

**MUTHOOT INSTITUTE OF TECHNOLOGY & SCIENCE**

**VARIKOLI P O, PUTHENCRUZ,**

**ERNAKULAM DISTRICT, PIN 682308**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**MASTER OF COMPUTER APPLICATIONS**

**SEMESTER III**

**LAB RECORD**

**20MCA241 DATA SCIENCE LAB**

**Name: SHERIN MARIYA ROBERT**

**Register Number:** **MUT23MCA-2056**

**Month: Year: 2024**



***CERTIFICATE***

*Certified that this is the Bonafide Record of Practical work done in the* ***Vinton Cerf Lab*** *of Muthoot Institute of Technology and Science by* ***Reg. No*** ***MUT23MCA-2056***

***Name:******SHERIN MARIYA ROBERT***

*for the partial fulfillment of the requirement for the award of the degree of Master of Computer Applications during the year* ***2023-24****.*

Head of the Department Faculty in Charge

Dr. Saritha K

University Exam Reg. No: **MUT23MCA-2056** of 2024

Date of Examination: ……………………………………………...

Internal Examiner External Examiner



**Vision of Institute**

To be a centre of excellence for learning and research in engineering and technology, producing intellectually well-equipped and socially committed citizens possessing an ethical value system.

**Mission of Institute**

1. Offer well-balanced programme of instruction, practical exercise and opportunities in technology.
2. Foster innovation and ideation of technological solutions on a sustainable basis.
3. Nurture a value system in students and engender in them a spirit of inquiry.

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| **SL.NO** | **PROGRAM** | **DATE** |
| **CO1: Use different python packages to perform numerical calculations, statistical computations and data visualization** | | |
| 1 | Program to review the fundamentals of python. |  |
| 2 | Program to perform arithmetic operations on a 2D Matrices. |  |
| 3 | Program to find the inverse, rank, determinant, eigen values of a given matrix. |  |
| 4 | Program to create customized line plot for comparing the Age-wise annual salary variations for Python developer with JavaScript developer from the dataset of the average annual salary of developers of various programming languages. |  |
| 5 | Program to create a gender wise count plot by using the values in the sex column dataset of tips taken on the total bill amount in restaurants. |  |
| 6 | Program to create a histogram of a list of random age of 100 individuals in a range between 1 and 91. |  |
| 7 | Program to create a bar chart of the popularity of programming languages. |  |
| 8 | Program to create a pie chart of the popularity of programming languages. |  |
| 9 | Program to create a scatter plot between the 'Sepal Length' & 'Sepal Width' columns & Differentiate between the data points of different classes. |  |
| **CO 2 Use different packages and frameworks to implement regression and classification algorithms.** | | |
| 10 | Program to implement k-NN classification using any standard dataset available in the public domain and find the accuracy of the algorithm. |  |
| 11 | Program to implement Naïve Bayes Algorithm using any standard dataset available in the public domain and find the accuracy of the algorithm |  |
| 12 | Program to implement linear regression algorithm using any standard dataset available in the public domain and evaluate its performance. |  |
| 13 | Program to implement multiple regression algorithm using any standard dataset available in the public domain and evaluate its performance. |  |

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| **CO 3: Use different packages and frameworks to implement text classification using SVM and clustering using k-means** | | |
| 14 | Program to implement text classification using Support vector machine using any standard dataset available in the public domain and evaluate its performance. |  |
| 15 | Program to implement decision trees using any standard dataset available in the public domain and find the accuracy of the algorithm. |  |
| 16 | Program to implement k-means clustering technique using any standard dataset available in the public domain. |  |
| **CO 4: Implement convolutional neural network algorithm using Keras framework.** | | |
| 17 | Programs on feedforward network to classify any standard dataset available in the public domain. |  |
| 18 | Programs on convolutional neural network to classify images from any standard dataset in the public domain. |  |
| **CO 5: Implement programs for web data mining and natural language processing using NLTK** | | |
| 19 | Implement a simple web crawler (ensure ethical conduct). • |  |
| 20 | Implement a program to scrap the web page of any popular website – suggested python package is scrappy (ensure ethical conduct). |  |