O.P.Code:20CS0501	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech I Year II Semester Regular & Supplementary Examinations August-2023
C PROGRAMMING AND DATA STRUCTURES
(Common to ME, EEE & ECE)

Time: 3 Hours **Max. Marks: 60**

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Explain about data types in C.	CO1	L2	6M
	b	Define a variable. Write the variable declaration. What are the rules for declaring a variable.	CO1	L2	6M
		OR			
2	a	Describe the Structure of C Program with an example.	CO1	L2	6M
	b	Explain about Input and Output functions with examples.	CO1	L2	6M
		UNIT-II			
3	a	Describe about scope and distinguish between local and global variable.	CO2	L2	6M
	b	Define function. Explain the types of functions with an example.	CO3	L1	6M
		OR			
4	a	Write a c program for addition of two numbers using function.	CO3	L3	6M
	b	Create a C program to perform the following string library function strlen(), strcpy(), strcat(), strcmp().	CO2	L6	6M
		UNIT-III			
5	a	Give difference between the structure and union.	CO4	L4	6M
	b	Create a C program for size of data using union.	CO2	L6	6M
		OR			
6	a	Define structure within a structure? Explain with an example.	CO3	L1	6M
	b	Illustrate the use of typedef with suitable example.	CO3	L3	6M
		UNIT-IV			
7	a	What do you mean by stack overflow and stack underflow?	CO5	L1	6M
	b	List the applications of linked list.	CO6	L1	6M
		OR			
8	a	What is data structure? Explain types of data structures.	CO5	L1	8M
	b	List the applications of queue.	CO5	L1	4M
		UNIT-V			
9	a	Explain about linear search with algorithm.	CO6	L2	6M
	b	Compare binary search and linear search techniques.	CO6	L4	6M
		OR			
10	a	Explain exchange sort with an example.	CO6	L4	6M
	b	Sort the following numbers using quick sort: 54,26,93,17,77,31,44,55,20.	CO6	L2	6M

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