Name: _____

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AP Macroeconomics — Practice Exam

Instructions: Answer all questions in the spaces provided. Show your working — method marks are awarded even when the final answer is wrong. The answer key with worked solutions is available at examtex.com/free-exams.

Time Limit: 45 minutes

Multiple Choice (15 questions)

[2 points] 1. In the simple circular flow model of an economy, which of the following correctly describes the role of households?

A. Households buy resources in the factor market and sell goods in the product market
B. Households sell resources in the factor market and buy goods in the product market
C. Households sell both resources and final goods to firms
D. Households are buyers in both the factor market and the product market
E. Households are sellers in both the factor market and the product market

[2 points] 2. Which of the following would shift a country's production possibilities curve outward?

A. A decrease in the unemployment rate
B. An increase in the size of the labor force
C. A reallocation of resources from capital goods to consumer goods
D. An increase in aggregate demand
E. A rise in the general price level

[2 points] 3. Which of the following transactions would be included in this year's United States GDP?

A. The purchase of a used car from a dealership
B. A Social Security check received by a retiree
C. The commission a real-estate agent earns for selling an existing house
D. The purchase of 100 shares of corporate stock
E. Flour purchased by a bakery to make bread that it sells

[2 points] 4. A coal miner loses her job because power companies permanently switch to renewable energy, and her skills do not match available job openings. While she actively searches for work, she is best classified as:

A. frictionally unemployed
B. structurally unemployed
C. cyclically unemployed
D. seasonally unemployed
E. not in the labor force

[2 points] 5. A country's consumer price index rises from 125 to 130 over one year. The inflation rate for that year is:

A. 0.04 percent
B. 3.8 percent
C. 4 percent
D. 5 percent
E. 30 percent

[2 points] 6. A sharp, sustained decline in stock market wealth will most likely have which of the following short-run effects?

A. Aggregate demand shifts left, decreasing both the price level and real output
B. Aggregate demand shifts right, increasing the price level and real output
C. Short-run aggregate supply shifts left, raising the price level
D. A movement along the aggregate demand curve, with no shift
E. Long-run aggregate supply shifts left, reducing potential output

[2 points] 7. In an economy with a marginal propensity to consume of 0.8, government purchases increase by 20 billion dollars. Assuming no crowding out and a constant price level, the maximum increase in real GDP is:

A. 16 billion dollars
B. 20 billion dollars
C. 25 billion dollars
D. 80 billion dollars
E. 100 billion dollars

[2 points] 8. According to the sticky-wage explanation of the upward-sloping short-run aggregate supply curve, an unanticipated fall in the price level reduces output in the short run because:

A. nominal wages fall immediately, reducing household spending
B. nominal wages are fixed by contracts, so real wages rise and firms reduce employment
C. real wages fall, causing workers to quit their jobs
D. menu costs prevent firms from adjusting their prices
E. workers instantly renegotiate their contracts to restore the old real wage

[2 points] 9. An economy is operating in a recessionary gap. Which of the following is a discretionary fiscal policy action that would move the economy toward full employment?

A. The central bank purchases government bonds on the open market
B. Unemployment insurance payments rise automatically as layoffs increase
C. The legislature increases government spending on infrastructure
D. The legislature raises personal income tax rates
E. The central bank lowers the interest rate it pays on reserves

[2 points] 10. The central bank increases the money supply. In the money market, the short-run effect is that:

A. the money supply curve shifts right and the nominal interest rate falls
B. the money demand curve shifts right and the nominal interest rate rises
C. the money supply curve shifts right and the nominal interest rate rises
D. there is a movement along the money supply curve as the interest rate falls
E. the real interest rate rises because expected inflation increases

[2 points] 11. A customer deposits 1,000 dollars of currency into a checking account. The required reserve ratio is 10 percent, banks hold no excess reserves, and all loans are redeposited in the banking system. The maximum increase in the total money supply resulting from this deposit is:

A. 100 dollars
B. 900 dollars
C. 1,000 dollars
D. 9,000 dollars
E. 10,000 dollars

[2 points] 12. In an ample-reserves regime — the Federal Reserve's operating framework since 2008 — the Fed's primary tool for raising the federal funds rate is:

A. selling small quantities of government bonds to drain reserves
B. raising the interest rate it pays on reserve balances
C. raising the required reserve ratio
D. printing less currency
E. lowering the discount rate

[2 points] 13. A significant, sustained increase in oil prices will most likely cause:

A. a movement along the short-run Phillips curve toward higher inflation and lower unemployment
B. the short-run Phillips curve to shift right, with both higher inflation and higher unemployment
C. the short-run Phillips curve to shift left
D. a movement along the long-run Phillips curve toward higher inflation
E. the long-run Phillips curve to shift right

[2 points] 14. The federal government increases its purchases, financed by borrowing, while the central bank simultaneously sells government securities. The most likely short-run effects on real interest rates and real GDP are:

A. interest rates rise; real GDP rises
B. interest rates rise; the change in real GDP is indeterminate
C. interest rates are indeterminate; real GDP rises
D. interest rates fall; the change in real GDP is indeterminate
E. both interest rates and real GDP are indeterminate

[2 points] 15. American consumers significantly increase their purchases of goods imported from Japan. In the foreign exchange market, this will most likely cause:

A. the demand for yen to increase and the yen to appreciate against the dollar
B. the supply of yen to increase and the yen to depreciate against the dollar
C. the demand for dollars to increase and the dollar to appreciate against the yen
D. the yen to depreciate, because Japan is now exporting more goods
E. no change, because trade in goods does not affect currency markets

Calculations (2 questions)

[10 points] 16. Fiscal policy in a recession. The economy of Alandia is in short-run equilibrium with real GDP of 480 billion dollars, while full-employment output is 500 billion dollars. The marginal propensity to consume is 0.75. The government is considering a change in its purchases of goods and services, financed by borrowing, to close the gap.

