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| **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   1. Relational Operations – (>, <, ==, <=, >=, ~=) 2. 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 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   1. Trigonometric Functions - sin(t), cos(t), tan(t), sec(t), cosec(t) and cot(t) for a given duration, ‘t’. 2. 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, and adding up 100 elements of the vector, X; And, plotting the functions, , , , 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  , where , 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 | 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)** |  |  |  |  |  |  |  |