

1. Assume that the economy of Vortania is in long-run equilibrium.

- A. Draw a correctly labeled graph of the short-run and long-run Phillips curves for the economy of Vortania, and label the long-run equilibrium point as P.
- B. Assume that new residential construction projects are being implemented in Vortania.
- Will real output in Vortania increase, decrease, or remain the same in the short run? Explain.
 - Assuming no change in inflationary expectations, on your graph in part A, show the short-run effect of the new residential construction projects on Vortania's economy, labeling the new short-run equilibrium point as S.
- C. Vortania and Rhodara are trading partners with flexible exchange rates. The currency of Vortania is the Vortanian crown (VTC), and the currency of Rhodara is the Rhodaran mark (RHM). Assume that Vortania's capital and financial account (CFA) balance is zero. Now assume that Vortania imposes new tariffs on imports from Rhodara. Draw a correctly labeled graph of the foreign exchange market for the Vortanian crown, and show the effect of the tariffs on the SUPPLY of the Vortanian crown and the international value of the Vortanian crown.
- D. Based solely on the change in the international value of the Vortanian crown shown in part C, will Vortania's net exports increase, decrease, or remain the same in the short run?
- E. Based on the change in net exports identified in part D, what will happen to each of the following in the short run?
- The capital and financial account (CFA) balance in Vortania. Explain.
 - Employment in Vortania
- F. Assume the central bank of Vortania wants to return the Vortanian crown to its international value before the imposition of the tariffs. Would the central bank buy or sell Vortanian crowns in the foreign exchange market? Explain.

3. Assume Malaysia'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 Malaysia would implement to address the recession.
- (b) How will the fiscal policy action identified in part (a) affect the real interest rate in Malaysia? Explain.
- (c) Malaysia and Japan are trading partners with flexible exchange rates. Malaysia's currency is the ringgit (MYR), and Japan's currency is the yen (JPY). Draw a correctly labeled graph of the foreign exchange market for the ringgit relative to the yen. Show the effect of the change in the real interest rate identified in part (b) on the international value of the ringgit.
- (d) As a result of the change in the value of the ringgit shown in part (c), will Malaysia's imports increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

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END OF EXAM

3. Assume that Jamaica has a cyclical unemployment rate of 4% and a balanced capital and financial account (CFA).

- (a) Identify a specific fiscal policy action that Jamaica's government would take to bring its economy to full employment.
- (b) Based solely on the short-run change in real output resulting from the fiscal policy action identified in part (a), what will happen to Jamaica's net exports? Explain.
- (c) Assume that Jamaica and Turkey are trading partners with flexible exchange rates. Jamaica's currency is the Jamaican dollar (JMD), and Turkey's currency is the lira (TRY). Draw a correctly labeled graph of the foreign exchange market for the Jamaican dollar relative to the lira, and show the effect of the change in net exports identified in part (b) on the supply of the Jamaican dollar and the international value of the Jamaican dollar.
- (d) How will the change in net exports identified in part (b) affect Jamaica's capital and financial account (CFA)? Explain.

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2. The United States and South Africa are trading partners with flexible exchange rates, and the United States current account balance with South Africa is zero.
- (a) Assume real income in the United States increases while real income in South Africa remains the same. Will United States net exports increase, decrease, or remain unchanged? Explain.
- (b) Based on your answer to part (a), what will happen to each of the following?
- (i) The capital and financial account balance in the United States
 - (ii) Actual unemployment in South Africa in the short run. Explain.
- (c) The currency of the United States is the dollar (USD), and the currency of South Africa is the rand (ZAR). Draw a correctly labeled graph of the foreign exchange market for the rand and show the effect of the increase in real income in the United States on the international value of the rand.

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3. Italy and Japan are trading partners and have flexible exchange rates. The Italian currency is the euro and the Japanese currency is the yen.
- (a) Suppose that the exchange rate between the euro and the yen is 1 euro = 100 yen. What is the price of an Italian coat in yen if the coat costs 120 euros in Italy?
- (b) Assume that real interest rates increase in Japan. Identify what will happen to net financial capital flows between Italy and Japan.
- (c) Draw a correctly labeled graph of the foreign exchange market for the yen and show the effect of the increase in real interest rates in Japan on the value of the yen.
- (d) Based solely on the change in the exchange rate identified in part (c), what will happen to Italy's exports to Japan? Explain.

