b>Data Validation and Drop-Down Lists</b></p> <ul style="list-style-type: none"><li>• Setting up data validation rules</li><li>• Creating drop-down lists</li><li>• Using data validation with conditional formatting</li></ul> <p><b>Forecast Sheet</b></p> <p><b>Macros</b></p> <ul style="list-style-type: none"><li>• Introduction to macros</li><li>• Recording</li><li>• Editing macros</li></ul> <p><b>Enabling the Developer Tab</b></p> <ul style="list-style-type: none"><li>• Enabling and accessing the Developer tab</li><li>• Understanding security considerations</li></ul>



# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 07: Advanced Excel(cont..)	<b>Importing different files in Excel</b> <ul style="list-style-type: none"><li>• CSV</li><li>• EXCEL</li><li>• TEXT</li><li>• XML</li><li>• WEB</li></ul>
	<b><u>Practice Exercise :</u></b> Task 01 : <ul style="list-style-type: none"><li>• You have been tasked with creating a macro in Excel to automate the formatting of a selected range of cells. Your goal is to format the cells by changing the font size to 12, making the text bold, setting the cell background color to light yellow, and adding a border around each cell.</li><li>• You are managing a database of employee records and need to ensure that the data entered is both accurate and consistent. Your goal is to set up data validation rules to help maintain data integrity.</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 08: Tableau	<p><b>Introduction to Tableau</b></p> <ul style="list-style-type: none"><li>• Key features and benefits</li><li>• Comparison with other data visualization tools</li><li>• Installing Tableau Desktop and Connecting Data to sources</li></ul> <p><b>Explore the Tableau Interface</b></p> <ul style="list-style-type: none"><li>• Worksheets, dashboards, and stories</li><li>• Understanding the Tableau workspace</li><li>• Navigating the Tableau interface</li></ul> <p><b>Data Connection and Preparation</b></p> <ul style="list-style-type: none"><li>• Connecting to Various Data Sources</li><li>• Data Preparation: Cleaning and Structuring Data</li></ul> <p><b>Understanding Tableau Data Types and Field Properties</b></p> <ul style="list-style-type: none"><li>• Dimensions vs. measures</li><li>• Customizing field properties</li><li>• Data types</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 08: Tableau (cont..)	<p><b>Basic Visualization Techniques</b></p> <ul style="list-style-type: none"><li>• Bar Charts</li><li>• Line Charts</li><li>• Scatter Plots</li><li>• Pie Charts</li><li>• Histograms</li><li>• Tables</li></ul> <p><b>Customizing Visualizations</b></p> <ul style="list-style-type: none"><li>• Formatting visual elements: Fonts, borders, and shading</li><li>• Adding labels, colors, and tooltips</li><li>• Using trend lines and reference lines</li></ul> <p><b>Using Filters and Parameters</b></p> <ul style="list-style-type: none"><li>• Applying filters: Dimension filters, measure filters, relative date filters</li><li>• Creating and using parameters: Single value and multiple value parameters</li><li>• Parameter actions for interactivity</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 08: Tableau (cont..)	<p><b>Advanced Visualization Techniques</b></p> <ul style="list-style-type: none"><li>• Heat maps</li><li>• Tree maps</li><li>• Box plots</li><li>• Word Cloud</li><li>• Bubble Chart</li><li>• Area Chart</li><li>• Map</li></ul> <p><b>Calculations and Expressions</b></p> <ul style="list-style-type: none"><li>• Calculated fields</li><li>• Table calculations</li></ul> <p><b>Data Blending and Joining</b></p> <ul style="list-style-type: none"><li>• Techniques for Data Blending</li><li>• Joining Tables</li></ul> <p><b>Groups and sets</b></p> <ul style="list-style-type: none"><li>• Creating and Managing Groups</li><li>• Working with Sets for Advanced Analysis</li></ul> <p><b>Building Interactive Dashboards</b></p> <ul style="list-style-type: none"><li>• Designing and Customizing Dashboards for Interactivity</li><li>• Best Practices for Dashboard Layout and User Experience</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 08: Tableau (cont..)	<p data-bbox="699 465 1259 506"><b>Formatting and Layout Options</b></p> <ul data-bbox="719 533 1433 707" style="list-style-type: none"><li data-bbox="719 533 1412 636">• Advanced Formatting Techniques for Dashboards and Visualizations</li><li data-bbox="719 667 1433 707">• Adjusting Layouts for Different Devices</li></ul> <p data-bbox="699 734 978 775"><b>Tableau Stories</b></p> <ul data-bbox="719 801 1513 909" style="list-style-type: none"><li data-bbox="719 801 1461 842">• Creating and Presenting Tableau Stories</li><li data-bbox="719 873 1513 909">• Best Practices for Effective Data Storytelling</li></ul> <hr data-bbox="662 976 1554 981"/> <p data-bbox="699 1016 995 1057"><b><u>Practice Exercise :</u></b></p> <p data-bbox="699 1079 828 1115">Task 01 :</p> <ul data-bbox="719 1142 1509 1671" style="list-style-type: none"><li data-bbox="719 1142 1509 1303">• Your manager has asked you to present sales data over the past year, comparing monthly performance with targets.</li><li data-bbox="719 1330 1509 1491">• Which basic visualization techniques would you use (bar charts, line charts, tables, etc.) to represent this data effectively, and why?</li><li data-bbox="719 1518 1509 1671">• How would you customize this chart to improve its readability and add additional insights like a trend line?</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 09: Power BI	<p><b>Introduction to Power BI</b></p> <ul style="list-style-type: none"><li>• What is Power BI?</li><li>• Power BI Desktop vs. Power BI Service</li><li>• Connecting to data sources</li></ul> <p><b>Data Preparation</b></p> <ul style="list-style-type: none"><li>• Importing data (Excel, CSV, databases)</li><li>• Basic data cleaning and transformation</li></ul> <p><b>Data Modeling</b></p> <ul style="list-style-type: none"><li>• Creating relationships between tables</li><li>• Using simple DAX formulas for calculations</li></ul> <p><b>Visualizations</b></p> <p><b>Basic charts and tables</b></p> <ul style="list-style-type: none"><li>• Bar chart</li><li>• Stacked Bar chart</li><li>• Pie Chart</li><li>• Donut Chart Line Chart</li><li>• Area Chart</li><li>• Scatter Plot</li><li>• KPI(Key Performance Indicator)</li><li>• Tree Map</li><li>• Bubble Chart</li><li>• Matrix</li><li>• Table</li><li>• Funnel Chart</li></ul>

