21CSE01	PROGRAMMING IN C	L	T	P	C
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Theory (3 Credits)

COURSE OBJECTIVES:

- To develop C Programs using basic programming constructs
- To develop C programs using arrays and strings
- To develop applications in C using functions, pointers and structures
- To do input/output and file handling in C

Unit 1	Overview of C	9 Hours

Introduction - Importance of C - Basic Structure of C program – Tokens - Variables – Datatypes - Operators and Expression - Managing Input and Output Operators

Unit 2	Conditional Statements	9 Hours

Operators Precedence and Associativity – Expressions - Input/Output statements, Assignment statements - Decision making statements - Switch statement - Looping statements - Pre-processor directives - Compilation process

Unit 3	Arrays and Functions	9 Hours

One dimensional array - Two dimensional array - Multidimensional array - Built in functions (Library functions): String Handling functions-User defined functions.

Unit 4	Structures, Unions and Pointers	9 Hours

Structure definition - Arrays of structures - Structures and functions - Union Definition - Understanding pointers - Declaring and initializing pointers - Pointers and arrays - Pointers and functions - Pointers and structures - Illustrative Problems: Pass by value, Pass by reference – Swapping of two numbers and changing the value of a variable using pass by reference

Unit 5	File Management	9 Hours

Defining and Opening a file- Closing a file - Input output operations on files - Error Handling during I/O operations - Command line arguments

Text Books
1. Reema Thareja, ―Programming in C, Oxford University Press, SecondEdition, 2016.
2. Kernighan, B.W and Ritchie,D.M, ―The C Programming language‖, Second Edition, Pearson

Reference Books
1. Paul Deitel and Harvey Deitel, ―C How to Program‖, Seventh edition, Pearson Publication
2. Juneja, B. L and Anita Seth, ―Programming in C‖, CENGAGE Learning India pvt. Ltd., 2011
3. Pradip Dey, Manas Ghosh, ―Fundamentals of Computing and Programming in C‖, First Edition, Oxford University Press, 2009.
4. Anita Goel and Ajay Mittal, ―Computer Fundamentals and Programming in C‖, Dorling Kindersley (India) Pvt. Ltd., Pearson Education in South Asia, 2011.
5. Byron S. Gottfried, "Schaum's Outline of Theory and Problems of Programming with C",McGraw-Hill Education, 1996.

COURSE OUTCOMES:

Upon completion of the course, the students will be able to
CO1:Develop simple applications in C using basic constructs
CO2:Design and implement applications using arrays and strings
CO3:Develop and implement applications in C using functions and pointers.
CO4:Develop applications in C using structures.
CO5:Design applications using sequential and random access file processing.