

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

Near NH-55, Banamali Prasad – 759001

**Quiz-I**

**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 the Selection Sort algorithm? [0.5 Mark][CO1][L3]**  
   a) O(n)  
   b) O(log n)  
   c) O(n²)  
   d) O(n log n)

**2.Which of the following is true about Selection Sort? [0.5 Mark][CO1][L3]**  
a) It is a stable sorting algorithm  
b) It is an in-place sorting algorithm  
c) It has an average-case complexity of O(n log n)  
d) It is best suited for linked lists

**3.In Selection Sort, how many swaps are performed in the worst case? [0.5 Mark][CO1][L3]**  
a) O(n²)  
b) O(n log n)  
c) O(n)  
d) O(1)

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

**5.How does Selection Sort work? [0.5 Mark][CO1][L3]**  
a) It selects the smallest element and places it in its correct position  
b) It repeatedly divides the array into smaller subarrays  
c) It uses a pivot element for partitioning  
d) It builds a heap and extracts the minimum repeatedly

**6.Which of the following sorting algorithms has the same worst-case time complexity as Selection Sort? [0.5 Mark][CO1][L3]**  
a) Quick Sort  
b) Merge Sort  
c) Bubble Sort  
d) Heap Sort

7.**What is the space complexity of Selection Sort? [0.5 Mark][CO1][L3]**  
a) O(n)  
b) O(1)  
c) O(n²)  
d) O(log n)

**8.Why is Selection Sort not suitable for large datasets? [0.5 Mark][CO1][L3]**  
a) It requires extra space  
b) It has high time complexity (O(n²))  
c) It uses recursion  
d) It only works on sorted arrays

**9.What happens in each pass of the Selection Sort algorithm? [0.5 Mark][CO1][L3]**  
a) The smallest element is selected and swapped with the first unsorted element  
b) The array is divided into two halves  
c) The array is merged back into a sorted order  
d) The largest element is selected and placed at the end

**10.If Selection Sort is used to sort an already sorted array, how many swaps will occur? [0.5 Mark][CO1][L3]**  
a) O(n²)  
b) O(n)  
c) O(1)  
d) O(0)