Economics Olympiad

INTERNATIONAL FINAL ROUND EXAMINATION

TEST MACROECONOMICS - VERSION A

FIRST NAME:_____

LAST NAME:_____

COUNTRY:_____

Economics Olympiad

INTERNATIONAL FINAL ROUND 2026

Pre-Test Guide — Macroeconomics

Please read this guide carefully before the test. It explains the test format, the answer sheet, and the rules of the competition.

BEFORE THE TEST

1. You are about to sit the Macroeconomics test. Please read this guide carefully before you begin.
2. The testing documentation you have received consists of this Pre-Test Guide, the assignment, and one multiple-choice answer sheet.
3. Once the organisers instruct you to uncover your documents, fill in your **name, country, and Student ID** on the answer sheet. Your Student ID should have been provided to you by your National Organiser; if you have not received it, please raise your hand.
4. Switch off all electronic devices, including mobile phones and smartwatches, and store them away for the entire duration of the test.

TEST FORMAT AND SCORING

5. The test consists of **20 multiple-choice questions** and **2 open-ended questions**. It accounts for **40%** of your overall result at the International Final.
6. Each multiple-choice question has exactly one correct answer and is worth **2 points**.
7. Incorrect or unanswered questions score 0 points; no points are ever deducted. If more than one answer is marked in a multiple-choice question, the question is considered answered incorrectly.
8. The two open-ended questions are worth up to **40 points** in total.

HOW TO RECORD YOUR ANSWERS

9. To record an answer in the multiple-choice part, **fill in the corresponding bubble completely** on the answer sheet, as shown in the picture below.

10. If you wish to change an answer marked in pencil, erase the original mark completely. Answers marked in pen cannot be changed; mark them only once you are certain.
11. In the open-ended part, write each answer directly in the assignment, in the designated **ANSWER** field bearing the corresponding question number. Write legibly and in English.
12. Do not write anything on the answer sheet other than in the fields you are required to fill in, and keep the sheet clean and unfolded — a damaged sheet may not be readable by the scanning software.
13. You may make notes anywhere in the assignment, but such notes are not graded: in the multiple-choice part, only the answer sheet is graded, and in the open-ended part, only what you write in the **ANSWER** fields.

DURING THE TEST

14. You must comply with all instructions given by the organisers throughout the test.
15. The test lasts **90 minutes**. You may hand in your testing documentation before the time limit expires; however, you must then leave the hall immediately. Please note that this does not apply during the last 15 minutes, during which you cannot leave the room.
16. During the test, you may use only a **simple calculator, pens, and pencils**. One pencil has been provided to you by the organisers. All other equipment is prohibited. You must not share your equipment with other participants.
17. You must not communicate with other participants during the test, copy their answers, or prompt or otherwise assist them in any way.
18. You may not leave your seat before you have handed in your testing documentation. If you have a question or encounter a problem (e.g. illegible print or a damaged sheet), raise your hand and wait for a member of staff.
19. A serious violation of the rules will result in disqualification.

HANDING IN

20. When the time limit expires, stop writing immediately. Hand in the complete testing documentation, including the assignment containing your open-ended answers, and remain seated until everything has been collected.

Do not turn this page or uncover any of the documents beneath it until instructed to do so by the organisers!!!

Multiple Choice Question Exam - Version A

MCQ-specific instructions: Select the best answer for each question. This exam contains 20 multiple-choice questions; each correct answer is worth 2 points for a possible total of 40 points. Different questions use different currencies as indicated. All calculations should use the currency stated in the question.

1. Which economic indicators are useful when business people are trying to anticipate shifts in the business cycle?

a. All indicators are weighted equally regardless of their timing in the cycle

b. Only current sales data from the firm's own operations

c. Lagging indicators such as the duration of unemployment and corporate profits

d. Coincident indicators such as GDP and industrial production

e. Leading indicators such as new orders for consumer goods, building permits, and stock market performance

2. Identify the statement that contradicts core macroeconomic theory.

a. Most unemployment is short-term frictional unemployment, as workers transition between jobs.

b. In an economy operating at full capacity, wages would adjust to ensure full employment.

c. Zero unemployment is both realistic and desirable in standard economic models.

d. There are always some workers without jobs, even when the overall economy is doing well.

e. Even at full employment, some unemployment persists because workers are between jobs or changing careers.

3. Take the following information as given for a small economy:

When income (Y) is $10,000, consumption spending (C) is $6,500.

When income (Y) is $11,000, consumption spending (C) is $7,250.

