

**SWARNANDHRA**  
**COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous)**  
 SEETHARAMAPURAM, NARSAPUR-534280 W.G.DT. AP  
**DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS(Honours)**

**TEACHING PLAN**

Course Code	Course Title	Year/Sem	Branch	Contact hr/week	Academic Year
24BC1T05	Programming in C	I/I	BCA(Honours)	5	2025-2026

**Course Objectives:**

The main objectives of the course are to

- Introduce students to the fundamentals of computer programming.
  - Provide hands-on experience with coding and debugging.
  - Foster logical thinking and problem-solving skills using programming.
  - Familiarize students with programming concepts such as data types, control structures, functions, and arrays.
- Encourage collaborative learning and teamwork in coding projects.

**Course Outcomes (Cos): At the end of the course, student will able to**

CO No :	Course Outcome	Knowledge Level(K)
CO1	Understand the fundamentals of computer programming, including algorithms, flowcharts, and basic data types	K2
CO2	Apply control structures like conditional statements, loops, and unconditional statements to solve programming problems.	K3
CO3	Implement programs using arrays and strings for efficient data handling and manipulation.	K3
CO4	Analyze the use of pointers and user-defined data types like structures and unions in complex programs.	K4
CO5	Develop programs using functions, recursion, and file handling techniques to solve real-world problems.	K5

Week No	Outcome	Blooms Level	Topic / Activity	Text Books	Contact Hours	Delivery Method	
<b>UNIT-I</b>							
1,2	Understand the fundamentals of computer programming, including algorithms, flowcharts, and basic data types.	K2	1.1	History of computers	T1	1	Chalk & Board, PPT , Interactive Whiteboar ding
			1.2	basic organization of a computer	T1	1	
			1.3	Introduction to programming Languages	T1	1	
				Introduction to compilation and execution	T1	1	
			1.4	Data types	T1	3	
			1.5	Variables	T1	1	
			1.6	Constants	T1	1	
			1.7	Operators,Arithmet ic,Relational operator	T1	1	
				Logical and Bitwise operator	T1	1	
			1.7	Assignment, Increment/Decrem ent and Conditional Operator	T1	1	
				1.8	Problem solving techniques.	T1	
1.9	Time and Space complexities	T1	1				
			<b>TOTAL</b>		<b>14</b>		
<b>UNIT-II</b>							
3,4	Apply control structures like conditional statements, loops, and unconditional	K3	2.1	Introduction to control structures	T1	1	Chalk & Board, PPT , Interactive Whiteboar ding
			2.2	Conditional statements;if, If-else	T1	1	
				If else if	T1	1	
				Nested if	T1	1	
				Switch	T1	1	

	statements to solve Programming problems.		2.3	Introduction to looping statements:while	T1	1	
				do while	T1	1	
				for	T1	1	
				nested for	T1	1	
			2.4	Unconditional statements:break	T1	1	
				continue	T1	1	
				goto,return	T1	1	
<b>TOTAL</b>				<b>12</b>			

**Mid I Exam**

**UNIT-III**

5, 6	Implement programs using arrays and strings for efficient data handling and manipulation	K3	3.1	Introduction of arrays	T1	1	Chalk & Board, PPT, Interactive Whiteboarding
			3.2	Memory model	T1	2	
			3.3	Array programs	T1	2	
			3.4	Two dimensional array	T1	1	
				Matrix addition	T1	1	
				Matrix multiplication	T1	1	
			3.5	Introduction to strings	T1	1	
			3.6	string operations: strlen(), strcpy()	T1	1	
				strcat(), strcmp()	T1	1	
				strlwr(),strupr()	T1	1	
<b>TOTAL</b>				<b>12</b>			

**UNIT-IV**

7,8	Analyze the use of pointers and user-defined data types like structures and unions in complex		4.1	Introduction of pointers	T1	1	
			4.2	Dereferencing and address operators	T1	3	
			4.3	Pointer and address arithmetic	T1	2	

	programs	K4	4.4	Array manipulation using pointers	T1	2	Chalk & Board, PPT, Interactive Whiteboarding
			4.5	Introduction of User-defined data types	T1	1	
			4.6	User-defined data types like structures and unions.	T1	1	
				User-defined data types like unions	T1	1	
				Structure and union programs	T1	1	
			<b>TOTAL</b>				

**UNIT-V**

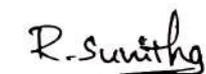
9, 10	Develop programs using functions, recursion, and file handling techniques to solve real-world problems.	K5	5.1	Introduction to functions	T1	1	Chalk & Board, PPT, Interactive Whiteboarding
				Function Declaration and Definition,	T1	2	
			5.2	Function call Return Types and Arguments	T1	1	
			5.3	Modifying parameters inside functions	T1	2	
				using pointers arrays as parameters	T1	1	
			5.4	Recursive functions	T1	2	
			5.5	Scope and Lifetime of Variables	T1	1	
			5.6	Basics of File Handling	T1	1	
				File operation	T1	1	
			<b>TOTAL</b>				

**Mid II Exam**

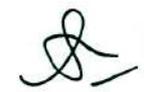
<b>Total No. of Classes</b>	<b>62</b>
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**Recommended Text Books for Reading:**

Text No.	Author(s)	Title	Edition	Publisher	Year of Publication
T1	E. Balagurusamy	Programming in ANSI C	4th Edition	TMH (Tata McGraw Hill)	2007
T2	Dr. N. B. Venkateswarlu	C Programming	1st Edition	S. Chand Publications	2017
T3	Yashwant Kanetkar	Let Us C: Authentic Guide to C Programming Language	19th Edition	BPB Publications	2022
T4	B. Kernighan & Dennis Ritchie	The C Programming Language	2nd Edition	PHI (Prentice Hall of India)	1988

  
Faculty

  
Head of the Department

  
Principal

