INDEX

S.No	Category of Assignment	Code	Exp. No.	Name of Experiment	Date of Allotment of experiment	Date of Evaluation	Max. Marks	Marks obtained	Signature of Faculty
1.	**Mandatory Experiment***	**LR (10)**	**1**	(A) Creating a One-Dimensional Array (Row/Column Vector) (B) Creating a Two-Dimensional Array (Matrix of given size) (C) Performing Arithmetic Operations - Addition, Subtraction, Multiplication and Exponentiation (D) Performing Matrix operations - Inverse, Transpose and Rank.	12/1/22	19/1/22			
2.	**Mandatory Experiment***		**2**	Performing Matrix Manipulations – Concatenating, Indexing, Sorting, Shifting, Reshaping, Resizing and Flipping about a Vertical Axis / Horizontal Axis; Creating Arrays X & Y of given size (1 x N) and Performing (A) Relational Operations – (>, <, ==, <=, >=, ~=) (B) Logical Operations – (~, &, |, XOR)	19/1/22	2/2/22			

3.	**Mandatory Experiment***		**3**	Generating a set of Commands on a given Vector (Example: X = [1 8 3 9 0 1]) to (A). Add up the values of the elements (Check with sum) (B). Compute the Running Sum (Check with sum), where Running Sum for element j = the sum of the elements from 1 to j, inclusive. (C) Generating a Random Sequence using $rand()$ / $randn()$ functions and plot them.	2/2/22	9/2/22			
4.	**Mandatory Experiment***		**4**	Evaluating a given expression and rounding it to the nearest integer value using Round, Floor, Ceil and Fix functions. Also, generating and Plots of (A) Trigonometric Functions - sin(t), cos(t), tan(t), sec(t), cosec(t) and cot(t) for a given duration, 't'. (B) Logarithmic and other Functions – log(A), log10(A), Square root of A, Real nth root of A.	9/2/22	16/2/22			

5.	**Mandatory Experiment***		**5**	Creating a vector X with elements, $X_n = \frac{(-1)^{n+1}}{(2n-1)}$ and adding up 100 elements of the vector, X; And, plotting the functions, x, x^3, e^x, $exp(x^2)$ over the interval 0 < x < 4 (by choosing appropriate mesh values for x to obtain smooth curves), on a Rectangular Plot.	16/2/22	2/3/22			
6.	**Mandatory Experiment***		**6**	Generating a sinusoidal signal of a given frequency (say 100Hz) and plotting with graphical enhancements: titling, labelling, adding text, adding legends, adding new plots to existing plots, printings text in Greek letters, plotting as multiple subplots.	2/3/22	9/3/22			
7	**Mandatory Experiment***		**7**	Writing brief script starting each script with a request for input (using input() function) to evaluate the function h(T) using if-else statement, where, h(T) = (T-10) for 0<T<100 h(T) = (0.45T + 900) for T>100	9/3/22	16/3/22			

8.	**Mandatory Experiment***		**8**	Solving first order differential equation using the built-in functions. Consider the following differential equation $x(\frac{dy}{dx}) + 2y = x^3$, where $\frac{dy}{dx} = \frac{(x^3 - 2y)}{x}$, 1<x<3 and y = 4.2	16/3/22	23/3/22			
9.	**Mandatory Experiment***		**9**	Generating a square wave from sum of sine waves of certain amplitude and frequency $x(t) = \frac{4A}{\pi}\left(sin\omega t + \frac{sin3}{3} + \frac{sin5\omega t}{5} + \frac{sin7\omega t}{7} \dots\right)$	23/3/22	30/3/22			
10.	**Mandatory Experiment***		**10**	Basic 2D and 3D plots: parametric space curve, polygons with vertices, 3D contour lines and pie and bar charts.	30/3/22	6/4/22			
11.	**Design Based Open Ended experiment****	**PR (10)**							
12.	**Viva**	**Viva (5)**							