

### **CORE COURSE I: 1B01CSC INTRODUCTION TO C PROGRAMMING**

<b>SEMESTER</b>	<b>COURSE CODE</b>	<b>HOURS PER WEEK</b>	<b>CREDIT</b>	<b>EXAM HRS</b>
<b>1</b>	<b>1B01CSC</b>	<b>1</b>	<b>2</b>	<b>3</b>

### **COURSE OUTCOME**

**CO1:** Aware about basics of programming.

**CO2:** Capable to analyze the problem and design algorithm and flowchart.

**CO3:** Familiar the basics of high-level language – C.

**CO4:** Able to develop efficient and error free programs in C.

#### **Unit I:**

Computer Programming and Languages: Introduction, Developing a Program, Program Development Cycle, Algorithm, Flowchart: Flowchart Symbols, Guidelines for Preparing Flowcharts, Benefits of Flowcharts, Limitations of Flowcharts, Examples of Algorithm and Flowchart. [Text Book 1]

**(5 Hrs)**

#### **Unit II:**

Overview of C: History of C, Importance of C, Basic Structure of C Programming Style, Executing a C program, Source Code, Object Code, Executable File, File Extensions, Character Set, C Tokens - Keywords, Identifiers, Constants, Variables, Data Types, Declaration of Variables, Assigning Values to Variables, Reading Data from Keyboard, Operators and Expressions: Arithmetic Operator, Relational Operators, Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operator, Bitwise Operator, Special Operators,. Arithmetic Expressions, Precedence of Arithmetic Operators, Type Conversion in Expressions.

**(5 Hrs)**

#### **Unit III:**

Managing Input Output Operation: Reading a Character, Writing a Character, Formatted Input, Formatted Output. Decision Making and Branching: Decision Making with if Statement - Simple if, if - else, Nested if - else, else if Ladder, switch Statement, go to Statement, Decision Making and Looping: while, do-while, for Statement, Jumps in Loops - break and continue Statements.

**(4 Hrs)**

**Unit IV:**

Arrays: Introduction, One Dimensional Arrays - Declaration of Arrays, Initialization of Arrays; Two-Dimensional Arrays - Initializing Two-Dimensional Arrays, Multi-Dimensional Array, Handling of Character Strings: Introduction, Declaring and Initializing String Variables, Reading a Line of Text, Writing Strings to Screen, Arithmetic Operations on Characters, String Handling functions: strlen, strcpy, strcmp, strcat, strrev.

(4 Hrs)

**Books for Study:**

1. Introduction to information technology ITL Education solutions Limited, second Edition
2. Programming in ANSI C Second Edition – E Balagurusamy – Tata McGraw-Hill Publishing company Limited

**Books for Reference:**

1. Let us C, Yeshavant Kanetkar, 16<sup>th</sup> Edn, BPB
2. Programming in C, Ashok N Kamthane, Pearson Education
3. Computer Basics and c Programming, V. Rajaraman, PHI, 2008 6
4. Fundamentals of information technology, Dr. S.B Kishor, A.S Khandelwal, 2<sup>nd</sup> Ed, Published by DAS GANU Prakashan.

**Online References:**

1. <http://www.yspuniversity.ac.in/cic/algorithm-manual.pdf>
2. [https://www.it.iitb.ac.in/~vijaya/ssrvvm/dokuwiki/media/s6\\_17\\_20jan.pdf](https://www.it.iitb.ac.in/~vijaya/ssrvvm/dokuwiki/media/s6_17_20jan.pdf)

**Marks Including Choice:**

Unit	Marks
I	14
II	14
III	16
IV	16