



THADOMAL SHAHANI ENGINEERING COLLEGE  
DEPARTMENT OF INFORMATION TECHNOLOGY  
Question Bank for Periodic Test – II



T.E. Semester V

Subject: **ADSA**

**Marks Distribution**

**Unit3 -5 marks, Unit4 -5marks, Unit 5- 5 marks, Unit 6 – 5 Marks**

Unit3:

- Merge sort and Quick sort, (Time Complexity Analysis, Algorithm and Numerical)
- Finding minimum and maximum (Time Complexity Analysis, Algorithm and Numerical)
- Knapsack Problem, (Time Complexity Analysis, Algorithm and Numerical)
- Job sequencing using deadlines (Time Complexity Analysis, Algorithm and Numerical)
- Optimal storage on tape (Time Complexity Analysis, Algorithm and Numerical)
- Optimal Merge Pattern, (Time Complexity Analysis, Algorithm and Numerical)

Unit4:

- All pair shortest path (Time Complexity Analysis, Algorithm and Numerical)
- 0/1 knapsack (Time Complexity Analysis, Algorithm and Numerical)
- Travelling salesman problem (Time Complexity Analysis, Algorithm and Numerical)
- Matrix Chain Multiplication (Time Complexity Analysis, Algorithm and Numerical)
- Optimal binary search tree, (Time Complexity Analysis, Algorithm and Numerical)

Unit5:

- The naïve string-matching algorithm (Time Complexity Analysis, Algorithm and Numerical)
- Rabin Karp algorithm (Time Complexity Analysis, Algorithm and Numerical)
- Boyer Moore algorithm (Time Complexity Analysis, Algorithm and Numerical)
- Knuth-Morris-Pratt algorithm (Time Complexity Analysis, Algorithm and Numerical)
- Longest Common Subsequence (LCS) (Time Complexity Analysis, Algorithm and Numerical)

Unit 6:

- Theory on
  - Genetic Algorithms
  - Vertex Cover Problem
  - FFT
  - NP- Hard and NP-Complete

**Prof. Kumkum Saxena**