

**SYNERGY INSTITUTE OF ENGINEERING AND TECHNOLOGY, DHENKANAL**

Near NH-55, Banamali Prasad – 759001

**Quiz-II**

**Full Marks-05**

**Duration-05 Min**

**Subject with Code:** DAA\_LAB (CSPC2206)

**Year & Semester:** 2nd & 4th

**Course & Branch**: B. Tech. & CSE

**Name: Registration No-**

**Roll No-**

Answer All Questions

**Tick the Correct Answer/Answers**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Outcome** | **Total Marks** | **Marks Secured** | **Signature of Evaluator** |
| **CO1** | **05** |  |  |

**1.What is the worst-case time complexity of Quick Sort? [0.5 Mark][CO1][L3]**  
a) O(n)  
b) O(n²)  
c) O(n log n)  
d) O(log n)

**2.What is the best-case time complexity of Quick Sort? [0.5 Mark][CO1][L3]**  
a) O(n)  
b) O(n²)  
c) O(n log n)  
d) O(log n)

**3.What is the average-case time complexity of Quick Sort? [0.5 Mark][CO1][L3]**  
a) O(n)  
b) O(n²)  
c) O(n log n)  
d) O(log n)

**4.Which technique does Quick Sort use? [0.5 Mark][CO1][L3]**  
a) Dynamic Programming  
b) Divide and Conquer  
c) Greedy Algorithm  
d) Backtracking

**5.Which element is chosen as the pivot in Quick Sort by default?[0.5 Mark][CO1][L3]**  
a) First element  
b) Last element  
c) Middle element  
d) Any of the above, depending on implementation

**6.What is the main advantage of Quick Sort over Merge Sort?[0.5 Mark][CO1][L3]**  
a) Quick Sort is stable  
b) Quick Sort requires less additional space  
c) Quick Sort always runs in O(n log n) time  
d) Quick Sort works better for linked lists

**7.Which of the following partitioning techniques is used in Quick Sort? [0.5 Mark][CO1][L3]**  
a) Hoare’s Partition Scheme  
b) Lomuto’s Partition Scheme  
c) Both (a) and (b)  
d) None of the above

**8.When does Quick Sort perform worst? [0.5 Mark][CO1][L3]**  
a) When the pivot is always the smallest or largest element  
b) When the array is already sorted  
c) When the array is small  
d) When the array contains duplicate elements

**9.Which sorting algorithm performs better in practice for large datasets? [0.5 Mark][CO1][L3]**  
a) Selection Sort  
b) Bubble Sort  
c) Quick Sort  
d) Insertion Sort

**10.What is the space complexity of Quick Sort in the worst case (due to recursion stack)? [0.5 Mark][CO1][L3]**  
a) O(n)  
b) O(n log n)  
c) O(1)  
d) O(log n)