Name Prof.Gaikwad  Sarika Ganpat

College-SVPMS COE MALEGAON BK,BARAMATI.

Subject -Data Structures  SE E&TC

1.Elaborate Quick sort using C function . Discuss its time complexity.

2.Whst do you analyze by using Quick sort and Merge Sort explain in detail.

3.Compare Merge sort and Quick sort.

4.List out the applications of Merge sort and Quick sort .

5.Sort the following data using merge sort: [10, 5, 15, 3, 20, 1, 30, 9].

6.Write a pseudo 'C' code to implement quick sort. Derive time complexity of quick sort in best and worst case.

7.Write and explain algorithm for Merge sort .

8.Write a C code for Merge sort.

9.Which do you will prefer in between Merge and Quick sort for less time complexity.

Subject: Data Structure

Unit 2: Searching and sorting Algorithms

**Topic: Sorting Methods: Bubble , Insertion, Selection**

Email: jyotikokane1003@gmail.com

Name: Ms. Jyoti P Botkar

Asst. Prof.

Dept. of E&TC

Dr.Vithalrao Vikhe Patil College of Engineering.

Ahmednagar.

| Q. No. | Question | Verb | Cognitive Level according to Blooms Taxonomy | Marks |
|---|---|---|---|---|
| Q.1 | Describe sorting method in Data Structure and list its types | Describe | Remember (Level 1) | 4 or 5 |
| Q.2 | Explain bubble sort with example. | Explain | Understand (level 2) | 6 |
| Q.3 | Use selection sort and insertion sort to sort the following data 23 12 143 45 56 | Use | Apply (level 3) | 6 |
| Q.4 | Compare Bubble sort and Selection sort method | Compare | Analyse (level 4) | 4 |
| Q.5 | Discuss the time complexity for insertion sort | Discuss | Understand (level 2) | 4 |
| Q.6 | Construct an algorithm to sort following integer array 3,8,5,4,1,9,-2 by any one type of sorting method. | Construct | Create (level 6) | 8 |

**Unit 2: Searching and Sorting Algorithms**

Q. 1 ) What are the Characteristics of Algorithms? Explain why the Analysis of algorithm is necessary.

Q. 2 ) Define Asymptotic Notation. Explain it with the help of Example.

Q. 3 ) What is Time complexity & Space Complexity. Also discuss about it types.

Q. 4 ) Enlist the Asymptotic Notations. Explain each on of them with help of proper diagram.

- Please feel free to contact me for any other help needed. Thanking you!!
- Vinod B Bharat, DYPSOEA, Ambi. 9923001999, Vinod.bharat@dyptc.edu.in

Unit 2: Searching and Sorting

| Sr. No. | Questions | Marks | Blooms Level |
|---|---|---|---|
| 1. | State Pseudo code concept with suitable Example. | 5 | BT Level 1 |
| 2. | Describe best case, worst case and Average case behavior for algorithm with example. | 6 | BT Level 2 |
| 3. | Demonstrate different phases of creating program with example | 6 | BT Level 3 |
| 4. | Analyze the difference between big-O,Big-Omega and Big-Theta notation | 6 | BT Level 4 |
| 5. | Justify Time complexity and space complexity with suitable example. | 5 | BT Level 5 |
| 6. | Design Pseudo code for string is palindrome or not? | 5 | BT Level 6 |

Prof.A.C.Bhosale

Asst.Prof.,E&TC Department ,

S.B. Patil College of Engineering,Indapur

Class : SE
Subject :Data Structure
UT2_Question Bank Template - Sandhya Gundre

| Q.No. | Question | BL |
|---|---|---|
| | **Question 1** | |
| **a** | Analyze the Differences between the recursive and Iterative functions | 4 |
| | **Question 2** | |
| **a** | How Recursive Algorithm Analyzed | 4 |
| **b** | How Iterative Algorithm Analyzed | 4 |
| | **Question 3** | |
| **a** | Analyze Recursive and iterative Algorithms | 4 |
| | **Question 4** | |
| **a** | Elaborate Asymptotic Notations in algorithms | |
| | **Question 5** | |
| **a** | Elaborate differences between time and space complexity | |
| | **Question 6** | |
| **a** | Analyze Asymptotic Notations, apply different notations with diagram | 4 |
| | | |

BL: Blooms Taxonomy Level 1) Remembering 2) Understanding 3) Applying

4) Analyzing 5) Evaluating 6) Creating