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**Internal Assessment Test 1 – December 2023**

Sub:	MATLAB Programming				Sub Code:	BEC358B	Branch:	ECE		
Date:	21-12-2023	Duration:	90 minutes	Max Marks:	50	Sem/Sec:	3 <sup>rd</sup> (A,B,C,D)			OBE
<b>ANSWER ALL QUESTIONS</b>								MARKS	CO	RBT
<b>PART A(20*1 = 20 MARKS)</b>										
1	The Name MATLAB is derived from (a)Mathematics Laboratory (b) <b>Matrix Laboratory</b> (c) Math works (d) None of the above						01	CO1	L1	
2	The basic building block of MATLAB is (a)Integer(b)Fractional numbers(c) <b>Matrix</b> (d)None of the above						01	CO1	L1	
3	The three windows in MATLAB are ----- <b>Command Window, Editor Window, Figure Window</b>						01	CO1	L1	
4	Number of sub windows in MATLAB Desktop are (a) 3 (b)2 (c) <b>4</b> (d) 5						01	CO1	L1	
5	How to clear the command window in MATLAB (a)clear (b) <b>clc</b> (c)clear all (d)close all						01	CO1	L2	
6	The Assignment operator in MATLAB is (a) '+' (b) <b>'='</b> (c) '*' (d) '\$'						01	CO1	L2	
7	The MATLAB command to clear all the data and variables stored in memory is (a)clc (b)delete (c) <b>clear</b> (d)None of the above						01	CO1	L1	
8	Which of the following command lists the current variable in MATLAB? (a)Type (b) <b>who</b> (c)whos (d)pwd						01	CO1	L2	
9	The extension of script files (a) <b>.m files</b> (b) .mat (c). script (d) .p						01	CO1	L2	
10	The basic difference between M-files and Mat-files (a)M-files are binary data files while Mat-files are ASCII text files (b) <b>Mat-files are binary data files while M-files are ASCII text files</b> (c) M-files are binary data files while Mat-files are compiled files (d)None of the above						01	CO1	L1	
11	P-files are (a)ASCII text files (b) Binary data files (c)Binary figure files (d) <b>Compiled M-files</b>						01	CO1	L1	
12	The format for 5 digit representation along with exponent is (a) <i>short</i> (b) <b><i>short e</i></b> (c) <i>short g</i> (d) <i>short eng</i>						01	CO1	L2	
13	The 'pi' value is displayed in MATLAB as 355/113. The output format used is (a) <i>format bank</i> (b) <i>format hex</i> (c) <b><i>format rat</i></b> (d) <i>format long</i>						01	CO1	L2	
14	The difference between <i>format compact</i> and <i>format loose</i> is (a) <b><i>format compact</i> suppresses excess linefeeds and <i>format loose</i> adds linefeeds</b> (b) <i>format loose</i> suppresses excess linefeeds and <i>format compact</i> adds linefeeds (c) <i>format compact</i> makes the output more readable than <i>format loose</i> (d) <i>format loose</i> displays more output in a screen than <i>format compact</i>						01	CO1	L1	
15	To represent only two digits after the decimal point, the format used is (a) <i>long e</i> (b) <i>hex</i> (c) <b><i>bank</i></b> (d) <i>short e</i>						01	CO1	L2	
16	To suppress the output display of a line of code the MATLAB command used is (a) : (b). (c) ... (d) <b>;</b>						01	CO1	L2	
17	The MATLAB command used to display the natural logarithm of $x$ is (a) $\log_{10}(x)$ (b) $\log_2(x)$ (c) <b><math>\log(x)</math></b> (d) $\log_1p$						01	CO1	L2	
18	The default format to display the output in MATLAB (a) <b><i>short</i></b> (b) <i>short e</i> (c) <i>short g</i> (d) <i>short eng</i>						01	CO1	L2	
19	To add a comment to the M-file, the MATLAB command is (a) <b>%</b> (b) : (c)& (d)comment(' ')						01	CO1	L2	
20	The return type of angles function in MATLAB (a) Degrees (b) <b>Radians</b> (c) Radians & Degrees (d) depends on the argument						01	CO1	L1	