# COURSE SYLLABUS



MODULE NAME	TOPICS
Module 09: Power BI	<p><b>Practice Exercise</b></p> <p>TASK 01:</p> <ul style="list-style-type: none"><li>• Create a bar chart to visualize the total sales by product category using a given dataset. Customize the chart with different colors for each category and add data labels.</li><li>• Design a dashboard that displays key performance indicators (KPIs) such as total revenue, profit margin, and customer count. Use different visualizations like cards, gauges, and pie charts to represent the KPIs effectively.</li><li>• Use DAX (Data Analysis Expressions) to create a calculated column that categorizes products into 'High', 'Medium', and 'Low' price ranges based on their unit price. Then, create a pie chart to show the distribution of products across these price ranges.</li></ul>

# PRACTICAL PROJECTS

## Tourist Website

**Difficulty:** Beginner

**Project Duration:** 2 Hours

**Description:** Developing a user-friendly Tourist Website using Spring Boot, React JS, and MySQL.



## Human Resource Management

**Difficulty:** Advanced

**Project Duration:** 4 Hours

**Description:** Developing a result-driven Human Resource Management System.





# BTREE'S PLACEMENT GUIDANCE

## Step 1



### PROJECT PORTFOLIO

Post Training, We will help you to create project portfolio to showcase your projects.

## Step 2



### JOB GUIDANCE SESSION - I

A real-time session will be arranged to guide you in resume creation & job portal optimisation

## Step 3



### JOB GUIDANCE SESSION - II

We will guide you in interview preparations and techniques to help you stand out in the job market

## Step 4



### MOCK INTERVIEW & SUPPORT

Polish your interview skills with our trainers for real-world success by attending mock interviews

## Step 5



### GUARANTEED PLACEMENT

We will arrange interviews with our tie-up companies exclusively for our students until they get placed.

# CERTIFICATION AT BTREE



## GOOGLE REVIEWS

←  **B.Arrun-UCE-TKY**  
1 review · 3 photos

★★★★★ 2 days ago **NEW**

I attended BTree Systems' AWS training in Chennai. I received good instruction from qualified mentors. They provided theoretical and practical training, which helped me advance my cloud tool and technological knowledge. We appreciate the instructor and facility for the top-notch AWS training.

←  **Vel Murugan**  
1 review

★★★★★ 2 weeks ago **NEW**

I chose BTree Systems for my Python for Data Science course because I was impressed by their vast curriculums. The best academic course I have taken was this one. I currently earn an excellent wage as a Junior Data Engineer at a multinational company. I'm glad I went to the training, and the instructors were excellent.

←  **Yamini Yamu**  
1 review

★★★★★ a week ago **NEW**

At btree systems, I have finished my Salesforce training. I had a really informative and interesting class and had to learn every salesforce CRM subject from beginning to proceed. For the real-time project sessions, I am grateful to my trainer Bharathi.

←  **Syed Salman**  
3 reviews · 3 photos

★★★★★ 6 days ago **NEW**

I enrolled in the big data testing training course. Classes were excellent and the instructor had plenty of expertise. My trainer provided all hadoop real-world projects and thoroughly broke down each and every aspect. I'll undoubtedly advise my friends to enroll in a big data training course

# LIFE AT BTREE SYSTEMS




At BTree Systems, we cultivate a dynamic learning environment that keeps students engaged and inspired throughout their journey. From interactive workshops to collaborative projects, we ensure every moment is filled with opportunities to grow and thrive in a positive, supportive atmosphere



Join the vibrant learners community  
of 800+ Btree students today!

**For Career Consultation**

 **044 4560 5237**

[www.btreesystems.com](http://www.btreesystems.com) 

Follow us on



Plot No: 64, No: 2, 4th East St,  
Kamaraj Nagar,  
Thiruvanmiyur, Chennai,  
Tamil Nadu 600041