



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**LESSON PLAN**

Course Code	Course Name	Regulation	Academic year	Year / Semester	Branches	Contact Periods/Week	Sections
20CS1T01	Problem Solving using C Programming	R20	2021- 2022	B.Tech / I Sem	Common to CSE, IT , AI&ML, ECE & EEE	6	All

**COURSE OUTCOMES**

At the end of the course, student will be able to

- CO1: Analyse a computational problem and develop an algorithm/flowchart to find its solution (K2)
- CO2: Develop C programs with branching and looping statements, which uses Arithmetic, Logical, Relational or bitwise operators (K3)
- CO3: Divide a given computational problem into a number of modules and develop C program with arrays
- CO4: Write C programs which use pointers for array processing and parameter passing (K3)
- CO5: Develop C programs with structure or union and files for storing the data to be processed. (K3)

**UNIT- I**

Unit No.	Course Outcomes	Topics/Activity	Ref Text Book	No. of Periods	Total Periods	Delivery Method		
1	CO1: Analyze a computational problem and develop an algorithm/flowchart to find its solution(K2)	<b>INTRODUCTION TO PROGRAMMING</b>					Chalk & Talk, PPT, Video presentation	
		1.1	What is computer	T1, R2	1	10		
		1.2	Block diagram of Computer	T1, R2				
		1.3	Development of Computer languages	T1, R2				
		1.4	Translators	T1, R2				
		1.5	Computer Codes	T1, R2	2			
		1.6	Computer Arithmetic	T1, R2				
		1.7	Programming Techniques	T1, R2				
		1.8	Algorithm, & Flowchart	T1, R2	1			
		<b>BASICS OF C</b>						
		1.9	History of C, Character Set, Identifiers, Keywords	T1, R2	1			
1.10	Tokens, Variables, Constant, Data types	T1, R2						
1.11	Operators	T1, R2	2					

	1.12	Expressions, Expression evaluation	T1, R2		
	1.13	Operator precedence and associativity	T1, R2	1	
	1.14	Type conversion	T1, R2	1	
	1.15	C program structure.	T1, R2	1	

## UNIT- II

Unit No.	Course Outcomes	Topics/Activity	Ref Text Book	No. of Periods	Total Periods	Delivery Method	
2	CO2: Develop C programs with branching and looping statements, which uses Arithmetic, Logical, Relational or Bitwise operators (K3)	<b>CONSOLE I/O OPERATIONS</b>			2	10	Chalk & Talk, PPT, Video Presentation
		2.1	Formatted I/O - printf & scanf	T2,R3			
		2.2	Unformatted I/O functions	T2, R3			
		<b>CONTROL FLOW STATEMENTS</b>			4		
		2.3	If, if-else	T2, R3			
		2.4	Else-if ladder, switch	T2, R3			
		2.5	While, do-while,	T2, R3	2		
		2.6	for & nested for	T2, R3			
2.7	break, continue, goto, exit	T2, R3	2				

## UNIT- III

Unit No.	Course Outcomes	Topics/Activity	Ref Text Book	No. of Periods	Total Periods	Delivery Method	
3	CO3: Divide a given computational problem into a number of modules and develop C program with arrays (K3).	<b>ARRAYS</b>			4	15	Chalk & Talk, PPT, Video presentation
		3.1	Array declaration , initialization and Accessing, Types of Arrays	T3,R2			
		3.2	1-D Arrays	T3,R2	2		
		3.3	2-D Arrays	T3,R2			
		3.4	Arrays as Function Arguments	T3,R2	1		
		<b>MID I EXAMINATION during 7<sup>th</sup> Week</b>					
		<b>FUNCTIONS</b>					
3.5	Introduction to Functions, Types of Function	T2,R1	3				

CO4: Write C programs which use pointers for array processing and parameter passing (K3)	3.6	Function prototypes	T2,R1	3		
	3.7	Parameter passing techniques	T2,R1			
	3.8	Scope of variables, Storage classes	T2,R1			
	3.9	Recursion	T2,R1	2		