Based on this information, which of the following is the economy's saving function (S)?

a. $S=-1,000+0.25Y$

b. $S=1,000+0.25Y$

c. $S=-1,000+0.75Y$

d. $S=1,000+0.75Y$

e. $S=-1,000-0.25Y$

4. Refer to Table 4. Determine national income for this economy.

Table 4.

	Amount
Personal Consumption Expenditures	840
Gross Domestic Product (GDP)	1,200
Indirect Business Taxes	120
Net Foreign Factor Income	-20
Personal Income Taxes	180
Personal Transfer Payments	150
Corporate Profits	200
Social Security Contributions	90
Depreciation	100

a. $1,100

b. $1,000

c. $980

d. $960

e. $1,400

5. Based on your review of the data in Table 5, identify the correct statement.

Table 5		
	Hannah	Miley
Real interest rate	3.0%	3.0%
Inflation rate	1.0%	10.0%
Nominal interest rate	4.0%	13.0%
Reduced interest due to 20% tax	0.8%	2.6%
After-tax nominal interest rate	3.2%	10.4%
After-tax real interest rate	2.2%	0.4%

a. Residents in Miley's country earn a lower nominal interest rate than in Hannah's, reducing Miley's and other country residents' incentive to save.

b. Taxes are applied to nominal returns. Thus, the lower after-tax real interest rate explains the lower rate of savings in Miley's country.

c. Inflation directly reduces savings by increasing government spending rather than affecting interest rates.

d. Residents in Hannah's country benefit from a tax subsidy on savings unavailable in Miley's country.

e. Taxes reduce real interest rates only in high-inflation countries, discouraging saving there but not elsewhere.

6. A newspaper article reports that during the last quarter, most businesses increased production but also sold goods from their existing inventories. Based on this information, what most likely happened to GDP in the last quarter?

a. GDP may have increased, decreased, or stayed the same, depending on the net change in inventories.

b. GDP must have stayed the same because inventory changes are not counted in GDP.

c. GDP stayed the same because production and inventory sales offset each other exactly.

d. GDP definitely increased because higher production always raises GDP.

e. GDP definitely decreased because selling inventories lowers GDP.

7. Displayed in Table 7, a national statistical agency reports the data on monthly household survey data (in millions).

Table 7

Category	Value
Total population	260
Population under age 16 or institutionalized	60
Employed	140
Unemployed (actively seeking work in last 4 weeks)	10
Discouraged workers (stopped searching due to job prospects)	5
Involuntary part-time workers (want full-time, working part-time)	8

Based on standard labor-force definitions used by national statistical agencies, identify that statement that correctly reports (i) the official unemployment rate and (ii) the direction of bias this measure creates relative to the "true" degree of labor underutilization?

a. Unemployment rate ≈ 6.25%; the official rate overstates labor underutilization because it counts involuntary part-time workers as fully employed.

b. Unemployment rate ≈ 6.67%; the official rate understates labor underutilization because it excludes discouraged workers and undercounts underemployment among involuntary part-time workers.

c. Unemployment rate ≈ 10.0%; the official rate accurately reflects labor underutilization because it includes all individuals without full-time work.

d. Unemployment rate ≈ 7.14%; the official rate overstates labor underutilization because discouraged workers are miscounted as unemployed.

e. Unemployment rate ≈ 6.67%; the official rate accurately reflects labor underutilization because discouraged workers and involuntary part-time workers are, by definition, not part of the labor force.

8. Which of the following is an example of a normative economic statement?

a. A 5% rise in energy costs contributed to a 3% increase in the final prices of agricultural goods.

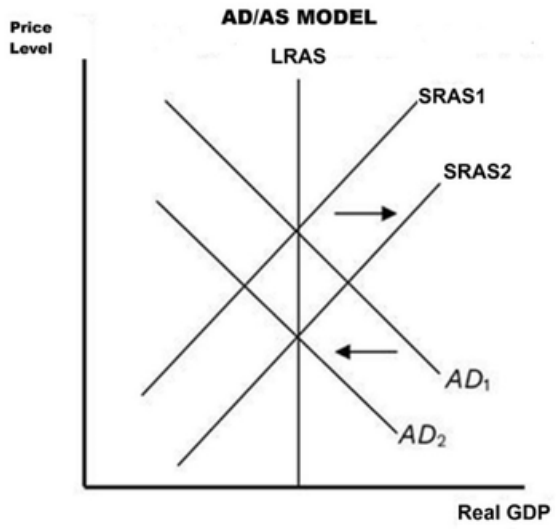
b. Tax fraud has been significantly reduced in Econoland in the last 5 years.

c. Higher interest rates discourage consumer spending and private investment.

d. A 2% increase in unemployment was accompanied by a 1% decrease in output.

e. The government is morally obligated to provide universal, quality education to all its citizens.

