1. The economy of Micanapy is in short-run equilibrium and is experiencing an inflationary gap.

Part A

Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves for Micanapy, 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 real output, labeled Y_F

Part B

Assume that policymakers take no action to close the inflationary gap. Explain how Micanapy's economy will self-adjust to full employment in the long run.

Part C

Suppose instead that Micanapy's central bank is considering using monetary policy to close the inflationary gap in the short run. The banking system in Micanapy has limited reserves.

i. Identify a specific open-market operation that the central bank of Micanapy would implement to close the inflationary gap in the short run.

ii. Draw a correctly labeled graph of the money market in Micanapy, and show the effect of the open-market operation identified in part C (i) on the nominal interest rate.

Part D

Based solely on the interest rate change shown on your graph in part C (ii), will each of the following increase, decrease, or remain the same in the short run?

i. International financial capital flows into Micanapy. Explain.

ii. The price of previously issued bonds in Micanapy

iii. Private domestic investment spending in Micanapy

Part E

Based solely on the change in private domestic investment spending identified in part D (iii), will the unemployment rate in Micanapy increase, decrease, or remain the same in the short run? Explain.

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.

i. Will real output in Vortania increase, decrease, or remain the same in the short run? Explain.

ii. 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?

i. The capital and financial account (CFA) balance in Vortania. Explain.

ii. 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.

AP Macroeconomics: **2025 Set 2**

2. Assume the economy of Jenland is in short-run equilibrium at a real output level above full-employment real output.

A. The banking system in Jenland has ample reserves. Identify a specific monetary policy action that the central bank of Jenland would implement to return the economy to full employment in the short run.

B. Draw a correctly labeled graph of the reserve market for Jenland, and show the effect of the central bank's action identified in part A on the policy rate.

C. Based on the change in the interest rate shown on your graph in part B, will each of the following increase, decrease, or remain the same in Jenland in the short run?

i. The price of previously issued bonds

ii. The price level. Explain.

1. Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(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 that consumer spending in Moneyland decreases from \$110,000 to \$100,000 as a result of a decrease in disposable income in Moneyland from \$135,000 to \$110,000.

(i) Calculate the marginal propensity to consume in Moneyland. Show your work.
(ii) Show the short-run effect of the decrease in consumer spending in Moneyland on your graph in part (a), labeling the new equilibrium real output and price level Y_2 and PL_2, respectively.

(c) Following the decrease in consumer spending, explain how the economy would adjust in the long run in the absence of any policy actions.

(d) The central bank of Moneyland is concerned about the short-run effects of the decrease in consumer spending on the broader economy and is considering taking action rather than waiting for the long-run adjustment process. Assuming the banking system in Moneyland has ample reserves, identify a specific monetary policy action the central bank of Moneyland would take to increase consumer spending.

(e) Draw a correctly labeled graph of the reserve market in Moneyland, and show the effect of the monetary policy action identified in part (d) on the policy rate.

(f) How would the change in the policy rate shown on your graph in part (e) affect each of the following in Moneyland in the short run?

(i) The quantity of national savings
(ii) Unemployment. 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.

3. Assume that the economy of country Zen is in long-run macroeconomic equilibrium.

(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) On your graph in part (a), show the short-run effect of an increase in consumer confidence. Label the new equilibrium real output Y_2 and the new equilibrium price level PL_2.

(c) Assume that the banking system in Zen has ample reserves. Suppose that the central bank's goal is to maintain a stable price level at PL_1. Based on the change in the price level shown in part (b), identify one specific monetary policy action the central bank would take to achieve its goal.

(d) Based on the monetary policy action identified in part (c), will real output increase, decrease, or stay the same in the short run? 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.

STOP

END OF EXAM

1. Assume a country's economy is operating below full employment.

(a) Draw a correctly labeled graph of aggregate demand, short-run aggregate supply, and long-run aggregate supply, and show each of the following.

(i) The current equilibrium real output and price level, labeled as Y_1 and PL_1, respectively
(ii) The full-employment output, labeled as Y_F

(b) Identify one fiscal policy action the country's government can take to restore full employment.

