Society for Computer Technology and Research's

Pune Institute of Computer Technology

Department of Computer Engineering

Subject: Data Structures and Algorithms Lab — Class: S.E

Subject Code: 210256 — Department: CE

Semester: IV

Teaching Scheme Practical: 04 Hours/Week — **Credit Scheme 02**

Examination Scheme and Marks: **Term Work: 25 Marks, Practical: 25 Marks**

Prerequisites: FPL, OOP, FDS and DSL

Course Objectives:

1. To understand practical implementation and usage of nonlinear data structures for solving problems of different domain.
2. To strengthen the ability to identify and apply the suitable data structure for the given real world problems.
3. To analyze advanced data structures including hash table, dictionary, trees, graphs, sorting algorithms and file organization.
4. To understand and apply different algorithmic strategies/techniques to solve the problem efficiently.

Course Outcomes:

1. Understand and write the ADT for nonlinear data structures.
2. Choose the most appropriate data structures for an efficient solution by comparing advantages and disadvantages of data structures with respect to space and time.
3. Design and analyze nonlinear data structures to solve real world complex problems.
4. Demonstrate implementation of algorithmic strategies/techniques such as Greedy method, Dynamic programming to solve the problem efficiently.
5. Choose and implement appropriate file representation method to maintain the data.
6. Practice and apply acquired knowledge for case study development using modern FOSS tools.

CO-PO Mapping:

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO210256.1	2	3	2	2	-	1	-	2	2	2	-	2	3	-

CO210256.2	-	-	3	1	3	-	-	2	3	2	-	2	-	3
CO210256.3	2	-	3	1	3	-	1	2	3	2	-	2	-	3
CO210256.4	2	2	-	-	2	-	-	2	2	2	-	2	-	2
CO210256.5	2	-	3	-	3	-	-	2	2	2	-	2	-	2
CO210256.6	2	-	3	-	3	-	-	2	2	2	-	2	-	2
Overall	**2**	**3**	**3**	**2**	**3**	**1**	**1**	**2**	**3**	**2**	**-**	**2**	**3**	**3**

Prof. Pujashree Vidap

Subject Coordinator

Dr. Geetanjali Kale

HOCD