



## MSME-Tool Room, Guwahati

Tool Room & Training Centre, Guwahati

### Course Time Table

SUBJECT: C++ Programming

DURATION: 2 weeks

PER DAY: 3 hrs

OBJECTIVE:

**At the end of Session Participants Should Know:**

\* Creation of object-oriented programs with C++ classes.

\* learn how to design and program in C++

Day	Course Content
Day 1	<ul style="list-style-type: none"><li>✓ Online software installation guidance with self-introduction and interaction.</li><li>✓ Software installation guidance.</li><li>✓ Introduction to TRTC.</li><li>✓ Introduction to C++</li><li>✓ How to write &amp; run a C++ program</li></ul>
Day 2	<ul style="list-style-type: none"><li>✓ Statements &amp; Comments</li><li>✓ Characters set in C++</li><li>✓ Tokens</li><li>✓ Identifier</li><li>✓ Keywords</li><li>✓ Constants</li></ul>
Day 3	<ul style="list-style-type: none"><li>✓ Indentation</li><li>✓ Variable</li><li>✓ Format Specifier</li><li>✓ Data types(number,string,list,tuple,set,dictionary)</li><li>✓ Practice Exercise</li><li>✓ Type casting, Type conversion</li><li>✓ Input and output</li></ul>
Day 4	<ul style="list-style-type: none"><li>✓ Operators in C++ – Arithmetic operator, Relational operator, Assignment operator, Logical operator, Bitwise operator, Identity operator</li><li>✓ The If statement and its' related statement</li><li>✓ An example with if and it's related statement</li><li>✓ The for loop</li><li>✓ Practice exercise on looping</li><li>✓ The while loop</li></ul>
Day 5	<ul style="list-style-type: none"><li>✓ The range statement</li><li>✓ Break &amp; Continue</li></ul>

	<ul style="list-style-type: none"> <li>✓ Assert</li> <li>✓ The Do-While Loop</li> <li>✓ Practice exercise on looping</li> <li>✓ Array in C++</li> <li>✓ 1D-Array , sorting, searching, merging</li> <li>✓ 2D-Array,Array sum, Difference, multiplication</li> <li>✓ Omit Array size</li> </ul>
Day 6	<ul style="list-style-type: none"> <li>✓ Practice Exercise</li> <li>✓ C++ References</li> <li>✓ Memory address</li> <li>✓ Pointers</li> <li>✓ Dereferencing</li> <li>✓ Modifying pointers</li> </ul>
Day 7	<ul style="list-style-type: none"> <li>✓ Function Basics</li> <li>✓ Defining function</li> <li>✓ Function call</li> <li>✓ Return statement</li> <li>✓ Function parameters</li> <li>✓ Call by value or call by reference</li> <li>✓ Local and global variable</li> <li>✓ Recursion</li> </ul>
Day 8	<ul style="list-style-type: none"> <li>✓ C++ OOP Concepts</li> <li>✓ Classes &amp; objects</li> <li>✓ Class Methods</li> <li>✓ Constructors</li> <li>✓ Access Specifier</li> <li>✓ Destructor</li> <li>✓ This pointer</li> </ul>
Day 9	<ul style="list-style-type: none"> <li>✓ C++ Static</li> <li>✓ C++ Enumeration</li> <li>✓ Friend Function</li> <li>✓ Encapsulation</li> <li>✓ Practice Exercise</li> </ul>
Day 10	<ul style="list-style-type: none"> <li>✓ Practice Exercise</li> <li>✓ Inheritance</li> <li>✓ C++ Aggregation</li> <li>✓ Practice Examples</li> </ul>
Day 11	<ul style="list-style-type: none"> <li>✓ Polymorphism</li> <li>✓ C++ Overloading</li> <li>✓ Practice Exercise</li> <li>✓ C++ Overriding</li> <li>✓ Virtual Function</li> </ul>
Day 12	<ul style="list-style-type: none"> <li>✓ Abstract classes &amp; Interfaces</li> <li>✓ Data Abstraction</li> <li>✓ C++ Namespaces</li> <li>✓ C++ Strings</li> <li>✓ Exception Handling in C++ ----- Try, Catch &amp; Throw</li> <li>✓ Practice Examples</li> </ul>
Day 13	<ul style="list-style-type: none"> <li>✓ C++ User Defined Exceptions</li> </ul>

	✓ C++ Files & Streams ✓ Revision & Practice
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N.B:

\*Classes & Demonstration will be conducted every day for a time period of Two hour & doubt clear Session of one hour with all day online/on-call support.

\*Hard copy of Certificate will be send to Participant's address by post or it may also be collected from our Centre when situation get normalized.

\*Each trainee can avail a free one-week Internship (Practical/Project based) training at our Centre after this pandemic situation get normalized.

You may contact with coordinator for course related further information.

Course Coordinator: Sudeep Basak

Contact No:9707658224/6026750624