School of Computing Science and Engineering
B.Tech CSE
ETE - Jun 2023

Time : 3 Hours   **Marks : 50**

Sem II - MSCS1230 - Design of Analysis and Algorithms
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

1.	Write down the efficiency of an Algorithm and steps involed..	K2 CO1 (2)
2.	What six-step algorithmic problem-solving procedures are there?	K1 CO2 (2)
3.	Define NP problems.	K4 CO4 (2)
4.	What is single source shortest path algorithm?	K4 CO3 (2)
5.	What is the time complexity of binary search?	K3 CO1 (2)
6.	What do you mean by Huffman code? List the advantage of Huffman's encoding?	K6 CO4 (6)
7.	Write & Explain Travelling Salesman problem.	K4 CO3 (5)
8.	Explain the Breadth-First search and Depth-First search algorithms using a good example.	K3 CO2 (5)
9.	What is Spanning Tree? Describe Kruskal and Prim's algorithm to find the minimum cost spanning tree and explain the complexity.	K5 CO4 (8)
10.	Draw an AVL tree on following inputs, assume that tree is initially empty: 21, 26, 30, 9, 4, 14, 28, 18,15,10, 2, 3, 7.	K5 CO4 (8)
11.	What is the Subset Sum Problem? Solve for the following Input: {10, 0, 5, 8, 6, 2, 4}, and the desired sum 15.	K4 CO3 (8)