Information Booklet

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Course Name:
Programming in C++
Course Code: P1

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Programming in C++

1. Introduction:

C++ is a general-purpose programming language. It is regarded as a "middle-level" language, as it comprises a combination of both high-level and low-level language features.C++ is widely used in the software industry. Some of its application domains include systems software, application software, device drivers, embedded software, high-performance server and client applications, and entertainment software such as video games.

2. Eligibility:

Knowledge of Computers and XII th pass

3. Duration:

60 Hours. Two Hours each day

- Theory 15 hours.
- Practical 45 hours.

4. Course Details:

Type of course	Professional IT Course

Syllabus	• Programming Concepts
	  ○ Flowcharts
	  ○ Algorithms
	  ○ Data Flow Diagrams
	  ○ Software Life Cycle
	• Introduction to object –oriented approach
	  • Object – oriented methodology
	  • Analysis and design
	  • Creating classes in c++
	• Creating object
	  • Variable and data type
	  • Writing and execution a c++ program
	  • Introduction to array
	• Encapsulation and abstraction
	  • Access specifiers
	  • Static variable and functions
	  • Friend functions and classes
	  • Operators
	  • Conditional construct
	  • Loop construct

- The scope of variable

- More about arrays
  - Multidimensional array
  - Passing array as parameter
  - Enumeration

Loops & Decisions
- Conditional statement
- Switch statement
- Logical operators, relational operators, loops

Structures
- Structures
- Accessing structures
- Nested structures

- More about functions
  - In – built functions
  - Command line parameters
  - Pointer to function
  - Arguments passing to functions
  - Reference and default arguments
  - Storage classes
  - Recursion

Pointers

- Pointers and addresses
- Pointers and arrays,functions, strings
- Memory management
- Pointers to pointer

- Constructor and destructors
  - Initializing objects

- Polymorphism
  - Implementing polymorphism
  - Function overloading
  - Operator over loading
  - Operating unary operator
  - Overloading binary operators

- Inheritance
  - Identifying relation between classes
  - Classes and inheritance

- Dynamic polymorphism
  - Implementing late binding

- Multiple inheritances
  - Introducing to multiple inheritance

	• Ambiguities in multiple inheritances • Invocation of constructors and de constructors • File input and output • Stream classes hierarchy • Stream insertion Extraction • File input and output • File open and close • Open mode bits • File pointer • Exception handling and templates • Exception handling • Linked list • Linked lists • Single linked list • intersection of nodes in a linked list • Operation on single linked list • Traversing a linked list • Querying information • Deleting nodes Graphics • Text mode graphics • Setting graphic mode • Shapes, line, colour, pattern and sound Mini project

5. Fee:

Rs. 2500 (exclusive of all taxes)