Reg. No: ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech I Year I Semester Regular & Supplementary Examinations March-2023
C PROGRAMMING AND DATA STRUCTURES
(Common to CE, AGE, CSE, CSIT, CSM, CIC, CAD, CCC & CAI)

Time: 3 hours   Max. Marks: 60

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

UNIT-I

1	a	Describe the Structure of C Program with an example.	CO1	L3	6M
	b	Explain about Input and Output functions with examples.	CO1	L2	6M

OR

2	a	List out the various operators available in C.	CO1	L2	6M
	b	Discuss each decision statement with suitable example.	CO1	L3	6M

UNIT-II

3	a	Write a C program to swap two numbers using functions	CO2	L4	6M
	b	Explain the library functions available in C.	CO2	L2	6M

OR

4	a	Distinguish between call by value and call by reference with an example programs.	CO2	L4	6M
	b	How to use Array as Function argument? Explain with an example program.	CO2	L2	6M

UNIT-III

5	a	Examine the access to address of the pointer with example.	CO3	L4	6M
	b	Define structure and give the general syntax for structure. Write a suitable example program.	CO3	L3	6M

OR

6	a	Explain to declare and initialize a structure? Mention with an example.	CO3	L2	6M
	b	Illustrate the use of typedef with suitable example.	CO3	L4	6M

UNIT-IV

7	a	What is a stack? Write the representation of stacks.	CO4	L1	6M
	b	Construct an empty stack and perform PUSH operation for any five elements. Also perform POP operation for two elements and show the value on top of the stack.	CO4	L4	6M

OR

8	a	Explain briefly about various types of queues with suitable examples	CO4	L2	6M
	b	Discuss about circular linked list and circular double linked list with suitable example.	CO4	L3	6M

UNIT-V

9	a	Explain the algorithm for quick sort and give a suitable example.	CO5	L3	6M
	b	Difference between merge sort and quick sort.	CO5	L4	6M

OR

10	a	Sort the following numbers using quick sort: 54,26,93,17,77,31,44,55,20	CO5	L3	6M
	b	Compare binary search and linear search techniques	CO5	L4	6M

** END ***

SIDDHARTHA INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech I Year I Semester Regular & Supplementary Examinations March 2023
C PROGRAMMING AND DATA STRUCTURES
(Common to CE, AGE, CSE, CBIT, CSM, CIC, CAD, CCE & CAI)

Time: 3 hours   Max. Marks: 60

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

UNIT-I

1. 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

OR

2. a	List out the various operators available in C.	CO1 L1	6M
b	Discuss each decision statement with suitable example.	CO1 L3	6M

UNIT-II

3. a	Write a C program to swap two numbers using functions	CO2 L4	6M
b	Explain all library functions available in C.	CO1 L2	6M

OR

4. a	Distinguish between call by value and call by reference with an example. programs.	CO2 L3	6M
b	How to use arrays as function argument? Explain with an example program.	CO2 L2	6M

UNIT-III

5. a	Examine the access to members of the pointers with examples.	CO2 L3	6M
b	Define structure and give one general syntax for structure. Write a suitable example program.	CO2 L3	6M

OR

6. a	Explain a union and similarly a structure? Mention with an example.	CO2 L2	6M
b	Illustrate the use of typedef with suitable example.	CO2 L4	6M

UNIT-IV

7. a	What is a stack? Write the representation of stacks.	CO1 L1	6M
b	Consider an empty stack and perform PUSH operation for any five elements. Also perform POP operation for two elements and show the value on top of the stack.	CO4 L4	6M

OR

8. a	Explain briefly about various types of queues with suitable examples.	CO4 L2	6M
b	Discuss about circular linked list and doubly linked list with suitable example.	CO4 L2	6M

UNIT-V

9. a	Explain the algorithm for quick sort and give a suitable example.	CO5 L4	6M
b	Difference between merge sort and quick sort.	CO5 L4	6M

OR

10. a	Sort the following numbers using selection sort. 53, 61, 87, 22, 42, 99, 80, 70	CO5 L3	6M
b	Construct binary search and linear search with analysis.	CO5 L3	6M

*** ALL THE BEST ***