Name and surname:

U number:

Calculus I - MAC 2311 - Section 001
Quiz 7
03/28/2018

Instructions: The total number of points of this quiz is 11, but your grade will be the minimum between your score and 10. You will get an extra point if you solve correctly the last exercise.

1)   a) [1.5 points] Give the definition of a critical number of a function f.

b) [1.5 points] State the Mean Value Theorem.

2) [4 points] Find the absolute maximum and minimum values of the function
$$f(x) = x^2 e^{-x}$$
on the closed interval $[1, 3]$.

3) [4 points] Let f be a differentiable function such that $f'(x) \leq 2$ for all x in $\mathbb{R}$. If $f(0) = 3$, what is the greatest value that f may attain at 2?

4) [Bonus] Is the following statement true of false? Justify your answer.

Let f be a function such that $f''(x) > 0$ for all x, and $f'(2) = 2$. Then $f(2018) > f(2017)$.