2	3	U	K	1	A	6	6	4	6

VAAGDEVI ENGINEERING COLLEGE **SET-3**
P.O.BOLLIKUNTA, WARANGAL – 506 005
B. TECH II YEAR I SEMESTER, I - MID EXAMINATIONS SEP – 2024
Department of Computer Science and Engineering(AI&ML)
Sub:Data Structures

Time: 2 Hours **Max. Marks: 30**
Date:19/09/24 ***Note: This question Paper Contains two parts. Part A & B***

Assessment pattern as per Bloom's Taxonomy:

Remember	Understand	Apply	Analyze	Evaluate	Create	Total
15	5	10				30

Course Outcomes for Assessment in this Test:

COs	Course Outcome
1	Ability to select the data structures that efficiently model the information in a problem.
2	Ability to assess efficiency trade-offs among different data structure implementations or combinations
3	Implement and know the application of algorithms for sorting and pattern matching
4	Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and AVL-trees.

	PART – A (10 X 1 = 10 Marks) **CHOOSE THE CORRECT ANSWER**	**CO'S**	**BTL**	**Marks**
1.	Linked list is which data type A) linear B) non linear C) both D) None	CO1	L2	1
2.	Queue is also known as this data structure A) FIFO B) LIFO C)FILO D)None	CO2	L2	1
3	Which of the following data structures are indexed structures? A) Stack B) Linked lists C) Linear arrays D None of the above	CO2	L3	1
4.	..... is not the operation that can be performed on queue. A) Traversal B) Insertion C) sort D) Retrieval	CO1	L2	1
5.	Which of the following are applications of linked lists? A) Implementing file System B)hashing C)Binary tree implementation D)None	CO2	L2	1
	FILL IN THE BLANKS			
6.	_____keyword destroy a pointer in C.	CO2	L2	1
7.	Stack and Queues are_____data structures.	CO1	L3	1
8.	index of the first element in an array is _____	CO2	L2	1
9.	_____contains address of first node in a single linked list.	CO2	L2	1
10.	Full form of an ADT is _____	CO2	L2	1

	PART – B ANSWER ANY FOUR OF THE FOLLOWING QUESTIONS (4X 5 = 20 Marks)	Marks	Mapping COs	Bloom's Taxonomy Levels
1.	Implement STACK program using linked list.	5	CO1	L1
2.	Explain Insertion and deletion of a node into a single linked list.	5	CO3	L3
3.	What is quadratic probing explain it with an example.	5	CO2	L2
4.	What is Collision? Explain different Collision Resolution Techniques with example..	5	CO4	L3
5.	Define Following terms. A) Hash key B) Hash Table C) Hash Function D) Bucket	5	CO4	L1
6.	Define Data Structures.and Compare Array and linked list with all parameters.	5	CO1	L1

Assessment Summary

Cos	Remember	Understand	Apply	Analyze	Evaluate	Create	Total
1	10						10
2		5					5
3			5				5
4	5		5				10