



AISSMS

COLLEGE OF ENGINEERING

ज्ञानम् सकलजनहिताय

An Autonomous Institute Affiliated with
Savitribai Phule Pune University

Accredited by NAAC with "A+" Grade | NBA - 7 UG Programmes



A.I.S.S.M.S. COLLEGE OF ENGINEERING PUNE 411001

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Expt. No	Title of the Experiment	Date on which		Page No.	Remarks and Signature
		Exp. Per	Exp. Sub.		
Any 5 assignments and 1 mini project are mandatory.					
Design and Analysis of Algorithms					
1	Write a program non-recursive and recursive program to calculate Fibonacci numbers and analyze their time and space complexity				
2	Write a program to implement Huffman Encoding using a greedy strategy				
3	Write a program to solve a fractional Knapsack problem using a greedy method.				
4	Write a program to solve a 0-1 Knapsack problem using dynamic programming or branch and bound strategy				
5	Design n-Queens matrix having first Queen placed. Use backtracking to place remaining Queens to generate the final n-queen’s matrix.				
6	Write a program for analysis of quick sort by using deterministic and randomized variant.				
7	Mini-project				

This is to certify that **Miss. Piyusha Rajendra Supe** of class **BE-B (Computer)** Roll No. **23CO315** has completed all the practical work as listed above, satisfactorily in the subject of **Design and analysis of algorithms** under **Laboratory Practice III** in the Department of **Computer Engineering** as prescribed by the Savitribai Phule Pune University. During the academic year **2025-2026**

Date:

Mr. Ashish. U. Khandait
(Faculty In-charge)

Dr. S. V. Athawale
(Head of Department)



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Machine Learning					
1	Predict the price of the Uber ride from a given pickup point to the agreed drop-off location. Perform following tasks: 1. Pre-process the dataset. 2. Identify outliers. 3. Check the correlation. 4. Implement linear regression and random forest regression models. 5. Evaluate the models and compare their respective scores like R2, RMSE, etc. Dataset link: https://www.kaggle.com/datasets/yasserh/uber-fares-dataset				
2	Classify the email using the binary classification method. Email Spam detection has two states: a) Normal State – Not Spam, b) Abnormal State – Spam. Use K-Nearest Neighbors and Support Vector Machine for classification. Analyze their performance. Dataset link: The emails.csv dataset on the Kaggle https://www.kaggle.com/datasets/balaka18/email-spam-classification-dataset-csv				
3	Given a bank customer, build a neural network-based classifier that can determine whether they will leave or not in the next 6 months. Link to the Kaggle project: https://www.kaggle.com/barelydedicated/bank-customer-churn-modeling				
4	Implement Gradient Descent Algorithm to find the local minima of a function. For example, find the local minima of the function $y=(x+3)^2$ starting from the point $x=2$.				
5	Implement K-Nearest Neighbors algorithm on diabetes.csv dataset. Compute confusion matrix, accuracy, error rate, precision and recall on the given dataset. Dataset link : https://www.kaggle.com/datasets/abdallamahgoub/diabetes				
6	Implement K-Means clustering/ hierarchical clustering on sales_data_sample.csv dataset. Determine the number of clusters using the elbow method. Dataset link : https://www.kaggle.com/datasets/kyanyoga/sample-sales-data				
7	Mini-project				

This is to certify that **Miss. Piyusha Rajendra Supe** of class **BE-B (Computer)** Roll No. **23CO315** has completed all the practical work as listed above, satisfactorily in the subject of **Machine Learning** under **Laboratory Practice III** in the Department of **Computer Engineering** as prescribed by the Savitribai Phule Pune University. During the academic year **2025-2026**

Date:

Mrs. Neha. A. Rai
(Faculty In-charge)

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Blockchain Technology					
1	Installation of MetaMask and study spending Ether per transaction.				
2	Create your own wallet using Metamask for crypto transactions.				
3	Write a smart contract on a test network, for Bank account of a customer for following operations: <ul style="list-style-type: none">• Deposit money• Withdraw Money• Show balance				
4	Write a program in solidity to create Student data. Use the following constructs: <ul style="list-style-type: none">• Structures• Arrays• Fallback Deploy this as smart contract on Ethereum and Observe the transaction fee and Gas values.				
5	Write a survey report on types of Blockchains and its real time use cases.				
6	Write a program to create a Business Network using Hyperledger				
7	Mini - project				

This is to certify that **Miss. Piyusha Rajendra Supe** of class **BE-B (Computer)** Roll No. **23CO315** has completed all the practical work as listed above, satisfactorily in the subject of **Blockchain Technology** under **Laboratory Practice III** in the Department of **Computer Engineering** as prescribed by the Savitribai Phule Pune University. During the academic year **2025-2026**

Date:

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Object Oriented Modelling and Design					
1	Draw state model for telephone line, with various activities.				
2	Draw basic class diagrams to identify and describe key concepts like classes, types in your system and their relationships.				
3	Draw one or more Use Case diagrams for capturing and representing requirements of the system. Use case diagrams must include template showing description and steps of the Use Case for various scenarios				
4	Draw activity diagrams to display either business flows or like flow charts				
5	Draw component diagrams assuming that you will build your system reusing existing components along with a few new ones				
6	Mini Project: Draw all UML diagrams for your project work.				
Software Testing and Quality Assurance					
1	Write TEST Scenario for Gmail Login Page				
2	Test Scenario for Gmail Login Page				
3	Write Test cases in excel sheet for Social Media application or website				
4	Create Defect Report for Any application or web application				
5	Installation of Selenium grid and selenium Web driver java eclipse (automation tools).				
6	Mini project: Create a small web-based application by selecting relevant system environment / platform and programming languages. Narrate concise Test Plan consisting features to be tested and bug taxonomy. Narrate scripts in order to perform regression tests. Identify the bugs using Selenium WebDriver and IDE and generate test reports encompassing exploratory testing.				

This is to certify that **Miss. Piyusha Rajendra Supe** of class **BE-B (Computer)** Roll No. **23CO315** has completed all the practical work as listed above, satisfactorily in the subject of **Laboratory Practice IV** in the Department of **Computer Engineering** as prescribed by the Savitribai Phule Pune University. During the academic year **2025-2026**

Date:

Mr. Saiprasad. R. Bhise
(Faculty In-charge)

Dr. S. V. Athawale
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