Dr. A P J Abdul Kalam School of Engineering
I Semester, B.Tech in Computer Science and Engineering (AL&ML, CS and DS)

LAC Software based Learning LAB questions

Instructions:

1. Students should submit answers in the form of printed screenshots in a strip file.
2. One exam will be conducted based on the questions online using Google forms next Saturday i.e 11/3/2023

Questions	Instructions
MODULE : 1 Q.1 Create A-3x3, B-4x4 , C-3x4 and D-4x3 matrices in matlab. Q.2 Perform A+B, BxD operations in MATLAB Q.4. Find the determinant of all matices . If the determinant is not equal to "0" then find inverse of them. Q.5. Find Eigen values and Eigen vectors of all matrices. Note: Matrice A last column should be your RollNo. Matrice B should be made with your mobile Number Matrice C and D last three digits should be last digits of your area pincode.	Software: MATLAB ANSWERS: All questions to be solved only in matlab. Answers to be submitted in the form of screenshots. Should not copy answers from others as questions are different to each other.
MODULE : 2 Q.1 Plot the Polar curve in Python 1. $r = 1 + 2\cos\theta$ 2. $r = 1 - \cos\theta$ 3. $r = \cos\theta$ 4. $r = \sin\theta$ 5. $r = 4\cos 2\theta$ 6. $r = 4\sin 2\theta$ 7. $r = \cos 3\theta$ 8. $r = \sin 4\theta$ 9 $r = \sqrt{\theta}$ 0 $r = \theta$	Software: Python Only one question to be answered . Question no is the last digit of your Rollno Graph to be plotted in Python. Code should be printed in half the A4 sheet and output graph to be in other sheet. Total only one page to be taken.

MODULE : 3 Q.1 Declare two variables and find the partial differentiation of a function of two variables (Any function of your choice) with the help of symbolic math tool box. Q.2 Find differentiation using Jacobian method with the help of symbolic math tool box.	Software: MATLAB ANSWERS: All questions to be solved only in matlab. Answers to be submitted in the form of screenshots.
MODULE : 4 Q.1 Solve a system of ordinary differential equations (Any equations of your choice) in several variables by using the `dsolve` function. Q.2 Visualize the solution using `fplot`.	Software: MATLAB ANSWERS: All questions to be solved only in matlab. Answers to be submitted in the form of screenshots.
Module-5 Q.1 Declare two variables and find the integration of a function of two variables (Any function of your choice) with the help of symbolic math tool box. Q.2 Find also Definite Integrald with the help of symbolic math tool box.	Software: MATLAB ANSWERS: All questions to be solved only in matlab. Answers to be submitted in the form of screenshots.