Name:

School:

Test for the Economics Olympiad 2023

Organizers and Partners

Instructions for students

This test has three sections. Every question in the first section has only one correct answer, for which you will receive five points. No points are deducted for incorrect answers. You have 45 minutes of testing time.

Section I (35 points)

1) The economist who detailed and popularized how the division of labor among people increases human productivity, using the example of a pin factory, was:

a) K. Marx

b) A. Smith

c) J.M. Keynes

d) M. Friedman

e) P. Samuelson

2) Suppose there are two goods in the economy: coffee and sugar. These two goods are considered complements. When the price of coffee rises, holding other factors constant, what is likely to happen to the demand for sugar?

a) The demand for sugar will decrease.

b) The demand for sugar will increase.

c) The demand for sugar will stay the same.

d) The demand for sugar will fluctuate unpredictably.

e) The demand for sugar will equal the demand for coffee.

3) The phenomenon known as the "Black Death" resulted in tremendous human loss during the Middle Ages. Economists have observed that this led to specific trends that appear to align with the standard theory of marginal productivity:

a) The nobility's rents from land increased if constraints on serfs (bondsmen) were permitted, with a corresponding rise in their wages.

b) The nobility's rents from land decreased if constraints on serfs (bondsmen) were permitted, with a corresponding fall in their wages.

c) The nobility's rents from land decreased if constraints on serfs (bondsmen) were permitted, with a corresponding increase in their wages.

d) The nobility's rents from land decreased if restrictions on serfdom were tightened.

e) There was no change in rents and wages.

4) When the mobile phone operators' market becomes dominated by two large companies, they may agree to cooperate and charge monopoly prices. The long-term likelihood of this agreement, known as collusion, increases with:

a) an increase in the market's interest rate

b) a decrease in the market's interest rate

c) greater elasticity in customers' demand

d) more rapid growth in the firms' marginal costs for the next customer

e) increased fines in anti-trust investigations

5) Baker Charles purchases flour from miller Jane and pays her 100,000 euros per month. His revenue from the bread he sells to customers amounts to 200,000 euros monthly. Meanwhile, he pays his employees 40,000 euros a month, the rental of the bakery costs 15,000 euros per month, and his oven depreciates in value by 1,000 euros each month. What is the contribution of Charles's company to the GDP of this country for one month?

a) 44,000 EUR

b) 59,000 EUR

c) 60,000 EUR

d) 100,000 EUR

e) 200,000 EUR

6) If the money supply in a given country unexpectedly and dramatically falls, standard economic theory predicts that in the short to medium term, the following may occur:

a) An increase in the price level and a decrease in real GDP.

b) A decrease in the price level and an increase in nominal GDP.

c) An increase in the price level and an increase in nominal GDP.

d) A decrease in the price level and a decrease in real GDP.

e) An increase in the price level and a decrease in nominal GDP.

7) As of August 2023, which one of the following countries had the highest interest rate set by its central bank?