$Y = 480, \qquad Y_f = 500$ (billions of dollars), $\qquad MPC = 0.75$

[2 points] (a) Identify whether Alandia is experiencing a recessionary or an inflationary gap, and state its size. Describe how this situation would appear on a correctly labeled aggregate demand–aggregate supply graph.

[3 points] (b) Calculate the minimum increase in government purchases needed to close the output gap. Show your work.

[2 points] (c) Using the money market, explain how the increase in government purchases will affect the nominal interest rate in the short run.

[3 points] (d) Explain how the interest-rate change in part (c) affects private investment, what this implies for the actual change in real GDP relative to your answer in part (b), and how it affects Alandia's rate of long-run economic growth.

[6 points] 17. The banking system. First Bank of Alandia has the following simplified balance sheet. Assets: reserves of 30,000 dollars and loans of 170,000 dollars. Liabilities: demand deposits of 200,000 dollars. The required reserve ratio is 10 percent.

$Reserves = 30{,}000, \qquad Loans = 170{,}000, \qquad Deposits = 200{,}000, \qquad rr = 0.10$

[2 points] (a) Calculate First Bank's required reserves and its excess reserves. Show your work.

[2 points] (b) What is the maximum amount of new loans that First Bank alone can safely make? Explain.

[2 points] (c) Assuming all banks lend out their full excess reserves and all loans are redeposited in the banking system, calculate the maximum increase in demand deposits for the banking system as a whole. Show your work.

Short Answer (1 question)

[6 points] 18. Exchange rates. The United Kingdom and the United States trade goods and financial assets freely, and the exchange rate between the pound and the dollar floats. Suppose the Bank of England raises interest rates while interest rates in the United States remain unchanged.

[2 points] (a) Explain how the change in United Kingdom interest rates affects international capital flows and the demand for the British pound in the foreign exchange market.

[2 points] (b) Will the pound appreciate or depreciate against the dollar? Explain by describing what happens in the foreign exchange market graph for the pound.

[2 points] (c) Explain the effect of this exchange-rate change on the United Kingdom's net exports.

Answer Key

1. **B**

2. **B**

3. **C**

4. **B**

5. **C**

6. **A**

7. **E**

8. **B**

9. **C**

10. **A**

11. **D**

12. **B**

13. **B**

14. **B**

15. **A**

16. (a) Alandia has a recessionary gap of $500 - 480 = 20$ billion dollars, because current output is below full-employment output. On the graph (price level on the vertical axis, real GDP on the horizontal): LRAS is a vertical line at 500 billion; the short-run equilibrium — where AD intersects the upward-sloping SRAS — occurs at 480 billion, to the LEFT of LRAS. The horizontal distance between the equilibrium output and LRAS is the gap.

(b) The spending multiplier is $\frac{1}{1-MPC} = \frac{1}{1-0.75} = \frac{1}{0.25} = 4$. Real GDP must rise by 20 billion dollars, so the required change in government purchases is $\Delta G = \frac{\Delta Y}{multiplier} = \frac{20}{4} = 5$ billion dollars. Each dollar of new government spending becomes income that is respent at a rate of 0.75 per round, so 5 billion dollars of direct spending generates 20 billion dollars of total output.

(c) The fiscal expansion raises real GDP and therefore incomes. Higher incomes increase the transactions demand for money, shifting the money demand curve to the right along the fixed (vertical) money supply curve. With more money demanded than supplied at the old rate, the nominal interest rate rises to restore equilibrium.

(d) The higher interest rate raises the cost of borrowing, so interest-sensitive private investment (and some consumption) falls — this is crowding out. Because private spending partially offsets the government spending, the actual increase in real GDP will be SMALLER than the 20 billion dollars calculated in part (b), which assumed no crowding out. Lower investment also means slower accumulation of capital, so LRAS (and the production possibilities curve) shifts outward more slowly — Alandia's rate of long-run economic growth falls.

17. (a) Required reserves $= 0.10 \times 200{,}000 = 20{,}000$ dollars. Excess reserves are actual reserves minus required reserves: $30{,}000 - 20{,}000 = 10{,}000$ dollars.

(b) First Bank alone can lend at most its excess reserves: 10,000 dollars. When a borrower spends the loan, the funds are likely deposited at other banks, so First Bank stands to lose that amount of reserves — it can only afford to lose reserves it is not required to hold. Lending more than 10,000 dollars would leave it below its 20,000-dollar reserve requirement.

(c) The money multiplier is $\frac{1}{rr} = \frac{1}{0.10} = 10$. Maximum increase in deposits is excess reserves times the multiplier: $10{,}000 \times 10 = 100{,}000$ dollars. The multiplier applies to excess reserves, not total reserves — the other 20,000 dollars must stay on hand supporting existing deposits.

18. (a) Higher UK interest rates raise the return on British financial assets relative to American ones, so financial capital flows from the United States into the United Kingdom. To buy British bonds and deposits, American investors must first buy pounds — so the demand for pounds in the foreign exchange market increases (equivalently, the supply of dollars increases).

(b) The pound appreciates. In the market for pounds (quantity of pounds on the horizontal axis, dollar price of a pound on the vertical), the demand curve shifts to the right along the supply curve, raising the equilibrium dollar price of the pound. A pound now buys more dollars — the pound has appreciated and the dollar has depreciated.

(c) The stronger pound makes British goods more expensive for foreign buyers and makes imports cheaper for British consumers. UK exports fall and UK imports rise, so the United Kingdom's net exports decrease — an effect that works alongside the higher interest rates to reduce aggregate demand.

Worked Solutions

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