|  |
| --- |
| **AY 2024-2025** Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Surname:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Matricola:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Microeconomics II; mock Mid Term Test** *Prof. Nicola Dimitri*  |

# You can use the calculator if needed. Smartphones, lecture notes and books are not allowed. You have 1 hour and 30 minutes.

**1. (11 points)**

Consider the following technology with one output $z$ and two inputs, $x$ and $y$,

$$z=f\left(x,y\right)=x^{a}+y^{1-a}$$

where $0<a<1$. If $w\_{x}$ and $w\_{y}$ are, respectively, the unit proces of $x$ and $y$ find the profit function and the cost function associated to this technology. Moreover, verify if the technology has increasing, constant or decreasing return of scale.

**2. (11 points)**

Discuss the Walrasian Equilibrium

**3. (11 points)**

Consider the Walrasian economy seen in class, with two commodities, 1 and 2 and two consumers $A $and $B$. Suppose the endowments are $ω\_{1}=(1,1)$ for the first consumer and $ω\_{2}=(0,1)$ for the second consumer. Finally, assume that for both consumers the utility function is $U\left(x\_{i}^{1},x\_{i}^{2}\right)=(x\_{i}^{1})^{a}(x\_{i}^{2})^{1-a}$ with $0<a<1$ and $i=A,B.$ Find the Walrasian Equilibrium (price and consumption allocation) of the economy.