SCTR'S PUNE INSTITUTE OF COMPUTERTECHNOLOGY
DHANKAWADI, PUNE –43

LIST OF LAB EXPERIMENTS

ACADEMIC YEAR: **2025- 2026**

DEPARTMENT : **COMPUTER ENGG** DATE : **01/01/2026**

CLASS : **T.E** SEMESTER : **II**

SUBJECT : **Laboratory Practice II**

LAB Expt. No.	PROBLEM STATEMENT	CO Mapped
	Group A	
1.	Implement depth first search algorithm and Breadth First Search algorithm, Use an undirected graph and develop a recursive algorithm for searching all the vertices of a graph or tree data structure.	CO1
2.	Implement A star Algorithm for any game search problem.	CO1
3.	Implement Greedy search algorithm for any one of the following application: I Selection Sort II Minimum Spanning Tree III Single-Source Shortest Path Problem IV Job Scheduling Problem V Prim's Minimal Spanning Tree Algorithm VI Kruskal's Minimal Spanning Tree Algorithm VII Dijkstra's Minimal Spanning Tree Algorithm	CO1
	Group B	
1.	Implement a solution for a Constraint Satisfaction Problem using Branch and Bound and Backtracking for n-queens problem or a graph coloring problem	CO2
2.	Develop an elementary catboat for any suitable customer interaction application.	CO2
	Group C	
1.	Implement any one of the following Expert System I Information management II Hospitals and medical facilities III Help desks management IV Employee performance evaluation V Stock market trading VI Airline scheduling and cargo schedules	CO3
	Part II :Elective II **Cloud Computing** **(All assignments are compulsory)**	

1.	Case study on Microsoft azure to learn about Microsoft Azure is a cloud computing platform and infrastructure, created by Microsoft, for building, deploying and managing applications and services through a global network of Microsoft-managed data centers. OR Case study on Amazon EC2 and learn about Amazon EC2 web services.	CO1
2.	Installation and configure Google App Engine. OR Installation and Configuration of virtualization using KVM.	CO1
3.	Creating an Application in SalesForce.com using Apex programming Language.	CO2
4.	Design and develop custom Application (Mini Project) using Sales force Cloud.	CO3
5.	**Mini-Project** Setup your own cloud for Software as a Service (SaaS) over the existing LAN in your laboratory. In this assignment you have to write your own code for cloud controller using open-source technologies to implement **with HDFS**. Implement the basic operations may be like to divide the file in segments/blocks and upload/ download file on/from cloud in encrypted form.	CO1, CO2, CO3
	Information Security (Any five)	
1.	Write a Java/C/C++/Python program that contains a string (char pointer) with a value \Hello World'. The program should AND or and XOR each character in this string with 127 and display the result.	CO1
2.	Write a Java/C/C++/Python program to perform encryption and decryption using the method of Transposition technique.	CO1
3.	Write a Java/C/C++/Python program to implement DES algorithm.	CO2
4.	Write a Java/C/C++/Python program to implement AES Algorithm.	CO2
5.	Write a Java/C/C++/Python program to implement RSA algorithm.	CO3
	OR	
6.	Implement the different Hellman Key Exchange mechanism using HTML and JavaScript. Consider the end user as one of the parties (Alice) and the JavaScript application as other party (bob).	CO3
	OR	
7.	Calculate the message digest of a text using the MD5 algorithm in JAVA.	CO3

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