

## C-DAC Certificate Courses

### Track A (IT Applications)

#### Course 1. Business Computing

Sl. No.	Module Name	Hours
1	Fundamentals of Computer & OS Concepts	20
2	Advanced MS Office with Access	30
3	C Programming	30
4	Software Development Life Cycle	16
5	OOP with C++ with DS	40
6	Database Technologies	30
7	VB.NET as Front-End	54
8	Management Development Program	60
9	Project	40
<b>Total</b>		<b>320</b>

**Eligibility:** Any Engineering /Science graduate with mathematics up to 10+2 level

**Course Pre-requisites:** Sound knowledge of Computing Fundamentals and Fundamentals of Programming.

**Course Focus:** The objective of this course is to provide the student with an expertise in Programming. Students who will complete this course will be able to work in ICT industries as a software developer.

#### Detailed Syllabus

##### Fundamentals of Computer & OS Concepts (20 Hours)

- Computer Fundamental: Uses of Computer, Hardware, Accessories,
- Types of computer
- Hardware and Software
- Operating System
- Process Management
- Threads
- Process Scheduling
- Memory Management
- Virtual Memory
- Input Output Management
- File Management
- Deadlocks
- Inter-process Communication
- Classification of Computers
- Introduction to windows operating systems
- The desktop, The window, application window, document window, Dialog Window
- The Icons, Explore Your Computer, The Start Button and Taskbar.
- My Computer, Windows Explorer, Starting and Closing Programs,

- Installing Operating System
- Performing a New Installation for Windows
- Installing a Software other than OS
- Setting up a printer
- Uninstalling software

**Advanced MS Office with Access (30 Hours)**

- MS Office 2010
- Installing MS Office 2010
- MS Word 2010
- MS PowerPoint 2010
- MS Excel 2010
- MS Access 2010

**C Programming (30 Hours)**

- Introduction to Programming Language
- C Fundamentals
- Operators and Expressions
- Data Input and Output
- Control statement
- Functions
- Arrays
- Pointers
- Structures and Unions

**Software Development Life Cycle (16 Hours)**

- Software: A Process
- Various Phases in s/w Development
- Software life cycle agile model
- Introduction to Coding Standards
- Testing Strategies and Tactics
- Writing Test Cases
- Configuration management
- Software Quality Assurance

**OOP with C++ with DS (40 Hours)**

- OOP concepts
- Programming constructs
- Functions
- Access Specifiers
- Classes and Objects
- Overloading
- Inheritance
- Polymorphism
- Templates

**Database Technologies (30 Hours)**

- Introduction to DBMS

- Types and Components of DBMS
- Advantages of DBMS
- Database Design
- Codd's Rules
- Normalization Techniques
- Introduction to Oracle
- SQL\* Plus
- DDL, DML and DCL
- Tables, Indexes and Views
- PL/SQL
- Cursors
- Stored Procedures
- Triggers

**VB.NET as Front-End (54 Hours)**

- Event driven programming
- Form object
- Data Types & Operators in VB
- User Interface and control names
- Procedures and functions
- Modules and scopes
- VB.Net Objects and Methods
- Exception Handling
- Classes
- Inheritance, Polymorphism
- Class Libraries
- Interfaces & Abstract Classes
- Delegates and Events
- Intrinsic controls in VB .NET
- Common controls in VB
- User interface design (MDI & SDI Models)
- Dates, Strings, Array, Collections
- Structures
- Working with Databases

**Management Development Program**

Introduction to communication, Barriers to communication, Kind of communication, Confidence building Non-verbal Communication, Fluency and vocabulary, Synonyms, Antonyms, Grammar, Noun Pronoun, Verb, Adjective, Preposition, Conjunction, Words of Idioms & phrases, Sentence Construction, Fill up the blanks, Pronunciation, Conversation practice, Polite Conversation, Greeting, Logical reasoning, General Aptitude, Writing: Covering letter, Resume, Email, Presentation Skill, group discussion, Interview skills, Mock interview

**Project**