

## **Computer Science**

### **Syllabus**

The discipline of Computing, Data Representation and Boolean Algebra, Components of Computer systems, principles of programming and problem solving, Introduction to C++ Programming, Data Types and Operators. Control Statements, Arrays, String Handling and I/O functions, Functions, Computer Networks, Internet and Mobile computing

Structures and Pointers- Structure, Pointer, Methods of memory allocation, Operations on pointers, Pointer and Array, Pointer and String, Pointer and Structure. Concepts of Object Oriented Programming - Programming paradigm, Data Structures and Operations. Data structure-Stack, Queue, Linked list. Web Technology-Communication on the web, Web server technologies, Web designing, Static and dynamic web pages, Scripts, Cascading Style Sheet, Basic concepts of HTML documents, Creating an HTML document, Essential HTML tags, Some common tags, HTML entities for reserved characters, Adding comments in HTML

document, Inserting images. Web Designing Using HTML- Lists in HTML, Creating links, Inserting music and video, Creating tables in a web page, Dividing the browser window, Forms in web pages, Overview of HTML. Client Side Scripting Using JavaScript- Getting started with JavaScript, Creating functions in JavaScript, Data types in JavaScript, Variables in JavaScript, Operators in JavaScript, Control structures in JavaScript, Built-in functions, Accessing values in a text box using JavaScript, Ways to add scripts to a web page.

Web Hosting- Web hosting, Free hosting, Basic concepts of OOP, Content Management System, Responsive web design.

Database Management System - Concept of database, Components of the DBMS environment, Data abstraction and data Independence. Structured Query Language- Structured Query Language, Working on MySQL, SQL commands, Queries of database, Relational data model, Terminologies in RDBMS, Relational algebra, Modifying data in tables, Changing the structure of a table, Deleting rows from a table, Creating Tables, Inserting data into tables, Removing table from a database, Nested queries, Retrieving information from tables, Concept of views, Server Side Scripting Using PHP, Overview of PHP, Fundamentals of PIP, Control structures in PIP, Arrays in PHP, Advances in Computing, Functions in PHP, Three tier architecture in PHP, Connecting PHP to database (MSSQL), Distributed computing, ICT and Society, Information security.

