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Supplementary Examination 2023

(Odd Semester 2022)

Paper Name: IT Workshop (Scilab/MATLAB)
Time: 3 Hours

Paper Code: BTCSE 305 (Lateral Entry)
Maximum Marks: 75

Section-A				
ALL questions are compulsory in this Section (7 x 5 = 35 Marks)				
Q.No	Question	Marks	CO	BL
1.	MATLAB is better than C for Data Analysis. <i>Agree or disagree</i> with the statement giving 5 reasons.	5	1	L2
2.	Create the below matrix M in Scilab and answer the questions that follow: $M = [0,1,1;2,3,5;8,13,21]$ i) What is the dimension of matrix M? ii) Will you create the above matrix in SciNotes or Console? Explain why. iii) What is the use of semicolon(;)? iv) Write code to display the first row of M. v) Write code to display the last column of M.	5	4	L3
3.	Write a script in MATLAB to check if a number is divisible by 2.	5	3	L3
4.	Assuming N to be a 5 x 8 matrix, which of the following commands will give output for Scilab? If not, write the correct command. i) N (1:,5) ii) N (:,5) iii) N (\$:\$,\$:\$) iv) N (:\$,3:6) v) N (:,:)	5	5	L4
5.	i) A is a 5 x 5 matrix consisting only of even numbers. Write the code in MATLAB to create the matrix A (Assume values). ii) What is a column vector? What will be the output of below command: $B=A(2:5,5)$	5	3	L3 L1 L4
6.	Write short notes on the following for Scilab or MATLAB: i) Variable Browser ii) <i>who</i> command iii) <i>format</i> command iv) Percentage (%) Symbol v) File Browser	5	1,4	L1

7.	Write a script in Scilab to check if a number is prime.	5	5	L3												
Section-B																
Attempt any FOUR Questions from this Section (4 x 10 = 40 Marks)																
1.	Give reasons why you <i>agree</i> or <i>disagree</i> with the following statements: i) We can use a digit as first character for naming a variable in MATLAB. ii) Bar Chart can be created in Excel but not in Scilab. iii) When generating a series of numbers a negative decrement can be specified in MATLAB. iv) SciNotes is needed even when console is present in Scilab. v) Scilab is preferred over MATLAB for performing operations on complex numbers.	10	1,4	L2												
2.	i) Write a script in MATLAB to display the sum of prime numbers from 0 to 50. ii) Explain the various types of loops used in MATLAB.	10	1,3	L3 L1												
3.	i) Using Scilab write a function to test whether a given number is odd or even. ii) Using Scilab write the code and plot a graph of Date versus Precipitation for Delhi in August for the data given in the table below: <table border="1"><tr><td>Date</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Precipitation (%)</td><td>17</td><td>14</td><td>20</td><td>45</td><td>76</td></tr></table>	Date	1	2	3	4	5	Precipitation (%)	17	14	20	45	76	10	5	L3 L6
Date	1	2	3	4	5											
Precipitation (%)	17	14	20	45	76											
4.	Describe any 5 matrix arithmetic operations in MATLAB with an example for each.	10	1,3	L1 L3												
5.	Write a program in Scilab with output to do the following: i) Create a matrix X of dimensions 6 x 4 (Assume values). ii) Display the fourth column and store it in a row vector Y. iii) Display the odd numbers present in the matrix X. iv) Display the sum of last number of every row using the \$ sign. v) Delete the row vector Y.	10	5	L3												
6.	Differentiate between the following by writing example code in MATLAB or Scilab: i) String Operations & Arithmetic Operations ii) Switch case & if..else condition	10	1,4	L2 L3												

BL- Bloom's Taxonomy Levels (1 Remembering, 2 Understanding, 3 Applying, 4 Analyzing, 5 Evaluating, 6 Creating)

CO- Course Outcome