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SRAT No. _____

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SARDAR PATEL UNIVERSITY
T.Y.B.Sc : SEMESTER - V
INFORMATION TECHNOLOGY
US05CINT02 : DATA AND FIE STRUCTURE

Date : 13-11-2019, Wednesday Time : 10:00am to 01:00pm

Max.Marks : 70

Q.1 Multiple choice of Question:

10

- [1] _____ is a rank of hierarchy of a tree.
[a] Degree [b] Level
[c] Height [d] Index
- [2] An array is a _____ data structure.
[a] Composite [b] Unordered
[c] Non-composite [d] Heterogeneous
- [3] An array is called finite data structure because _____.
[a] It contains infinite number of elements
[b] It contains unlimited elements.
[c] It contains limited number of elements.
[d] It does not contain limited number of elements.
- [4] K-way merging is known as _____.
[a] Simple merge [b] Selection sort
[c] Multiple merging [d] Binary merging
- [5] The process of finding the data from its data structure is called _____.
[a] Searching [b] Deletion
[c] Sorting [d] None of these
- [6] The operation of processing each element in the list is known as _____.
[a] Sorting [b] Merging
[c] Inserting [d] Traversal
- [7] CDC stands for _____.
[a] Control Data Cycle [b] Control Data Corporation
[c] Control Data Centre [d] None of these
- [8] The operation of merging K sorted tables into a single sorted table is called _____.
[a] Selection sort [b] Insertion sort
[c] K-way merging [d] Binary Merge
- [9] The number of records in a bucket is called the _____.
[a] File capacity [b] Table capacity
[c] Bucket Capacity [d] None of these
- [10] IBM stands for _____.
[a] International Business manager
[b] International Business Machine
[c] Internet Business Machine
[d] None of these

Q.2 Answer the following in short (Any 10) :

20

- [1] Define Hierarchical structure of data structure.
- [2] List out Characteristics of algorithm for data structure
- [3] Define Row major representation of two dimension array.
- [4] List out applications of tree
- [5] Define singly link list.
- [6] Write difference between Singly link list and Doubly link list
- [7] List the applications of sorting.
- [8] Differentiate : searching and sorting.
- [9] Define merge sort.
- [10] Write down the syntax and purpose of Rewrite statement.
- [11] Explain in brief overflow area.
- [12] Define cross reference table with example.

(1)

(P.T.O)

Q.3	What is Stack? Write algorithms for PUSH(), POP(), PEEP() and CHANGE() operations on stack.	10
OR		
Q.3	Write detail note on Two-Dimension array.	10
Q.4	[A] Write Algorithm to Delete element from Doubly link list.	5
	[B] Explain insertion operation in lexically ordered binary tree.	5
OR		
Q.4	[C] Write algorithm for Preorder traversal of binary tree.	5
	[D] Write algorithm for Postorder traversal of binary tree.	5
Q.5	[A] Write down the algorithm of Sequential search.	5
	[B] Write down the algorithm of bubble sort.	5
OR		
Q.5	[C] Write down the algorithm of selection sort.	5
	[D] Write down the algorithm of Binary Search.	5
Q.6	[A] Write a detail note on processing of Direct file.	5
	[B] Write a detail note on processing of index sequential file.	5
OR		
Q.6	Write a detail note on structure of Sequential file.	10