



B.Sc. II Semester Degree Examination, September/October - 2023

COMPUTER SCIENCE

Data Structures using C

(NEP)

Time : 2 Hours

Maximum Marks : 60

SECTION-A

1. Answer the following sub - questions. Each sub - question carries **one** mark.

10x1=10

- (a) Define data structure.
- (b) List out different applications of Stack.
- (c) Define Array. Write the classifications of arrays.
- (d) Mention the different types of linked list.
- (e) What is Stack ?
- (f) Expand LIFO and FIFO.
- (g) Mention the operations on queue.
- (h) Define Preorder Traversal.
- (i) Write any two types of Sorting Technique.
- (j) Define Binary Tree.



P.T.O.

SECTION-B

Answer **any four** of the following questions. Each question carries **five** marks.

4x5=20

2. Explain the different types of operations on Data structures.
3. Explain the concept of Tower of Hanoi problem with a suitable example.
4. Write an algorithm to search an element in an array using binary search.
5. Write a note on queue concept.
6. Convert Infix to Postfix expression.
 $(A + B^D) / (E - F) * G$
7. Write a note on Linked lists and its types.

SECTION-C

Answer **any three** of the following questions. Each question carries **ten** marks.

3x10=30

8. Explain the classification of data structures with a neat diagram.
9. Explain bubble sort technique with an example.
10. Explain different operations on stack with an example.
11. Write an algorithm to insert a node in single linked list.
12. Explain Binary tree traversal methods in Inorder and Postorder.

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