9. Identify which statement can accurately explain what is depicted in the AD/AS graph and identify the corresponding school of thought with it.



a. A demand-side recession resolved by fiscal stimulus; Keynesian economics

b. A monetary contraction corrected by central bank expansion; Monetarist economics

c. A supply-side recession corrected by tax cuts; Supply-side economics

d. A self-correcting recession driven by wage and price flexibility; Classical economics

e. A liquidity trap with persistent output loss; New Keynesian economics

10. Table 9 summarizes five macroeconomic scenarios and their effects on aggregate demand (AD), short-run aggregate supply (SRAS), output, and price level.

Table 9

Scenario	AD Shift	SRAS Shift	Output	Price Level
A. Supply shock only	None	Left	↓	↑
B. Accommodative monetary	Right	Left	↔	↑↑
C. Fiscal expansion	Right	Left	↔/↑	↑↑
D. Coordinated spending and tax policy	Neutralized	Left	↓	↑
E. Long-run adjustment	None	Right	↔	↔

Where ↔ indicates remains the same, ↑ indicates increases, and ↓ indicates decreases.

Which scenario represents policymakers successfully avoiding a demand-driven increase in inflation while a negative supply shock is still working its way through the economy, and why?

a. Scenario A, because output falls and inflation rises as SRAS shifts left with no offsetting AD response.

b. Scenario B, because an accommodative monetary policy fully offsets the leftward SRAS shift, keeping output unchanged.

c. Scenario C, because fiscal expansion raises output enough to compensate for the inflationary pressure from the SRAS shift.

d. Scenario D, because policymakers neutralize the AD shift (rather than reinforcing it), leaving inflation driven only by the supply-side shock rather than by added demand-side pressure.

e. Scenario E, because the rightward SRAS shift in the long run eliminates both the output and inflation effects of the original shock.

11. An iPhone model costs $1,000 in the United States. It costs 25,000 units of your country's currency. The current market exchange rate is 20 units of your country's currency per U.S. dollar. Based on the theory of purchasing power parity (PPP), which statement is correct? Your country's currency is:

a. Overvalued because the PPP exchange rate is lower than the market exchange rate.

b. Undervalued because the Purchasing Power Parity (PPP) exchange rate is higher than the market exchange rate.

c. Fairly valued because the PPP exchange rate equals the market exchange rate.

d. Undervalued because the PPP exchange rate is lower than the market exchange rate.

e. Overvalued because the PPP exchange rate is higher than the market exchange rate.

12. Which statement about your country's net capital outflow (NCO) is correct?

a. When your country's domestic interest rate rises relative to world interest rates, NCO increases, because higher domestic returns attract more foreign lending into your country, which mechanically raises the outflow measure.

b. When your country's residents purchase newly issued government bonds from another country, NCO decreases, because this transaction is recorded as a capital inflow into your country rather than an acquisition of a foreign asset.

c. When firms in your country invest heavily abroad while foreign firms simultaneously invest an equal amount in your country, NCO must be positive and rising, because gross outflows and gross inflows add together rather than netting against each other.

d. When a foreign-owned plant is built in your country using funds borrowed from your country's domestic banks, NCO decreases, because the transaction is entirely financed domestically and therefore does not affect your country's net foreign asset position.

e. When residents in your country purchase real estate abroad, NCO increases, because your residents are acquiring foreign assets, which raises domestic ownership of assets abroad relative to foreign ownership of assets at home.

13. What is the net economic effect of a tariff on a small, open economy?

a. A tariff has no effect on economic welfare if the government redistributes tariff revenue back to consumers.

b. A tariff increases national welfare by correcting market failures emerging with international competition.

c. A tariff benefits domestic producers and the government through higher prices and tariff revenue but, simultaneously, creates deadweight losses and spreads inefficiencies that reduce total economic welfare.

d. A tariff transfers surplus from foreign producers to the domestic government, leaving domestic consumers unaffected.

e. A tariff raises domestic production and employment, creating a net gain in total surplus because domestic firms expand output.

14. Which of the following best describes the inflation tax—the loss in the real purchasing power of money holders' nominal money balances when the price level rises—and distinguishes it from seigniorage, the revenue the government obtains by issuing new money?

a. A legislated tax on nominal income that rises automatically when inflation increases, raising government revenue without changing tax rates.

b. Government revenue obtained when unexpected inflation reduces the real value of outstanding nominal assets, particularly fixed-rate bonds or debt.

c. A consumption tax applied uniformly to goods and services whenever inflation exceeds the target rate set by the central bank.

d. A temporary fiscal levy imposed only during episodes of hyperinflation to restore price stability.

e. A tax on exports which is used to offset inflationary pressures caused by excess foreign demand.

