1ST SURNAME
NAME

2ND SURNAME
ID NUMBER

1. (1.5 points) Explain briefly the meaning of the following concepts.

## Real GDP

Fiscal policy

## Purchasing power parity

Crowding out effect

Ex-post relationship between investment, savings, net exports, and the governement budget
2. (1 point) Explain, and show graphically: (i) some government intervention that increases GDP without altering the inflation rate; and (ii) the effect on macroeconomic equilibrium of a rise in the workers' productivity.
3. (1 point) Explain, and show graphically, how each of the following events affects the equilibrium exchange rate $\$ / €$. (i) The Federal Reserve carries out an open market operation that reduces the US interest rate. (ii) Income in the eurozone grows.
4. (1 point) Find out how each of the following events is likely to alter the monetary base M0, the money stock M1, and the macroeconomic equilibrium in the AS-AD model.
[" $\uparrow$ " = "increase"; " $\downarrow$ " = "decrease"; and "=" = "no change".]

| Event | M0 | M1 | $\pi$ | Y |
| :---: | :---: | :---: | :---: | :---: |
| The reserve ratio is increased |  |  |  |  |
| The liquidity ratio diminishes |  |  |  |  |
| The central bank sells government bonds |  |  |  |  |
| The central bank lowers the discount rate |  |  |  |  |
| A financial panic takes place as a result of people's <br> distrust of the financial system |  |  |  |  |

5. ( 0.75 points) (i) Compute the nominal exchange rate $\$ / €$ and the purchasing power parity exchange rate if the real exchange rate is $\mathrm{e}_{\mathrm{r}}=4$ baskets US / basket eurozone, the US CPI is $P^{*}=600$, and the eurozone CPI is $P=300$. (ii) Explain if the euro is overvalued or undervalued with respect to the dollar and calculate the overvaluation or undervaluation percentage.
6. ( 0.75 points) Bank deposits amount to 10,000; bank reserves, to 5,000 ; and the liquidity ratio is 0.1 . Find: (i) the money multiplier; and (ii) the money stock when the reserve ratio is increased by $10 \%$.