(c) Assume instead that no fiscal policy action is taken. Suppose a change in investment spending causes real GDP to increase by $\$200$ billion. Calculate the minimum change in investment spending that could have caused this increase in real GDP if the marginal propensity to save is 0.25. Show your work.

(d) Assume the output gap was initially $\$800$ billion. On your graph in part (a), show the short-run effect of the change in investment spending identified in part (c), labeling the new equilibrium real output as Y_2 and the new equilibrium price level as PL_2.

(e) Given your answer to part (d), is the actual rate of unemployment greater than, less than, or equal to the natural rate of unemployment? Explain.

(f) Assume that private savings now increase. Draw a correctly labeled graph of the loanable funds market and show the effect of the increase in private savings on the real interest rate.

(g) Based solely on the change in the real interest rate shown in part (f), what will happen to each of the following?

(i) Real GDP in the short run. Explain.
(ii) Long-run aggregate supply. 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.

3. Flowerland is an open economy with a flexible exchange rate regime. The natural rate of unemployment is 5%, the frictional rate of unemployment is 4%, and the actual rate of unemployment is 7%.

(a) What is the numerical value of the cyclical rate of unemployment in Flowerland?

(b) Assume the foreign demand for lavender oil produced in Flowerland increases. What will happen to each of the following in Flowerland in the short run?

(i) Aggregate demand. Explain.
(ii) Cyclical unemployment.

The table shows the market basket quantities and prices of lavender oil and roses, the only two goods produced in Flowerland.

Goods	Quantity (in units)	2019 Price per Unit	2020 Price per Unit
Lavender oil	40	$3	$4
Roses	4	$20	$25

(c) Assume 2019 is the base year. Based on the data in the table, calculate the price index for year 2020 in Flowerland. Show your work.

(d) If nominal income in Flowerland increased by 20% from 2019 to 2020, will the standard of living of the average citizen of Flowerland increase, decrease, or stay the same from 2019 to 2020 ? 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.

STOP

END OF EXAM

2. Assume the economy of Ucheland is currently at full employment. The government of Ucheland reduces the tax rate on household interest earnings.

(a) What will happen to private savings in Ucheland?

(b) Draw a correctly labeled graph of the loanable funds market, and show the effect of the change in private savings identified in part (a) on the equilibrium real interest rate.

(c) Given the real interest rate change identified in part (b), answer the following questions.

(i) What is the short-run effect on aggregate demand? Explain.

(ii) What is the long-run effect on potential real gross domestic product in Ucheland? Explain.

MACROECONOMICS
Section II
Planning Time—10 minutes
Writing Time—50 minutes

Directions: You have 10 minutes to read all of the questions in this booklet, to sketch graphs, to make notes, and to plan your answers. You will then have 50 minutes to answer all three of the following questions. 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 that the United States economy is operating below full employment.
   (a) Draw a correctly labeled graph of long-run aggregate supply, short-run aggregate supply, and aggregate demand, and show each of the following.
      (i) Current equilibrium output and price level, labeled as Y_1 and PL_1
      (ii) Full-employment output, labeled as Y_f
   (b) Assume that the Federal Reserve targets a new federal funds rate to reach full employment. Should the Federal Reserve target a higher or lower federal funds rate?
   (c) Given the Federal Reserve action you identified in part (b), draw a correctly labeled graph of the money market and show the effect on the nominal interest rate.
   (d) The policy makers pursue a fiscal policy rather than the monetary policy in part (b). Assume that the marginal propensity to consume is 0.8 and the value of the recessionary gap is $300 billion.
      (i) If the government changes its spending without changing taxes to eliminate the recessionary gap, calculate the minimum required change in government spending.
      (ii) If the government changes taxes without changing government spending to eliminate the recessionary gap, will the minimum required change in taxes be greater than, smaller than, or equal to the minimum required change in government spending in part (d)(i) ? Explain.
   (e) Assume the government lowers income tax rates to eliminate the recessionary gap. Will each of the following increase, decrease, or stay the same?
      (i) Aggregate demand. Explain.
      (ii) Long-run aggregate supply. 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.

STOP

END OF EXAM