15. In the Solow growth model, technological progress is exogenous—something independent of economic decisions. Consequently, a permanent increase in the rate of technological progress leads to:

a. Higher growth rates of output per worker indefinitely

b. Higher levels of production but unchanged growth rates of output per worker

c. Lower real wages

d. Capital deepening without productivity gains

e. Transitional growth only in population

16. If a government increases its spending significantly, financed by borrowing, what is the most likely short-term effect on interest rates and private investment in a large open economy?

a. Interest rates fall, and private investment increases.

b. Interest rates rise, and private investment decreases.

c. Interest rates rise, and private investment increases.

d. Interest rates fall, and private investment decreases.

e. Interest rates remain unchanged, and private investment increases.

17.Which scenario best illustrates Joseph Schumpeter's concept of creative destruction?

a. An existing firm adapts its product line by substituting imported components for domestic ones to lower costs without changing its core technology.

b. New firms enter a saturated market by copying successful business models, increasing competition but leaving overall industry structure unchanged.

c. Workers displaced by automation quickly find similar jobs in the same sector through routine labor-market adaptation.

d. The introduction of digital streaming services eliminates traditional video-rental chains while simultaneously creating new employment in content production, data analytics, and platform development.

e. A company acquires a competitor and consolidates operations, raising short-term profits without introducing any novel products or processes.

18. A commercial bank receives a $20 million loan, increasing its reserves by that amount. The required reserve ratio is 10%, and banks choose to hold excess reserves equal to 5% of deposits. Assume there is no cash held by the public and all other conditions remain constant. What is the maximum change in the money supply that can result from this loan?

a. $20 million

b. $40 million

c. $100 million

d. $133.3 million

e. $200 million

19. The satellite image of the Korean Peninsula at night reveals South Korea brightly illuminated while North Korea remains almost entirely dark. Which statement most accurately accounts for this contrast in economic activity and development?

a. South Korea's brighter lights reflect larger urban populations and longer working hours, whereas North Korea's darkness stems mainly from deliberate energy conservation policies.

b. Natural resource endowments explain the difference: South Korea possesses abundant coal and hydroelectric potential that North Korea lacks.

c. Differences in labor-force participation rates and average hours worked drive the illumination gap, independent of broader economic institutions.

d. Sound institutions, clear property rights, and market-based incentives in South Korea channel domestic saving and foreign capital into productive investments and infrastructure, while North Korea's central planning, restricted trade, and weak incentives stifle capital formation, technological adoption, and international integration, resulting in minimal electricity generation and use.

e. Government subsidies and state-directed industrial policy in the South, unmatched in the North, are the sole drivers of the observed brightness difference.

20. Refer to the above “Table Caspir Macroeconomy.” Using the price and quantity data for each year, determine the GDP deflator and then calculate this country's inflation rate from 2021 to 2022. Rounding to the nearest tenth, Caspir’s inflation rate from 2021 to 2022 was:

Table Caspir Macroeconomy

The country of Caspir produces only cereal and milk. Quantities and prices of these goods for the last several years are shown in the following table. The base year is 2020.

	Cereal		Milk	
Year	Price (Dollars per box)	Quantity (Boxes of cereal)	Price (Dollars per gallon)	Quantity (Gallons of milk)
2020	$4.00	100	$1.50	180
2021	$4.00	120	$2.00	200
2022	$5.00	150	$2.50	200
2023	$6.00	180	$3.50	240

a. 25.0%

b. 23.1%

c. 26.1%

d. 18.8%

e. 15.4%

Free-Response Question Exam

- This section consists of short answers and problem-solving questions. Each question set is worth 20 points.
- Read each question carefully before you begin your response. Ensure that you fully understand what is being asked before starting your answer.
- For questions that involve calculations, show every step of your work. Correct methodology is rewarded. So, if one early calculation error carries into later answers, you can still earn credit for correctly applying the required formulas and procedures using your own prior result. Round only as instructed and clearly label your calculations
- Use graphs and diagrams where applicable to illustrate your answers. Label all axes and curves clearly and explain the significance of any shifts or changes depicted.
- Provide clear explanations and justifications for your answers. When asked to discuss or analyze, support your arguments with relevant economic theories, models, or data.
- Allocate your time wisely. Some questions may require more time to answer fully, so plan accordingly to ensure you can attempt all questions in this section.
- Write legibly and ensure your answers are concise and to the point. Focus on the key aspects of the question and avoid unnecessary information.
- If time permits, review your answers before moving on to the next section. This will give you an opportunity to correct any errors or add any additional points.
- The last 5 pages of this test booklet have been provided for answers to the Free-Response Questions. Please make sure to label the exercises accordingly. For calculations, practice, or any other notes you may need to make during the exam, we suggest you designate and label some pages as “Work Pages” or “Scratch Pages”.

