

# **OMEGA PG COLLEGE**

APPROVED BY AICTE, AFFILIATED TO OSMANIA UNIVERSITY, HYDERABAD  
(Sy.No: 7, Edulabad(V), Ghatkesar(M), Medchal Dist-501301)

## **MCA I YEAR I SEM A.Y 2023-2024**

### **DATA STRUCTURE USING C**

#### **UNIT WISE IMPORTANT QUESTIONS**

##### **UNIT-1**

1. What is the general structure of C program and explain with example?
2. What are the steps involved in Creation and Running of a C program?
3. What is an Operator? Explain different types of Operators in C Program
4. Describe the different types of constants in C with example.
5. Explain about Looping Statements in C
6. Describe the structure of C Program and write a program to find number is Even or Odd.
7. Write a C program to demonstrate string operations.

##### **UNIT-2**

1. Discuss about call by value and call by reference in Functions.
2. What is String? Explain any five String handling Library functions with suitable example.
3. Give an account on Unions in C with suitable Example.
4. Write a short note on Preprocessor Directives in C.
5. Write in detail about different types of loop statements in C.
6. Define Function. What do you understand by Cal by Value and Cal by Reference? Explain with Example
7. What is pointer in C programming? What are its benefits?
8. What are the various Dynamic Memory Allocation functions used in C? Explain them with an example.
9. How to pass an entire structure as an argument of a function?
10. How pointers can be used in structures? Demonstrate them with an example.
11. Write a short note on Preprocessor Directives in C.
12. Explain unions in C language? Differentiate structures and unions.
13. What is self-referential structure/ Nested Structure? Explain through example.

##### **UNIT-3**

1. What is Queue? Explain Different Types of Queues with example.
2. Explain about different operations on Queue with neat diagram.
3. Describe the applications of Queue.
4. What is Linked List? Explain about different types of Linked List.
5. Write a C program to demonstrate the Array implementation of Stack.
6. What is an Array? Explain Two-Dimensional Array with a Multiplication of two Matrices.
7. What is an array? How to declare and initialize arrays? Explain with examples.

##### **UNIT-4**

1. Explain about Binary Tree Traversal Techniques.
2. What is Binary search? Explain the process of searching an element using Binary search.
3. Write a C program to create a Binary Search Tree with 8 nodes.
4. What is AVL Tree? Discuss various Application and Rotation of AVL tree with example.
5. Explain the sequential representation of Graph in memory. Explain DFS traversal algorithm.
6. **Problem on Tree i.e Traversal, Pre order, Post order & In order**
7. **Problem AVL Tree Rotations**

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## **UNIT-5**

1. Explain Merge Sort Algorithm with Example.
2. Explain the algorithm for selection sort and give a suitable example.
3. **Explain different types of Hashing.**
4. **Give an account on Collision Resolution Techniques.**
5. **Explain the algorithm for Bubble Sort .Write a C Program to demonstrate Bubble Sort.**
6. Explain Quick Sort with help of Suitable Program.
7. **Algorithm and on Liner Search & Insertion Search.**

**Note : Above questions are Guess Questions, which cover max of the unit, which may or may not come in the exam.**

\*\*\*\*\* ALL THE BEST \*\*\*\*\*

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