St. Peter's Engineering College (Autonomous)	Dept.	:	

St. Peter's Engineering College (Autonomous)
Dullapally (P), Medchal, Hyderabad – 500100.
I - Mid Term Examination – January 2023

Academic Year 2022-23

Subject Code	:	AS22-05ES07	Subject	:	DATA STRUCTURES			
Class/Section	:	B. Tech. (A)	Year	:	I	Semester	:	II
Duration	:	120 Min	Max. Marks	:	30	Date:	:	

BLOOMS LEVEL					
Remember	L1	Understand	L2	Apply	L3
Analyze	L4	Evaluate	L5	Create	L6

*****
PART – A (10x1M = 10M)
Note: Answer all Questions. Each Question carries equal marks.

Q. No	Question (s)	Marks	BL	CO
	UNIT - I			
1	a) Define Non-Linear Data Structure.	1M	L1	123.1
	b) Mention the importance of space complexity?	1M	L2	123.1
	c) List the uses of little notations?	1M	L1	123.1
	d) Define traversing.	1M	L1	123.1
	UNIT – II			
	e) Label the memory representation of 1-D array of int a[10]={111,99,88,77,66,55,44,33,22,11};	1M	L1	123.2
	f) What is the time complexity of linear & binary search?	1M	L1	123.2
	g) How the pivot element should be selected in quick sort?	1M	L1	123.2
	h) Show an example for dynamic intilization of an array?	1M	L2	123.2
	UNIT – III			
	i) Define the node in Double Linked List.	1M	L1	123.3
	j) What is the value (address part) for the last node in the circular linked list?	1M	L1	123.3

PART – B (20M)

Q. No	Question (s)	Marks	BL	CO
	UNIT - I			
2	**a)** Explain different types of Dynamic Non-Primitive Data Structures**.	4M	L2	123.1
	b) Explain in detail about Linear Time Complexity with an example**.	4M	L2	123.1
	OR			

3	Explain in detail about Asymptotic Analysis of an Algorthim.	**8M**	**L2**	123.1
UNIT – II				
4	**a)** Write a program to delete the element in an array.	**4M**	**L1**	123.2
	b) Distinguish Linear & Binary Search techniques.	**4M**	**L4**	123.2
OR				
5	**a)** Explain the process of Quick Sort with an example and write a program to implement it.	**8M**	**L2**	123.2
UNIT – III				
6	**a)** Explain the operations performed in Linked List.	**4M**	**L2**	123.3
OR				
7	**a)** Write a program for Traversing the elements in Single Linked List.	**4M**	**L1**	123.3

*****