The University of Jordan
School of Engineering
Chemical Engineering Department

(965201) Computer Applications for Chemical Engineering   **Second Semester – 2019/2020**

Quiz # 1

Name: _____   **ID # _____**

Q1:   Write your MATLAB code to calculate $y = 2\dfrac{e^{-t/2}}{\sqrt{(x+1)(x-1)}}$, where t and x are **<u>entered by the user</u>**, and their values are $t = 2.25$ and $x = 3$; then write down the answer.

>> _____

>> _____

>> _____

>> _____

>> _____

Q2:   (a)   Write your MATLAB command, using the colon operator (:) when possible, to produce matrix B as follows: $B = \begin{bmatrix} 1 & 2 & 3 & 4 \\ 8 & 5 & 2 & -1 \\ \log(2) & \sin^2(\pi) & \cos^{-1}(0.5) & e^3 \end{bmatrix}$

>>

(b)   Write your MATLAB command to create submatrix A from matrix B as follows: $A = \begin{bmatrix} 8 & 2 \\ 0.3010 & 60 \end{bmatrix}$

>>

Q3:   Write your MATLAB code to derive the polynomial $g = x^5 - 3x^3 + 5x^2 - 10$, then find the roots of the derived polynomial, and write down the answer.

>> _____

>> _____

>> _____

>> _____

(965201) Computer Applications for Chemical Engineering   **Second Semester – 2019/2020**

Quiz # 1

Name: _____   **ID # _____**

Q1:   Write your MATLAB code to evaluate the expression $z = e^{-5}\sin(x) + 10\sqrt{y}$, when x and y are **entered by the user**, and their values are $x = 2$, and $y = 8$; then write down the answer.

>>

>>

>>

>>

>>

Q2:   (a) Write your MATLAB command, using the colon operator (:) when possible, to produce matrix B as follows: $B = \begin{bmatrix} 3 & 2 & 1 \\ 8 & 5 & 2 \\ \ln(12) & \sqrt[4]{10} & \cos(30°) \end{bmatrix}$

>>

(c) Write your MATLAB command to create submatrix A from matrix B as follows: $A = \begin{bmatrix} 3 & 1 \\ 2.4849 & 0.8660 \end{bmatrix}$

>>

Q3:   Write your MATLAB code to derive the polynomial $h = x^6 - 3x^5 + 5x^2 - 8$, then find the roots of the derived polynomial, and write down the answer.

>> _____

>> _____

>> _____

>> _____

>> _____