### UNIT- IV

Unit No.	Course Outcomes	Topics/Activity	Ref Text Book	No. of Periods	Total Periods	Delivery Method		
4	CO4: Write C programs which use pointers for array processing and parameter passing (K3)	<b>STRINGS</b>			15		Chalk & Talk, PPT, Video presentation	
		4.1	Declaration, Initialization, Accessing (reading & writing string)	T2,R3,R2				2
		4.2	String Handling Functions	T2,R3,R2				3
		<b>POINTERS</b>						
		4.3	Declaration, Initialization, Accessing	T2,R3,R2				2
		4.4	Types of pointers	T2,R3,R2				2
		4.5	Pointer Arithmetic	T2,R3,R2				1
		4.6	Dynamic Memory Allocation	T2,R3,R2				5

### UNIT- V

Unit No.	Course Outcomes	Topics/Activity	Ref Text Book	No. of Periods	Total Periods	Delivery Method		
5	CO5: Develop C programs with structure or union and files for Storing the data to be processed. (K3)	<b>STRUCTURES</b>			15		Chalk & Talk, PPT, Video presentation	
		5.1	Introduction to structures, Definition of structure, declaration of structure variable, accessing of structure members	T2,R2,R3				4
		5.2	Array of structures	T2,R2,R3				
		5.3	Union, Differences b/w union and	T2,R2,R3				1

		structures		
	5.4	enum, bit fields, typedef	T2,R2,R3	2
	<b>FILES</b>			
	5.5	Introduction to Files, Types of File, File Operations, File Modes	T2,R2,R3	3
	5.6	Writing and Reading Files	T2,R2,R3	3
	5.7	File management I/O functions	T1,R3	2
<b>Total no. of periods</b>				<b>60</b>
<b>MID - II Examination during 14<sup>th</sup> Week</b>				
<b>END EXAMINATIONS</b>				

### TEXT BOOKS

- T1. E. Balguruswamy, Programming in ANSI C, Tata Mc-Graw Hill, 8<sup>th</sup> edition - 2019  
T2. Byron Gottfried, Programming with C, Schaum Series, 4<sup>th</sup> edition - 2017

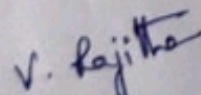
### REFERENCE BOOKS

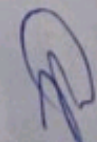
- R1. Kernighan and Ritchie, The 'C' programming language by, Prentice Hall, 2<sup>nd</sup> edition - 2012  
R2. V. Rajaraman, Computer Programming in 'C', Prentice Hall, 1<sup>st</sup> edition - 2007  
R3. M. Sprankle, Programming and Problem Solving by, Pearson Education, 9<sup>th</sup> edition - 2012

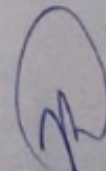
### WEB LINKS

- <http://www2.its.strath.ac.uk/courses/c/>  
[http://www.princeton.edu/~achaney/tmve/wiki100k/docs/C\\_%28programming\\_language%29.html](http://www.princeton.edu/~achaney/tmve/wiki100k/docs/C_%28programming_language%29.html)  
<http://www.stat.cmu.edu/~hseltman/Computer.html>  
<http://projecteuler.net/>

S.No.	Course Lecturer	Branch & Section
1	Mrs.V Rajitha	CSE-C & ECE-D
2	Mr. K.John Paul	CSE-A & CSE-B
3	Ms. K Ashalatha	ECE-A & ECE-B
4	Mrs.V. Srilakshmi	ECE-C & EEE
5	Mr Winson M	IT & AIML
<b>Course Coordinator</b>		Mrs. V Rajitha
<b>Module Coordinator</b>		Dr. P Srinivasulu

  
Course Coordinator

  
Module Coordinator

  
HOD

  
Principal