Subject Code : RCCSCA1

CORE COURSE – I - C AND DATA STRUCTURES

UNIT – I

Evaluation and Application of C – Structure of a C program – Datatypes – Declaration – Operators- Expression- Type conversion- Built-in-Function. Data input and output- Control statements : IF,ELSE-IF, GOTO ,SWITCH, WHILE – DO, DO-WHILE, FOR,BREAK and CONTINUE.

UNIT – II

Functions : Defining and accessing functions – passing parameters to functions- arguments – Recursive functions- Storage classes- Arrays : Defining and processing arrays – Multidimensional arrays – Passing arrays to functions – Arrays and Strings – String functions- String manipulation .

UNIT – III

Pointers- Pointer declaration- operations on pointers – pointers to functions – pointers and strings – pointers and arrays – array of pointers- structures- structures and pointers- union.

UNIT – IV

Primitive Data Structures – The notion of a data structure – Arrays – Ordered list – Representation of arrays – Stacks – Evaluation of expressions – Queue – Circular Queue.

UNIT – V

List Structures: List – Singly linked lists – Linked stacks and queues – Storage pool – polynomial addition - doubly linked lists – Tree structures fundamentals – Binary tree.

TEXT BOOKS:-

1. "Programming in C" – E.Balagurusamy- TataMcGraw-Hill Publication
2. Ellis Horowitz , Sartaj Sahni, "Fundamentals of Data Structures", Galgotia Book Source, New Delhi

REFERENCE BOOKS:-

1. "Programming with C" – Byron S Gottfried – Schaum's Outline Series – Tata McGraw Hill Publications
2. Trembley and Sorenson, "An Introduction to Data Structures with Applications" McGraw Hill Book Co., (II Edition), New Delhi.