**PART B(15\*2 = 30 MARKS)**

1	The MATLAB command to compute $\frac{2^5}{2^5-1}$ is (a) $2 * 5/2 * 5 - 1$ (b) $2 * 5/(2 * 5 - 1)$ (c) $2^5/(2^5 - 1)$ (d) $2^5 ./ (2^5 - 1)$	02	CO1	L3
2	The MATLAB command to compute Area = $\pi r^2$ with $r = \pi^{\frac{1}{3}} - 1$ is (a) $\text{Area} = \text{pi} * (\text{pi}^{(1/3)} - 1)^2$ (b) $\text{Area} = \text{pi} * (\text{pi} * 2^{(1/3)} - 1)$ (c) $\text{Area} = \text{pi} * (\text{pi}^{(1/3)} - 1) * 2$ (d) $\text{Area} = \text{pi} * (\text{pi} * (1/3) - 1) * 2$	02	CO1	L3
3	The MATLAB command to compute $e^{\pi\sqrt{163}}$ is (a) $\text{exp}(\pi * \sqrt{163})$ (b) $\text{exp}(\text{pi} * \text{sqrt}(163))$ (c) $e^{(\pi*\sqrt{163})}$ (d) $e^{(\text{pi}*sqrt(163))}$	02	CO1	L3
4	The output displayed by the MATLAB command $\sin(\text{pi}/6)$ is (a) $30^\circ$ (b) 0.5 (c) 0.5000 (d) $\frac{\pi}{6}$	02	CO1	L3
5	The MATLAB command to compute $\sin^2\left(\frac{\pi}{6}\right) + \cos^2\left(\frac{\pi}{6}\right)$ is (a) $(\sin(\text{pi}/6))^2 + (\cos(\text{pi}/6))^2$ (b) $\sin^2(\text{pi}/6) + \cos^2(\text{pi}/6)$ (c) $(\sin(\text{pi}/6))^2 + (\cos(\text{pi}/6))^2$ (d) $\sin\left(\frac{\text{pi}}{6}\right)^2 + \cos\left(\frac{\text{pi}}{6}\right)^2$	02	CO1	L3
6	The difference between the execution of MATLAB commands $\text{exp}(\text{pi}/2 * i)$ and $\text{exp}(\text{pi}/2i)$ is (a) $i$ and $2i$ (b) $i$ and $-i$ (c) $-i$ and $i$ (d) $2i$ and $i$	02	CO1	L3
7	The MATLAB command to generate a row vector $x$ with elements $x_1 = 1, x_2 = 2$ and $x_3 = 3$ is (a) $x = [1; 2; 3]$ (b) $x = [1 2 3]$ (c) $x = [1,2,3]$ (d) both b and c	02	CO1	L3
8	The MATLAB command to generate a column vector $x$ with elements $x_1 = 1, x_2 = 2$ and $x_3 = 3$ is (a) $x = [1; 2; 3]$ (b) $x = [1 2 3]$ (c) $x = [1,2,3]$ (d) both b and c	02	CO1	L3
9	What would be the output of the following MATLAB code? $A = [1 2 3]; B = [1 2 3]; C = A + B$ (a) $C = 2 3 4$ (b) $C = 2 4 6$ (c) $C = 1 2 3$ (d) $C = 1 4 9$	02	CO1	L3
10	What would be the output of the following MATLAB code? $x = [1 2 3]; z = [2 1 0]; y = x.*z$ (a) $y = 2 1 0$ (b) $y = 2 2 0$ (c) $y = 4$ (d) $y = 3 3 3$	02	CO1	L3
11	What would be the output of the following MATLAB code? $X = [1 1 0 0]; Y = [1; 2; 3; 4]; Z = X * Y$ (a) $Z = 0$ (b) $Z = [1 0 0 0]$ (c) $Z = 3$ (d) $Z = [1 2 0 0]$	02	CO1	L3
12	Which of the following expressions generates an evenly spaced vector containing 10 values between 4 and 20 is (a) $x = \text{linspace}(20,4,10)$ (b) $\text{linspace}(10,4,20)$ (c) $\text{linspace}(10,20,4)$ (d) $\text{linspace}(4,20,10)$	02	CO1	L3
13	The MATLAB command to compute the $y$ coordinates of a line defined by $y = mx + c$ where $m = 0.5, c = -2$ at the following $x$ - coordinates $x = 0, 1.5, 3, 4, 5, 7, 9, 10$ is (a) $x = [0 1.5 3 4 5 6 9 10]; y = m * x + c$ (b) $x = [0 1.5 3 4 5 6 9 10]; y = 0.5 * x + c$ (c) $x = [0 1.5 3 4 5 6 9 10]; m = 0.5; c = -2; y = m * x + c$ (d) $x = [0 1.5 3 4 5 6 9 10]; y = m * x + (-2)$	02	CO1	L3
14	Create a row vector $t$ with 10 elements: 1,2,3 ... .. 10. The MATLAB command is (a) $t = [1 2 3 4 5 6 7 8 9 10]$ (b) $t = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]$ (c) $t = 1:10$ (d) both a and c	02	CO1	L3
15	Using the vector $t$ created in the above question, the MATLAB command to compute $y = \frac{t-1}{t+1}$ and the value of $y$ is (a) $y = (t - 1)/(t + 1); y = 0 1 2 3 4 5 6 7 8 9$ (b) $y = (t - 1)/(t + 1); y = 1 2 3 4 5 6 7 8 9 10$ (c) $y = (t - 1)./(t + 1); y = 0 0.3333 0.5 0.6 0.6666 0.7143 0.75 0.7777 0.8 0.8181$ (d) None of the above	02	CO1	L3