ID number _____ Surname(s)_____ Name _____

Introduction to Macroeconomics · Final exam · 21 June 2019

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

1	2	3	4	5	6	7	8	9	10

Final mark you believe you deserve

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

1. Real GDP can be larger than nominal GDP in a year coming after the base year.
2. The aim of supply-side policies is always to increase production.
3. According to the quantity theory of money, it is not possible for the monetary mass to increase when, at the sime time, the inflation rate is negative.
4. The crowding-out effect can be neutralized by means of a contractionary monetary policy.
5. In passing from 1 \$/€ to 2 €/\$ the dollar appreciates against the euro.
6. If the CPI goes up, then, necessarily, the GDP deflator also goes up.
7. A discount factor larger than 1 means that people have a preference for the future.
8. The PPP exchange rate makes the nominal exchange rate equal to one.
9. The trade balance NX equals $T - G - TR + S - I$.
10. If financial assets A and B only differ in risk and liquidity, and if B is more risky than A, then B must be less liquid than A.

2. **[8%]** Define the following concepts briefly.

Taylor's rule	
Purchasing power parity	
Public deficit	
Public debt monetization	
Expenditure multiplier	
Aggregate demand	
Real depreciation	
Temporal inconsistency	

3. **[30%]** There are two economies, A and B, with different currencies. A's government decrees a reduction 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 reduction 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 reduction 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 3%. 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 associated with the GDP deflator;

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

5. **[12%]** In principle, marks are an indicator of the academic performance of students and, indirectly, of the instructors' activities. Imagine that the faculty board decides to take the average of the marks granted by an instructor to evaluate the instructor's teaching activity and their quality as instructors.

a) Explain the connection between the above situation and Goodhart's law.

b) Use Goodhart's law to make a prediction about the marks students would obtain in that faculty.

c) Suggest an explanation to the fact that, despite the faculty board's decision, an instructor in that faculty, with a clear conscience, evaluates her students with very low marks.

6. **[6%]** Explain three ways by means of which a government can finance an increase in public expenditure. Explain as well how each one affects the effectivity of an expansionary fiscal policy that aims at stimulating economic growth.

7. **[12%]** Consider the table displayed on the right.

	Year 1	**Year 2**	**Year 3**
Nominal GDP	100	120	180
Real GDP	100	60	60
Number of unemployed workers	5	16	11
Number of employed workers	100	184	89

a) Explain if what occurs in 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 years 2 and 3 contradicts the Phillips curve.