PRACTICE EXAM

APEconLabs

AP® Macroeconomics

Free-Response Questions

Practice Set 2

Developed by APEconLabs

Original practice material modeled on the format of the AP Macroeconomics exam. Section II — 3 free-response questions — suggested time 1 hour. A complete answer key and scoring guidelines are included at the end of this document.

MACROECONOMICS
SECTION II

TOTAL TIME — 1 HOUR · 3 QUESTIONS

Directions

Section II has 3 questions and lasts 1 hour. You may use the available paper for scratch work and planning, but you must write your answers in the free-response booklet. Label parts (e.g., A, B, C) and sub-parts (e.g., i, ii, iii) as needed. Use a pencil or a pen with black or dark blue ink to write your responses.

Include correctly labeled graphs, if useful or required, in explaining your answers. A correctly labeled graph must have all axes and curves clearly labeled and must show directional changes. If the question prompts you to "Calculate," you must show how you arrived at your final answer.

A calculator is allowed in this section.

You may pace yourself as you answer the questions in this section, or you may use these optional timing recommendations: spend the first 10 minutes reading all of the questions and planning your answers. Then spend about 25 minutes on Question 1 and about 12 minutes each on Questions 2 and 3.

You can go back and forth between questions in this section until time expires.

Note: This is original practice material developed by APEconLabs. It mirrors the structure and concept coverage of the AP Macroeconomics free-response section and is intended for teacher and student use in the classroom.

1. The economy of Brindale is in short-run equilibrium with a cyclical unemployment rate of 2%, a frictional unemployment rate of 3%, and an actual unemployment rate of 9%.

A. Calculate Brindale's natural rate of unemployment. Show your work.

B. Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves for Brindale, and show each of the following.

i. The current equilibrium output and price level, labeled Y_1 and PL_1, respectively

ii. The full-employment output, labeled Y_F

C. Assume that policymakers take no action to close the output gap.

i. Explain how Brindale's economy will adjust to full employment in the long run.

ii. On your graph in part B, show how Brindale's economy will adjust to full employment in the long run, labeling the new equilibrium price level PL_2.

D. Assume instead that Brindale's central bank is considering using monetary policy to close a recessionary output gap. The banking system in Brindale has ample reserves. Identify a specific monetary policy action the central bank of Brindale would take to close the output gap in the short run.

E. Draw a correctly labeled graph of the reserve market in Brindale, and show the effect of the action taken by the central bank identified in part D on the policy rate.

F. Based on the change in the policy rate shown in part E, what would happen to each of the following in the short run in Brindale?

i. The price of previously issued bonds

ii. The price level. Explain.

2. The table provided shows economic data for the country of Verencia. The base year is year 1, and the GDP deflator in year 2 is 120.

	Year 1	Year 2
Nominal GDP	600,000	900,000
Population	2,000	2,400

A. Calculate real GDP in Verencia in year 2. Show your work.

B. How would the change in real GDP from year 1 to year 2 affect the demand for money and the nominal interest rate in Verencia?

C. Did the standard of living of the average citizen in Verencia increase, decrease, or remain the same from year 1 to year 2? Explain using numbers.

D. What was the numerical value of the inflation rate from year 1 to year 2?

E. If nominal wages increased by 10% from year 1 to year 2, what happened to the real wages of workers in Verencia during this time? Explain.

3. Assume Peru's economy is in a recession and its government currently has a balanced budget.

A. Identify a specific fiscal policy action that the government of Peru would implement to address the recession.

B. How will the fiscal policy action identified in part A affect the real interest rate in Peru? Explain.

C. Peru and Canada are trading partners with flexible exchange rates. Peru's currency is the sol (PEN), and Canada's currency is the Canadian dollar (CAD). Draw a correctly labeled graph of the foreign exchange market for the sol relative to the Canadian dollar. Show the effect of the change in the real interest rate identified in part B on the international value of the sol.

D. As a result of the change in the value of the sol shown in part C, will Peru's imports increase, decrease, or remain the same? Explain.

STOP · END OF SECTION II

Answer Key & Scoring Guidelines

Practice Set 2

Model responses below indicate the economic reasoning and key terms expected for full credit. On the exam, correctly labeled graphs are required where a question asks students to "draw" or "show"; graph requirements are described in words here.

Question 1

A. Actual unemployment rate = natural rate + cyclical rate. So the natural rate = actual rate - cyclical rate = 9% - 2% = 7%.

B. AD is downward sloping, SRAS is upward sloping, and LRAS is vertical. Because the actual unemployment rate (9%) exceeds the natural rate (7%), there is positive cyclical unemployment and a recessionary gap.

i. The AD–SRAS equilibrium (Y_1, PL_1) is to the LEFT of LRAS.

ii. Y_F is at the LRAS, to the right of Y_1.

C. i. With a recessionary gap, unemployment is above the natural rate, so nominal wages and other input prices fall. Lower input prices reduce production costs, so short-run aggregate supply increases until the economy returns to full-employment output.

ii. SRAS shifts right until it intersects AD on the LRAS at Y_F; the new equilibrium price level PL_2 is lower than PL_1.

D. Decrease (lower) the interest rate paid on reserve balances — the administered rate / policy rate. (Accept: lower the discount rate.)

E. Reserve market (ample reserves): the vertical supply of reserves intersects the flat portion of the demand curve at the administered rate. Lowering the administered rate shifts that horizontal portion downward; the policy rate decreases.

F. i. The price of previously issued bonds will increase. Bond prices and interest rates are inversely related, so a lower policy rate raises bond prices.

ii. The price level will increase. The lower interest rate increases interest-sensitive spending (investment and consumption), which increases aggregate demand and raises the price level.

Question 2

A. Real GDP in year 2 = nominal GDP / (GDP deflator / 100) = 900,000 / (120 / 100) = 900,000 / 1.20 = 750,000.

B. Real GDP in year 1 = 600,000 (year 1 is the base year, so real GDP = nominal GDP). Real GDP rises from 600,000 to 750,000. An increase in real GDP (real income) increases the demand for money, which increases the nominal interest rate.

C. Increased. Real GDP per capita in year 1 = 600,000 / 2,000 = 300. Real GDP per capita in year 2 = 750,000 / 2,400 = 312.50. Because real GDP per capita rose from 300 to 312.50, the standard of living increased.

D. The GDP deflator in the base year (year 1) is 100 and is 120 in year 2. Inflation rate = (120 - 100) / 100 × 100 = 20%.

E. Real wages decreased. Nominal wages rose 10%, but the price level rose 20% (the inflation rate). Because nominal wages increased by less than the price level, the purchasing power of wages — real wages — fell.

Question 3

A. Increase government spending and/or decrease taxes (expansionary fiscal policy).

B. The real interest rate will increase. To finance the higher spending or lower taxes, the government borrows more, increasing the demand for loanable funds, which raises the real interest rate (crowding out).

C. Foreign exchange market for the sol (priced in CAD per sol): the higher real interest rate in Peru attracts financial capital inflows, increasing the demand for the sol. The demand curve for the sol shifts right, and the international value of the sol increases (the sol appreciates).

D. Increase. Because the sol appreciates, foreign goods become cheaper for Peruvian residents, so Peru’s imports increase.