Introduction to Macroeconomics · M5 · 4 April 2013

DNI Number ____________________ 1r Surname ________________________ Name ____________________

1. [16%] Define briefly the following concepts.

Real GDP per capita

Consumer price index

Open market operation

M3

Deflation

2. [6%] Using the fundamental macroeconomic identities, establish if investment *I* increases, decreases, or does not change if the trade balance raises, the government budget (spending minus receipts) falls and private savings *S* is always zero.

3. [8%] Nominal GDP in period 3 is 100. Real GDP in period 3 is 120. (i) Compute the inflation rate based on the GDP deflator from period 2 to period 3. (ii) If, in period 2, nominal GDP was higher than real GDP, was the GDP inflation rate positive or negative? Explain your answer.

4. [6%] Assuming that the relationship between the economy's interest rate and the price of T-bills holds, determine the face value of T-bills if the discount factor is $5/6$ and the price of T-bills when issued is 600.

5. [8%] Find the monetary base if the money multiplier is $\frac{3}{2}$, the reserve ratio is equal to the liquidity ratio, and the currency held by people is 150.

6. [6%] Assume that the growth rate of a variable $z = x + y$ is the sum of the growth rates of x and y. The unemployment rate has fallen by 2%. At the same time, unemployment has gone up by 3%. In which percentage has employment changed approximately?

7. [6%] Explain something in common and something that distinguishes: (a) the nominal interest rate from the discount factor;

(b) the nominal interest rate from the real interest rate.

8. [12%] Explain how the M1 creation process is likely to be affected by the creation of a tax on bank deposits that has to be paid by depositors.

9. [30%] (i) By means of a graphical representation of the loan market model, determine and explain (separately) the effect on the interest rate of: (a) placing a 10% tax on bank loans that has to be paid by borrowers (those who obtain the loan); (b) the prohibition of obtaining loans from other countries with the same currency (for instance, the Spanish government bans Spanish firms and citizens from asking for a loan to French banks). (ii) Suggest two measures by the central bank that could neutralize the effect on the interest rate in case (a) and show in a graphical representation how any of these measures achieves the goal.

10. [10%] Answer only one question. (i) Why a raise in the interest rate tends to cause a fall in the price of financial assets? (ii) Is it true that the interest rate tends to go down when the central bank sells financial assets?