**2022**

AT THE END OF SECOND SEMESTER (CBCS PATTERN)
DEGREE EXAMINATIONS
COMPUTER SCIENCE-II DATA STRUCTURES USING C
UG PROGRAM (4 YEARS HONORS)

*(W.e.f. Admitted Batch 2020-21)*

Time : 3 Hours                                    Maximum : 75 Marks

**SECTION-A**

Answer any **FIVE** questions.                              (5×5=25)

1. What are the differences between Abstract data type and data structures?

2. Write about pointers and arrays.

3. Write different applications of stack with examples.

4. Briefly explain different types of Binary Trees.

5. Distinguish between Binary search and indexed sequential search.

6. What are tips and techniques for writing programs in C?

7. Explain the advantages of double linked list over single linked list.

8. State the algorithm for insertion and delete an element from queue.

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(2)

**SECTION - B**

Answer ALL the questions                               (5×10=50)

9. a) Explain about primitive and Non-primitive data structures.

   **(OR)**

   b) Write about Time Complexity and Big 'O' Notation.

10. a) Define an array. Explain different types of arrays with example.

    **(OR)**

    b) What is linked List? Explain different types of linked lists in data structures.

11. a) What is stack? Write a program to implement stack using linked list.

    **(OR)**

    b) What is Circular Queue? Write a program to explain its operations.

12. a) Write about different Tree Traveling Techniques.

    **(OR)**

    b) What is Threaded Binary Tree? Explain in detail.

13. a) Explain selection sort technique with example.

    **(OR)**

    b) What is Searching? Explain Binary search algorithm with example.