ID number ___________________ Surname(s)____ Name ___________________________

Introduction to Macroeconomics · Final exam · 3 June 2019

1. **[20%]** Write down in the table next whether the sentences 1 to 10 are true (T) o false (F).

Final mark you believe you deserve

1	2	3	4	5	6	7	8	9	10

Correct answer, +2; wrong answer, –1; no answer, 0

1. The real GDP growth rate can be greater than the GDP deflator growth rate.
2. An expansionary fiscal policy neutralizes the effect on both the inflation rate and GDP (that is, the policy reverts the equilibrium to its original values) of a leftward shift of the aggregate supply function.
3. According to the Fisher effect, the nominal interest rate is always constant.
4. If financial assets A and B only differ in risk and liquidity, and if A is more risky than B, then B must be less liquid than A.
5. The real interest rate is a measure of an economy's competitiveness.
6. According to Okun' law, the unemployment rate remains constant whenever the real GDP also remains constant.
7. A negative nominal interest rate implies that the discount factor is larger than 1.
8. The main goal of an expansionary fiscal policy is to replace private expenditure with public expenditure by means of the crowding out effect.
9. In passing from 2 $/€ to 2 €/$ the dollar appreciates against the euro.
10. The quantity theory holds that if the velocity of circulation of money is constant, then <u>all</u> the monetary growth becomes inflation.

2. **[10%]** Define the following concepts briefly.

Eurozone	
Taylor's rule	
Goodhart's law	
Labour force	
Automatic stabilizer	
Fisher equation	
Stagflation	
Cyclical unemployment	
Depression	
Temporal inconsistency	

3.	**[30%]** There are two economies, A and B, with different currencies. A's government decrees a rise in the taxes paid by consumers located in A when they purchase goods produced in B.
a)	Using the AS-AD model, ascertain the most immediate effect of the tax rise on B's macroeconomic equilibrium. Explain and illustrate graphically your answer.
b)	Using the currency market model, ascertain the most immediate effect of the tax rise on the exchange rate between the currencies of A and B. Explain and illustrate graphically your answer.
c)	Using the AS-AD model, ascertain the most immediate effect of the modification of the exchange rate found in part (b) on A's macroeconomic equilibrium. Explain and illustrate graphically your answer.
d)	Using the liquidity market model, what would happen in A's interest rate if consumers from A stopped importing goods from B and the money previously spent on B were used to purchase financial assets in A? Explain and illustrate graphically your answer.

e) Indicate two economic policy measures that could neutralize the effect on GDP found in part (a) and another two that could neutralize the effect on the inflation rate also found in (a). Explain how each measure neutralizes the effect.

4. **[12%]** The following is known about an economy. Year 1: cash in the hands of the public, 100; bank reserves, 100; money multiplier, 3; GDP deflator, 100 (base 100). Year 2: GDP deflator, 110. The nominal interest rate in both years is 2%. Nominal GDP is the same in the two years. Find, writing down the formulae used:

a) the monetary base, M1 and the liquidity ratio of year 1;

b) the real interest rate of year 2 associated with the GDP deflator;

c) the real GDP rate of change (express it as a percentage).

5. **[5%]** Explain why "The political independence of the ECB is instrumental to its primary objective of maintaining price stability" (https://www.ecb.europa.eu/explainers/tell-me-more/html/ecb_independent.en.html, 12 Jan 2017).

6. **[6%]** Name and describe two transmission channels of monetary policy.

7. **[5%]** The exchange rate is 3 $\$/€$ and the US CPI doubles the European CPI. (i) Find the purchasing power parity exchange rate. (ii) Expain if the euro is overvalued or undervalued with respect to the dollar.

8. **[12%]** Consider the table displayed on the right.

	Year 1	**Year 2**	**Year 3**
Nominal GDP	100	120	130
Real GDP	100	100	100
Number of unemployed workers	5	8	11
Number of employed workers	100	92	89

a) Explain if what occurs in the years 2 and 3 contradicts Okun's law.

b) Defining the inflation rate of year *t* as $\pi_t = \frac{P_t - P_{t-1}}{P_{t-1}}$, where P_t is a price index for year *t*, explain if what occurs in the years 2 and 3 contradicts the Phillips curve.