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END OF EXAM

1. Assume Smithland is in short-run equilibrium at a level of output that exceeds the full-employment level of output.
- (a) Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves, and show each of the following.
- (i) The current equilibrium real output and price level, labeled Y_1 and PL_1 , respectively
 - (ii) The full-employment output, labeled Y_F
- (b) Assume Smithland's government cuts individual income taxes. On your graph in part (a), show the short-run effect of the tax cut on equilibrium real output, labeling the new short-run equilibrium real output Y_2 .
- (c) Based solely on the change in real output on your graph in part (b), what will happen to each of the following in the short run?
- (i) The natural rate of unemployment
 - (ii) Nominal interest rates. Explain.
- (d) Assume instead the central bank intervenes to correct an inflationary output gap. What open-market operation should the central bank take?
- (e) Draw a correctly labeled graph of the money market, and show the effect of the open-market operation identified in part (d) on the nominal interest rate.
- (f) Based solely on the interest rate change identified in part (e), what will happen to the international value of Smithland's currency in the foreign exchange market? Explain.
- (g) Based solely on the exchange rate change identified in part (f), will Smithland's imports increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

MACROECONOMICS**Section II****Total Time—1 hour****Reading Period—10 minutes****Writing Period—50 minutes**

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume the United States economy is in recession.
- (a) Draw a correctly labeled graph of the long-run aggregate supply, short-run aggregate supply, and aggregate demand curves, and show each of the following.
- (i) Current price level, labeled PL_1
 - (ii) Current output, labeled Y_1
- (b) Now assume the euro zone, a major trading partner of the United States, enters into a recession.
- (i) What will be the effect on United States exports to the euro zone? Explain.
 - (ii) On your graph in part (a), show the effect of the change identified in part (b)(i) on real output in the United States.
 - (iii) What will be the effect of the change identified in part (b)(ii) on unemployment in the United States?
- (c) Assume the euro zone recession causes a decrease in the demand for United States dollars in the foreign exchange market.
- (i) Will the euro appreciate, depreciate, or remain unchanged against the dollar? Explain.
 - (ii) Draw a correctly labeled graph of the foreign exchange market for dollars, and show the effect of the decrease in the demand for dollars on the exchange rate for dollars.
- (d) Assume the United States implements a combination of expansionary fiscal and monetary policies. In the absence of complete crowding out, what will be the effect of these policies on each of the following?
- (i) Aggregate demand in the United States
 - (ii) The price level in the United States
 - (iii) Interest rates in the United States. Explain.

2. The Federal Reserve can influence the supply of money.
- (a) Assume that the Federal Reserve targets a lower federal funds rate.
 - (i) What open market operation can the Federal Reserve use to achieve the lower target?
 - (ii) Given your answer to part (a)(i), what will happen to the price of government bonds?
 - (b) Using a correctly labeled graph of the money market, show the effect of the open market operation from part (a)(i) on the nominal interest rate.
 - (c) Assume that the Federal Reserve buys government bonds from commercial banks. Based only on this transaction, will the level of required reserves in the commercial banks increase, decrease, or remain the same?
 - (d) Another monetary policy action involves changing the discount rate. Define the discount rate.
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3. The United States and South Korea are trading partners, and the United States has a zero current account balance. Assume now that the inflation rate in the United States decreases relative to the inflation rate in South Korea.
- (a) Based on the decrease in the inflation rate in the United States, will United States exports to South Korea increase or decrease?
 - (b) Based on the change in United States exports in part (a), answer each of the following.
 - (i) Will the United States current account balance remain at zero, be in surplus, or be in deficit?
 - (ii) What will happen to real gross domestic product in the United States in the short run? Explain.
 - (c) The South Korean currency is the won. Draw a correctly labeled graph of the foreign exchange market for the United States dollar. Show the effect of the lower inflation rate in the United States on the won price per United States dollar.

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END OF EXAM