

B.C.A Semester - 2 (CBCS) Examination
March/April - 2024 (As Per Syllabus Year-2016)
CS-07 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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- Que.1(A) Give Answers of following Questions. (04)
- (1) Define Big- Oh notation.
 - (2) What is data types?
 - (3) Define Enumeration.
 - (4) Define array.
- Que.1(B) Attempt the following. (Any one) (02)
- (1) Explain static variable.
 - (2) Explain register variable.
- Que.1(C) Attempt the following. (Any one) (03)
- (1) Write advantages of pointer.
 - (2) Explain malloc(Size).
- Que.1(D) Attempt the following. (Any one) (05)
- (1) Explain Structure with Example.
 - (2) Explain union Example.
- Que.2(A) Give Answers of following Questions. (04)
- (1) List out various sorting methods.
 - (2) Define binary searching.
 - (3) Full form of DFS.
 - (4) Define Graph.
- Que.2(B) Attempt the following. (Any one) (02)
- (1) Explain Index searching.
 - (2) What is breadth first search?
- Que.2(C) Attempt the following. (Any one) (03)
- (1) Explain Selection Sort.
 - (2) Explain Insertion Sort.
- Que.2(D) Attempt the following. (Any one) (05)
- (1) Explain Shell sort method with example.
 - (2) Explain shortest path problem.
- Que.3(A) Give Answers of following Questions. (04)
- (1) Define Data structure.
 - (2) What is primitive data structure?
 - (3) Define Deque.
 - (4) Write down operations of stack.
- Que.3(B) Attempt the following. (Any one) (02)
- (1) What is Recursion?
 - (2) What is priority queue?
- Que.3(C) Attempt the following. (Any one) (03)
- (1) Explain Prefix.
 - (2) Write note on Stack.

- Que.3(D) Attempt the following. (Any one) (05)
(1) Explain Queue With Example.
(2) Write a UDF to insert Element in Stack.
- Que.4(A) Give Answers of following Questions. (04)
(1) Write types of Linked List.
(2) Define Header Linked List.
(3) What is circular List?
(4) Define Linked-List.
- Que.4(B) Attempt the following. (Any one) (02)
(1) How link list is differing an array?
(2) Explain Node in Linked List.
- Que.4(C) Attempt the following. (Any one) (03)
(1) Write a UDF to display all nodes of Circular singly list.
(2) Difference between Singly List and Doubly list.
- Que.4(D) Attempt the following. (Any one) (05)
(1) Explain Merging process of two Lists.
(2) Explain Insertion process of insert node at beginning in linked list.
- Que.5(A) Give Answers of following Questions. (04)
(1) Define Tree.
(2) Define root node.
(3) Full form BST.
(4) Write operations of b-tree?
- Que.5(B) Attempt the following. (Any one) (02)
(1) Explain objectives of tree.
(2) Explain properties of tree.
- Que.5(C) Attempt the following. (Any one) (03)
(1) Write a UDF to deletion node from BST.
(2) Explain preorder and postorder traversal.
- Que.5(D) Attempt the following. (Any one) (05)
(1) Explain insertion and deletion process in bst.
(2) Explain Height Balanced tree.
