GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC   Semester: 1
Electronics & Communication Engineering

Subject Name   Computer Programming and Utilization

Sr.No	Course content
1.	**Introduction to Computer & Programming:** Introduction, Basic block Diagram and functions of various components of computer. Concept of Hardware and Software. Concept of basic types of software. Introduction to programming and programming languages. Flow charts and algorithms.
2.	**Introduction to C Language:** I. **Fundamentals of 'C':** Data types in 'C'. Operators and their hierarchy, Concept of header files, I/O functions, control structures in C, looping structures in C, arrays and strings. II. **Functions and recursion:** Concepts of functions with various types of parameters. Various types of parameter passing mechanisms. Recursive functions and implementation of these concepts in 'C'. III. **Pointers and structures:** Concepts of pointers and simple programs using pointers. Introduction to simple structure and its implementations.
3.	**Introduction to C++ language** I. Principles of object oriented programming, Comparison with procedural languages, Tokens, expressions and control structures Introduction to functions, classes, objects, constructors, destructors in C++. II. Classes and Objects: Declaring classes, defining member functions, Making an outside function inline, nesting of member functions, private member functions, Arrays with in a class, Memory allocation of objects, static data members, static member functions, arrays of objects, objects as function arguments, friend function, returning of objects, const member function.

Reference Books:

1. Title : Programming in ANSI C, 4th edition
   Author: Balagurusamy E
   Publisher: Tata McGraw-Hill Publishing Company limited
2. Object oriented programming with C++, 3rd edition
   Author: Balagurusamy E
   Publisher: Tata McGraw-Hill Publishing Company limited