

Vaagdevi College of Engineering

(UGC Autonomous)

Question-Bank : Design and Analysis of Algorithms

Unit-I

Part-A(Short Answer Questions)

- 1) What is an Algorithm. Explain its criteria.
- 2) Define Space complexity. Give an example of it.
- 3) Define time complexity. Give an example of it.
- 4) Write Union algorithm with weighted rule.
- 5) Write about Randomized Algorithms.
- 6) Define Binary tree.
- 7) Define degree, leaf(terminal)nodes ,non-leaf(non-terminal) nodes, siblings.
- 8) Define full binary tree.
- 9) Define Dictionary.
- 10) Define Binary Search tree.
- 11) Define Priority Queue.
- 12) Define graph.
- 13) Define forest

Part-B(Long Answer Questions)

- 1) What are Asymptotic notations? Explain with example.
- 2) Describe Pseudo code conventions for algorithm specification.
- 3) Write an algorithm for linked representation of a stack.
- 4) How to improve the performance of Union and Find algorithms? Explain.
- 5) Write Union algorithm with weighting rule and explain.
- 6) Write and explain the Find algorithm with collapsing rule.
- 7) Write an Algorithm for deletion from a heap.
- 8) Write recursive algorithm for Binary Search tree.
- 9) Write an algorithm for heap sort.
- 10) Discuss about any two representations of a graph.