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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 followinga) merge sort b) single-source shortest pathsc) 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** |