

B.Sc.(IT) Semester - 2 (CBCS) Examination
March/April- 2019 (Old Course)
DATA STRUCTURE USING C LANGUAGE
(CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Q.1 [A] Attempt the following [04]

1. Pointer is which kind of data type?
2. Explain Big-O Notation.
3. Explain Big-Omega Notation.
4. What is Space Complexity?

[B] Answer the following: (any one) [02]

1. What is Pointer? How to declare it.
2. What is an Array? Explain with suitable example.

[C] Answer the following: (any One) [03]

1. Explain Pointer Airthmetic.
2. What is Structure? Explain with Example.

[D] Answer the following: (any One) [05]

1. What is a storage class? Explain any one with example.
2. What is DMA? Explain malloc () with example.

Q.2 [A] Attempt the following [04]

1. BFS Stands for.
2. DFS Stands for.
3. Quick sort is work based on _____ Algorithm.
4. What is shell sort?

[B] Answer the following: (any one) [02]

1. What is shorted path problem?
2. What is Weighted Graph?

[C] Answer the following: (any One) [03]

1. Write a program for Bubble sort.
2. Explain Binary search with example.

[D] Answer the following: (any One) [05]

1. Write an Algorithm of Bucket sort.
2. Explain Graph Traversal in detail.

Q.3 [A] Attempt the following [04]

1. FCFS Stands for.
2. Postfix notation is also known as _____.
3. TOS stand for.
4. LIFO stand for.

[B] Answer the following: (any one) [02]

1. What is rear and front in queue?
2. What is Empty stack and overflow stack.

[C] Answer the following: (any One) [03]

1. What is circular queue explain with algorithm.
2. What is Stack? Explain with its Application.

[D]Answer the following: (any One)

[05]

1. Write a program for double ended queue.
2. What is Polish notation and Reverse polish notation?

Q.4 [A] Attempt the following

[04]

1. Lined list is which type of data structure?
2. Singly linked list have how many filed? List it.
3. Doubly linked list have how many filed? List it.
4. What is NULL?

[B] Answer the following: (any one)

[02]

1. What is sorting in a Linked List?
2. What is searching in a Linked List?

[C] Answer the following: (any one)

[03]

1. Write application of link list.
2. Write an Algorithm for insert first node and delete first node in Singly Linked List.

[D] Answer the following: (any One)

[05]

1. Write a program for merge two Linked List.
2. Write a program for circular Linked List.

Q.5 [A]Attempt the following

[04]

1. What is Leaf?
2. What is Path?
3. What is Depth?
4. What is Forest?

[B] Answer the following: (any One)

[02]

1. What is Complete Binary Tree?
2. What is Ancestor and Descendant.

[C] Answer the following: (any One)

[03]

1. Write an algorithm for post-order traversal method.
2. Explain Height Balanced Tree.

[D] Answer the following: (any One)

[05]

1. Write a program for Binary tree.
2. What is Binary Tree explain with traversal.
