DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – Oct 2019

Course: B. Tech in Comp Science & Engineering **Sem: III**

Subject Name: Data Structure **Subject Code: BTCOC303**

Max Marks: 20 **Date:-** 5/10/19 **Duration:- 1 Hr.**

Instructions to the Students:

1. Check whether you have received the right question paper.
2. Assume suitable data, wherever required.

		(Level/CO)	Marks
Q.1	**Attempt the following questions:**		**6**
	1. Sparse matrices have a) many zero entries c) higher dimension b) many non-zero entries d)none of these		
	2. What are the disadvantages of arrays? a) We must know beforehand how many elements will be there in the array b) There are chances of wastage of memory space if elements inserted in an array are lesser than than the allocated size. c) Insertion and deletion becomes tedious. d) All of the mentioned		
	3. Assuming int is of 4 bytes, what is the size of int arr[15];? a) 15 b) 19 c) 11 d) 60		
	4.The space factor when determining the efficiency of algorithm is measured by a. Counting the maximum memory needed by the algorithm b. Counting the minimum memory needed by the algorithm c. Counting the average memory needed by the algorithm d. Counting the maximum disk space needed by the algorithm		
	5. The complexity of linear search algorithm is a. O(n) b. O(log n) c. O(n2) d. O(n log n)		
	6. The elements of an array are stored successively in memory cells because a. by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated b. the architecture of computer memory does not allow arrays to store other than serially c. both of above d. none of above		
Q.2	**Solve Any Two of the following.**		**3*2**
(A)	Explain open addressing with its different types in detail.	Understand	
(B)	What are the different Asymptotic notations? Explain them in detail.	Understand	
(C)	Explain Linear search with code & an example.	Illustrate	
Q.3	**Solve Any One of the following.**		**8**
(A)	Explain radix sort with example.	Apply	
(B)	Write the algorithm for finding transpose of sparse matrix and explain its logic.	Understand, Apply	
	***** All the best *****		