

FACULTY OF SCIENCE
 B.Sc., III SEMESTER (CBCS R-19) EXAMINATIONS, MARCH 2022
 COMPUTER SCIENCE -III
 DATA STRUCTURES USING C++

TIME: 3 HRS]

[MAX. MARKS: 80

SECTION-A (8 X 4 = 32 Marks)

Answer any EIGHT questions

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|------|---|--|------|------|------|
| 7169 | a | Write about Algorithm. | 7169 | 7169 | 7169 |
| 7169 | b | Write about Ordered Lists. | 7169 | 7169 | 7169 |
| 7169 | c | Write about the Primitive operations on Stack. | 7169 | 7169 | 7169 |
| 7169 | d | Write about types of Recursion. | 7169 | 7169 | 7169 |
| 7169 | e | Write about applications of Queues. | 7169 | 7169 | 7169 |
| 7169 | f | Write an Algorithm to delete a node from a Single Linked List. | 7169 | 7169 | 7169 |
| 7169 | g | Write about Binary Trees. | 7169 | 7169 | 7169 |
| 7169 | h | Write about Adjacency list and Adjacency Matrix. | 7169 | 7169 | 7169 |
| 7169 | i | Write about types of Graphs. | 7169 | 7169 | 7169 |
| 7169 | j | Write about Linear Search. | 7169 | 7169 | 7169 |
| 7169 | k | Compare Bubble Sort and Insertion sort. | 7169 | 7169 | 7169 |
| 7169 | l | Write about Heap Abstract Data Type. | 7169 | 7169 | 7169 |

SECTION-B (4 X 12 = 48 Marks)

Answer any EIGHT questions

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|------|---|---|------|------|------|
| 7169 | 2 | Write a program to arrange the elements of an Integer array in descending order. | 7169 | 7169 | 7169 |
| 7169 | 3 | Write a program to evaluate a Postfix Expression. | 7169 | 7169 | 7169 |
| 7169 | 4 | Write a program to depict primitive operations on Queues using Arrays. | 7169 | 7169 | 7169 |
| 7169 | 5 | Write a program to depict primitive operations on a Single Linked List. | 7169 | 7169 | 7169 |
| 7169 | 6 | Explain various Graph traversal techniques. | 7169 | 7169 | 7169 |
| 7169 | 7 | Explain various Collision resolution strategies. | 7169 | 7169 | 7169 |
| 7169 | 8 | Write a program for Binary Search. Trace the program to search 99 in the list of elements 34,39,41,54,58,62,73,81,93,97 | 7169 | 7169 | 7169 |
| 7169 | 9 | Write a program for Heap Sort. | 7169 | 7169 | 7169 |
| 7169 | | ***** | 7169 | 7169 | 7169 |
| 7169 | | | 7169 | 7169 | 7169 |