LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)
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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

DESCRIPTIVE QUESTIONS

Name of Course Instructor: Mr. S. Siva Rama Krishna, Mr. S.V.V.D.Jagadeesh
Reg: R23
Course Name & Code : DS & 23CS02 **Cycle**: 01
L-T-P Structure : 3-0-0 **Credits:** 3
Program/Sem/Sec : AI&DS/B.TECH/II **A.Y.:** 2023-24

Q.No	Question Description	Blooms Level	Course Outcome	UNIT
1	Define Data structure? Elaborate different types of data structures with suitable examples.	L2	CO1	**I**
2	Discuss different types of Asymptotic Notations with suitable examples.	L2	CO1	**I**
3	Perform selection sort on the following list of elements 40,80, 35, 90,45,50,70,15,12,9,1,14.	L3	CO1	**I**
4	After two passes of a sorting algorithm, the following array: 47, 3,66,32,56, 92, has been rearranged as follows: 3, 47, 66, 32, 56, 92 Which sorting algorithm is being used (selection, bubble or insertion) justify your answer.	L3	CO1	**I**
5	Write recursive and non-recursive algorithm to search an element using binary search.	L2	CO1	**I**
6	Let $X = (x_1, x_2, \ldots x_n)$, $Y = (y_1, y_2, \ldots y_n)$ be two lists with a sorted sequence of elements. Write a program to merge the two lists together as a single list Z with **m + n** elements. Implement the lists using singly linked list representations.	L3	CO3	**II**
7	Write C functions to implement the following in CSLL i) Deletion at end ii) Insertion at begin	L3	CO3	**II**
8	Write C functions to perform the following operations on double linked list? I. Insertion at Specified position II. Deletion at begin	L3	CO3	**II**
9	Write C function to perform the following operations on single linked list: 1. Count Number of Nodes 2. Print in reverse order 3. Find maximum element in the SLL 4. Find minimum element in the SLL 5. Sort elements in the SLL 6. Remove duplicates from SLL 7. Search particular key element in the SLL	L2	CO3	**II**
10	Write a C function to perform addition of two polynomial expressions.	L3	CO3	**II**

Title	Course Instructor	Course Coordinator	Module Coordinator	Head of the Department
	Mr S Siva Rama Krishna		**Dr. Y.V.B REDDY**	**Dr. O Rama Devi**

Name of the Faculty	**Mr. S.V.V.D.Jagadeesh**	**Dr. S.NAGARJUNA REDDY**		
Signature				