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| Description: ABES_NEW_LOGO | **ABES Engineering College, Ghaziabad**  Department of CSE-DS |

**Session: 2023-2024 Semester: Vth**

**Subject Code: KCS 503 Subject Name: Design and Analysis of Algorithms**

**Unit 3**

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| **S.no** | **Questions** | **CO** |
| 1 | Discuss and write algorithm of Strassen Matrix Multiplication. Also, Discuss how Strassen Matrix Multiplication is better than Standard | CO 2, K3 |
| 2 | Define Convex Hull. Explain and write Algorithm for finding Convex Hull using Divide and Conquer. | CO 2, K4 |
| 3 | Define Knapsack problem. Write algorithm to solve fractional knapsack with suitable example and also explain its complexity. | CO 3, K4 |
| 4 | Find Minimum cost spanning tree, by Kruskal’s algorithm with suitable example. Write the required algorithm with complexity and draw step by step execution with appropriate data structure. | CO 2, CO 3, K4 |
| 5 | Find Minimum cost spanning tree, by Prim's algorithm with suitable example. Write the required algorithm with complexity and draw step by step execution with appropriate data structure. | CO 2, K3, K4 |
| 6 | Apply Dijikstra Algorithm for Single source shortest path on suitable example. Write the required algorithm with complexity and draw step by step execution with appropriate data structure. | CO 4, K2, K3 |
| 7 | Apply Bellman Ford Algorithm for Single source shortest path on suitable example. Write the required algorithm with complexity and draw step by step execution with appropriate data structure | CO 3, K2 |
| 8 | Explain Activity Selection Problem with suitable Example. | CO 2, K3 |
| 9 | Explain Job Scheduling (Task Scheduling) with deadlines with suitable Example. | CO 4, K3 |
| 10 | How Backtracking is more efficient in comparison to Brute – Force analysis? | CO 2, K3 |