Course No.	Course Name	L-T-P-Credits	Year of Introduction
CS100	Computer Programming	2-1-0	2016

Course Objectives

To understand the fundamental concept of C programming and use it in problem solving.

Syllabus

Introduction to C language; Operators and expressions; Sorting and searching; Pointers; Memory allocation; Stacks and Queues.

Course Outcomes

1. Identify appropriate C language constructs to solve problems.
2. Analyze problems, identify subtasks and implement them as functions/procedures.
3. Implement algorithms using efficient C-programming techniques.
4. Explain the concept of file system for handling data storage and apply it for solving problems
5. Apply sorting & searching techniques to solve application programs.

References

1. Rajaraman V., Computer Basics and Programming in C, PHI.
2. Anita Goel and Ajay Mittal, Computer fundamentals and Programming in C., Pearson.
3. Gottfried B.S., Programming with C, Schaum Series, Tata McGraw Hill.
4. Horowitz and Sahni, Fundamentals of data structures - Computer Science Press.
5. Gary J. Bronson, ANSI C Programming, CENGAGE Learning India.
6. Stewart Venit and Elizabeth Drake, Prelude to Programming – Concepts & Design, Pearson.
7. Dromy R.G., How to Solve it by Computer, Pearson.
8. Kernighan and Ritche D.M., The C. Programming Language, PHI.

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COURSE PLAN

Module	Contents	Contact Hours	Sem.ExamMarks;%
I	Introduction to C Language: Preprocessor directives, header files, data types and qualifiers. Operators and expressions. Data input and output, control statements.	7	15%

II	Arrays and strings- example programs. Two dimensional arrays - matrix operations. Structure, union and enumerated data type.	8	15%
III	Pointers: Array of pointers, structures and pointers. Example programs using pointers and structures.	7	15%
FIRST INTERNAL EXAM			
IV	Functions – function definition and function prototype. Function call by value and call by reference. Pointer to a function –. Recursive functions.	7	15%
SECOND INTERNAL EXAM			
V	Sorting and Searching : Bubble sort, Selection sort, Linear Search and Binary search. Scope rules Storage classes. Bit-wise operations.	6	20%
VI	Data files – formatted, unformatted and text files. Command line arguments – examples.	7	20%
END SEMESTER EXAM			