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| **P.V.P Siddhartha Institute of Technology** | | | | | | | | | | |
| **Department of Computer Science and Engineering** | | | | | | | | | | |
| **Course: B.Tech** | | **Year: II** | **Semester: I** | | **Objective: II** | **A.Y:2024-25** | | | | |
| **Subject Code:23CS3301** | | **Subject Name: Advanced Data Structures and Algorithm Analysis** | | | | **Regulation:PVP23** | | | | |
| **Duration:20 minutes** | | **Maximum Marks:10 Marks** | | | | **Date:28/11/24** | | **Session: F.N** | | |
| **Answer all the Questions. Each Question carries 2 Marks**  **5×2M=10M** | | | | | | | | | | |
| **Reg. No:** | | | | **Name of the Student:** | | | | | | |
| **Signature of the Invigilator:** | | | | **Marks Awarded:** | | | | | | |
| **Q.No** |  | | | | | | **Marks** | | **CO** | **Level** |
| **1.** | List any two applications of Dynamic Programming | | | | | | **2** | | **CO1** | **L2** |
| **2.** | State Longest Common Subsequence Problem | | | | | | **2** | | **CO1** | **L2** |
| **3.** | Define Optimal Binary Search Tree | | | | | | **2** | | **CO1** | **L2** |
| **4.** | Identify the P and NP problems in the following  a) merge sort  b) single-source shortest paths  c) 0/1 knapsack problem  d) Travelling salesperson problem.  e) Searching  f) Graph coloring | | | | | | **2** | | **CO1** | **L2** |
| **5.** | Can Greedy Algorithms guarantee an optimal solution? | | | | | | **2** | | **CO1** | **L2** |