

SUBJECT: UNDERGRADUATE COURSE
CURRICULUM 2023-24

PART-A: Introduction

Program: Certificate Course		Class: B. Sc. Semester-II	Year: 2023	Session: 2023-2024
1	Course Code	CSSC-2T		
2	Course Title	Programming Methodology With 'C'		
3	Course Type	Discipline Specific Course (DSC)		
4	Pre-requisite(if, any)	As per Government norms / Institutional scheme		
5	Course Learning Outcomes (CLO)	<i>After completion of this course, the students will be able to:</i> <ul style="list-style-type: none"> ➤ Develop programming concept. ➤ Will help to understand basics of data structure and program flow. ➤ Learn about the strategies of writing efficient and well-structured programs. ➤ Learn Array processing coupled with iterative methods. ➤ Learn use of pointers. ➤ Understand recursive techniques. 		
6	Credit Value	04 (03 Theory & 01 Practical)		
7	Total Marks	Max. Marks: 100		Min Passing Marks: 40

PART -B: Content of the Course

Total No. of Teaching-learning - Hours- 45

Unit	Topics (Course contents)	No. of Hours
I	Introduction to programing concept: Characteristics of programming, Features of algorithm, Flow Charts-Symbols, Rules for making Flow chart, Programming Techniques-top down, bottom up, structured programming and modular programming merits, Demerits and their comparative study. Introduction to 'C' program Structure of 'C' program, character set, 'C' tokens, keywords, identifiers, constants, variables, data types, type of operators and expressions, precedence of arithmetic operator, Input, and output functions in 'C'.	12
II	Control structures: If, If Else, Nesting of If Else, Else If Ladder statement, switch statement, conditional operator, GOTO statement. Loop introduction, While, Do While, For Loop, Jumps in Loop. Arrays, Strings & Function Definition, Initialization, characteristics, One, Two, Multidimensional arrays, string-Introduction, Working with strings & standard functions. Function-Introduction, need for user defined function, Form of C function, return value and their type, Declaration, Prototype, category of function, call by value and reference.	11
III	Structure, Union & Pointers Declaration, Initialization, Array of structure, structure within structure, structure and functions, union, Size of structure, Pointers-Introduction, Declaring and initializing pointer, Accessing a variable, pointer expression.	11
IV	File management: Introduction, Defining and opening a file, closing a file, Streams and file types, file operations, File I/O, Read, Write and other standard function of file, random access to file, Dynamic memory allocation.	11
keywords	<i>Control structures, Loops, Arrays, Strings, Structure,</i>	

PART-C (CSSC -2T)

Learning Resources: Text Books, Reference Books and Others

Text Books:

- Let Us 'C', Yashwant Kanetkar, BPB Publications.
- The Complete reference C, Herbert Schildt, Tata McGraw Hill
- Programming in ANSI C, E.Balaguruswamy, Tata McGraw Hill.
- Programming with C, Byron Govtfred, Tata McGraw Hill.

Reference Books:

- The "C" Programming Language, Brian W.Kenigham and Dennis Ritchie, Pearson.
- The spirit of "C", Henry Mulish, Herbert L.COoper.
- Mastering "C", Crain Bolon.
- Programming with "C", Gottfried, Schaums Outline Series, TMH Publications.
- Program Design, Peter Juliff, PHI Publications.

Online Resources / e-learning resources:

- https://diksha.gov.in/cbse/play/collection/do_313109215407038464184?contentType=TextBook
- <https://ndl.iitkgp.ac.in/>
- <https://swayam.gov.in/explorer?category=SCHOOL>
- <https://ndl.iitkgp.ac.in/>
- <https://nptel.ac.in/courses>
- <https://spoken-tutorial.org/>
- <https://cec.nic.in/cec/moocsug>
- [First C Program - English - YouTube](#)
- <http://epathshala.nic.in>

PART- D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks:	100 Marks
Continuous Comprehensive Evaluation (CCE):	20 Marks
Semester End Exam (SEE):	80 Marks

Internal Assessment: Continuous Comprehensive Evaluation (CCE)	Class Test : 02 of 10 Marks each	Average of the marks obtained in both test (out of 10) and marks obtained in assignment (out of 10) shall be considered against 20 Marks of Internal assessment
	Assignment : 01 of 10 Marks	
Semester End Exam (SEE):	Paper (Two section – A & B) Section A: Objective and Short answer type questions : 10 + 10 = 20 Marks Section B: Descriptive answer type questions unit wise : 15 x 04 = 60 Marks	