a) Poland

b) Japan

c) Slovakia

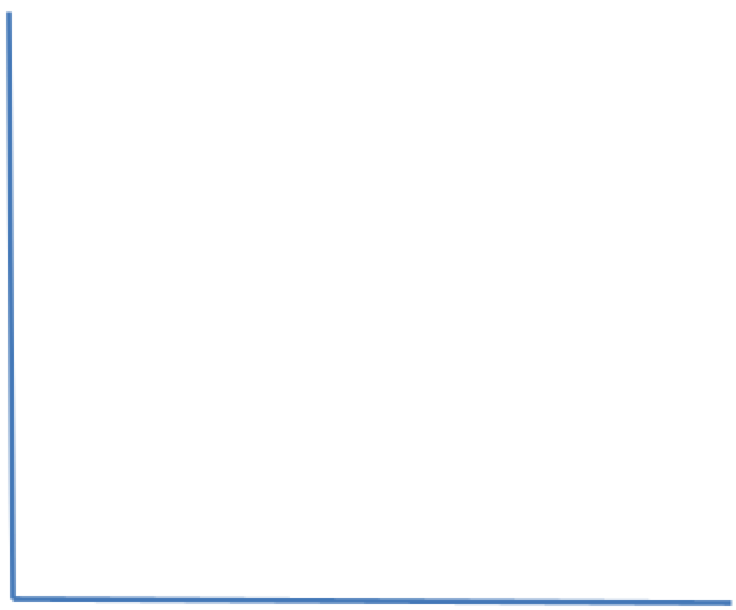
d) United States

e) Argentina

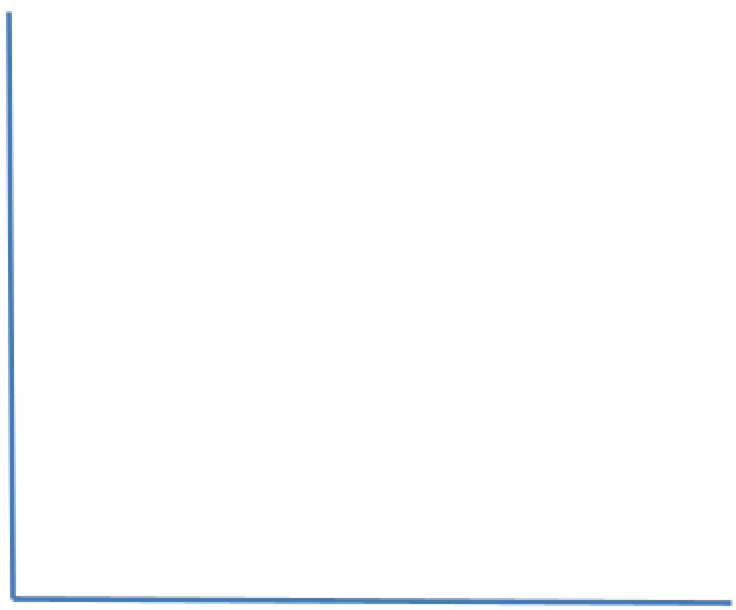
Section II (35 points)

Consider a closed economy characterized by an increasing aggregate supply curve. Suppose that the government dramatically increases its expenditures on infrastructure without simultaneously raising taxes.

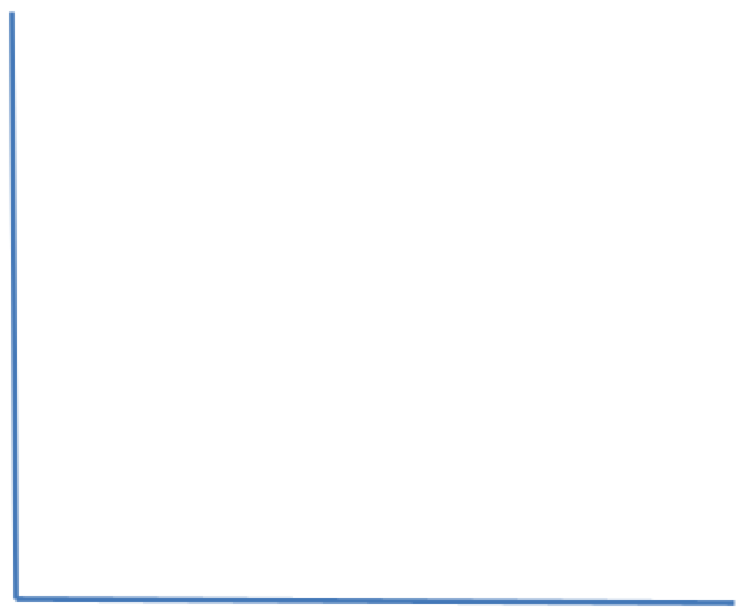
a) Utilize the Aggregate Demand/Aggregate Supply (AD/AS) model to illustrate the impact of this rise in government expenditures.



b) Assume that the central bank's inflation target is set at zero. Utilize the Aggregate Demand/Aggregate Supply (AD/AS) model to illustrate the increase in government expenditures, followed by the central bank's subsequent response.



c) Suppose once again that the government increases its expenditures, without correspondingly increasing taxes within the same period, and that individuals adhere to the Ricardian equivalence theory. Utilize the Aggregate Demand/Aggregate Supply (AD/AS) model to illustrate the rise in government expenditures, accompanied by the response of people.



Section III (30 points)

Mrs. Smith has the option to deposit her 10,000 euros into a time deposit account that offers an interest rate of 2% annually. For the purposes of this scenario, let's assume that there are no taxes on the interest earned.

a) Doubling at 2% Interest: If Mrs. Smith chooses not to withdraw either her initial deposit or the accrued interest throughout the entire duration, how many years will it take for her deposit to double?

b) Doubling at 3% Interest: Should the interest rate be increased to 3% per year, what would be the corresponding timeframe required for the deposit to double?

c) Tripling with inflation consideration: Taking into account an annual inflation rate of 2% during the entire period, how many years will it take for the real purchasing power of Mrs. Smith's deposit to triple in the first case (i.e., at a 2% nominal interest rate) and the second case (i.e., at a 3% nominal interest rate)?