FACULTY OF COMPUTER SCIENCE
Master of Computer Application (Sem-I)
In Effect from Academic Year 2023-24

Branch Name:	MCA
Program Code:	CS201
Course Name :	Programming with C
Course Code :	3CS2010101T
Pre-requisite Course:	-NIL-

Course Objective:

1. To introduce the basics of structured programming using the C language.
2. To become familiar with flowchart and algorithm development.
3. To give a clear idea of different strategies of basic programming with C like Looping, Decision Making, Array, Structure, Function, Pointer, etc. to solve real life problems.

Teaching Scheme (Hours Per Week)				Evaluation Scheme (Marks)				
				Theory		Practical		
Lecture	Tutorial	Practical	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total
4	-	-	4	60	40	-	-	100

Course Contents

Unit No	Topic	Total Hours	Weightage (%)
1	**Introduction to programming:Algorithm and Flowcharts** Programs and Programming, Programming Languages; Compiler,interpreter, Loader and Linker; Program Execution, 4GL, 5GL, Classification of Programming Languages, Algorithm **Basics of C & Input-Output** Basic features of C Language like Identifier, Keywords, Variable, data types, Operators and Expression, Type Conversion, Basic screen and keyboard I/O **Control Statements** Test Conditions, Conditional execution and selection, Iteration and Repetitive Executions, Nested loops	14	30
2	**Arrays and Strings** Introduction, One dimensional array, Strings: One Dimensional character Multidimensional Arrays, Array of Strings: Two dimensional Character Array **Functions** Concept of Function, Using functions, Scope,Storage classes, Recursion	14	30
3	**Pointers** Introduction, Understanding Memory Addresses, Address Operator, Pointer, Use of Pointer, Array and Pointers, Pointers and strings, Pointer Arithmetic, Pointer to Pointer, Array of Pointer, Pointer to an Array, Two Dimensional Arrays and Pointer **User Defined Data Types** Introduction,structures, Union, Enumeration types, bit fields	10	20

4	**Files** Introduction, Using file, Working with Text File, Working with Binary files **Other features of C** Bitwise operators , Command Line Arguments, The C Preprocessor	10	20

Text Books:

1. Programming in C, Pradip Dey Manas Ghosh, Publisher – Oxford

Reference Books:

1. Programming in ANSI C – E Balagurusamy, TMH publication, latest Edition
2. Let us "C" – Kanetkar Yashwant, BPB Publication, Latest Edition.
3. Mastering C, Venugopal& Prasad, Publisher – Tata McGraw Hill

List of Open Source Software/learning website:

1. **https://www.tutorialspoint.com**
2. **https://www.w3schools.com**
3. **https://www.javatpoint.com**

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom'sTaxonomyLevel
CLO1	To have fundamental knowledge on flowcharts and algorithm	2 Understanding
CLO2	To understand the basic terminology used in computer programming using C	1 Remembering 2 Understanding
CLO3	To Study, analyze and understand logical structure of a computer program, and different construct to develop a program in 'C' language	2 Understanding, 3 Applying, 4 Analyze
CLO4	To write, compile and debug programs in C language	3,4,5,6 Applying, Analyze, Evaluate, Creating
CLO5	To design programs involving decision structures, loops and functions	3,4,5,6 Applying, Analyze, Evaluate, Creating
CLO6	To design programs involving structure, pointer and file. .	3,4,5,6 Applying, Analyze, Evaluate, Creating

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Mapping CLOs with POs & PSOs

Course LearningOutcomes	ProgramOutcomes(POs)												Program SpecificOutcomes(PSOs)	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CLO1	L	H	H										L	L
CLO2	M	L	L					M					L	L
CLO3	M	H	H	M	L			M			L	L	H	M
CLO4	M	H	H	M	L			M			L	L	H	M
CLO5	M	H	H	M	L			M			L	L	H	M
CLO6	M	H	H	M	L			M			L	L	H	M

H:High, M:Medium, L:Low