Macroeconomics FRQ Scenario 1. Econoland's Green Growth Dilemma (20 points)

Econoland is a small open economy with a floating exchange rate experiencing a mild recession and stable prices. To combat climate change and stimulate economic growth during an election year, the government simultaneously imposes a per-unit carbon tax on high-emission producers, increasing firms' production costs, and increases government spending on environmentally friendly infrastructure. Assume that the increase in government spending exceeds the revenue generated by the carbon tax, causing the government's budget deficit and public debt to increase.

Question: Using Scenario 1, answer Parts A–C.

Part A (5 points)

Using a single, correctly labeled AD–AS diagram that includes the short-run aggregate supply (SRAS), long-run aggregate supply (LRAS), and aggregate demand (AD) curves, analyze the combined short-run effects of the two policies on the price level and real output.

Identify the new short-run equilibrium and explain how the two policies interact.

Part B (4 points)

Assume for this part only, place Econoland at its long-run equilibrium before the two policies are implemented and that the carbon tax affects only short-run production costs. The policies do not affect the economy's long-run productive capacity.

If the contractionary effect of the carbon tax is greater than the expansionary effect of the increase in government spending, illustrate and describe the long-run adjustment process using a correctly labeled AD–AS diagram.

Show the final long-run equilibrium and explain the effects on the price level and real output.

Part C (11 points)

Assume that the increase in government spending exceeds the revenue collected from the carbon tax, causing the government budget deficit to increase.

Assuming private saving remains unchanged, (i) describe what happens to national saving. Then, using the loanable funds and foreign exchange market framework for a small open economy, explain the resulting effects on the (ii) domestic real interest rate, (iii) net capital outflow, (iv) the foreign exchange market, (v) the exchange rate, and (vi) net exports.

Macroeconomics FRQ Scenario 2. Effects of a Fuel-Price Increase on Inflation and a Transport Business (20 points)

Introduction: Alexandra operates Alexandra Offroad as a sole proprietor. So, her business income is treated as personal income for tax purposes, and she directly bears all business risks. She charges clients a per-kilometer rate that includes a fuel surcharge — an added fee, separate from her base rate, to help offset rising diesel costs. Value-added tax (VAT) is excluded from all calculations.

The closure of the Strait of Hormuz causes gasoline and diesel prices to increase by 25%. Fuel accounts for 3% of the Consumer Price Index (CPI); prices of all other goods and services rise by 1%

Part A. Inflation (2 points)

Assume the CPI initially equals 100 and calculate the new CPI and the resulting inflation rate.

Part B. Profit (14 points)

Before the fuel-price increase:

- Alexandra charged $1.70 per kilometer and drove 27,000 paid kilometers per month.
- Monthly fixed costs were $20,000.
- Variable cost was $0.64 per kilometer, of which 52% was fuel and 48% was non-fuel cost. (Assume non-fuel variable costs remain unchanged throughout this problem.)
- Diesel cost $1.80 per liter, and Alexandra applied a 3% fuel surcharge on her base rate to help cover fuel expenses .

After the 25% increase:

- Diesel costs $2.25 per liter, and Alexandra raises her fuel surcharge to 8% on her base rate.
- The number of paid kilometers falls to 25,820.
- Fixed costs increase strictly by the inflation rate calculated in Part A — this is the sole source of the fixed-cost increase, since no other cost driver is introduced

Calculate:

- Alexandra's monthly profit before the fuel price increase.
- Alexandra's monthly profit after the fuel-price increase.
- The dollar change in monthly profit.

Show all work, rounding answers to nearest hundredth (two decimal places).

Part C. Risky Business (2 points)

Explain how higher fuel prices increase Alexandra's business risk. Refer to both fixed and variable costs.

Part D. Purchasing Power (2 points)

Alexandra pays 20% income tax. Using your answers from Parts A and B, determine whether Alexandra's purchasing power increased or decreased and by what percentage, showing your work and rounding answers to nearest hundredth (two decimal places).

Free-Response Question Exam - Answer Pages