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.

AP Macroeconomics: **2025 Set 1**

2. The economies of Country L and Country A are currently in short-run equilibrium at output levels below full employment. Both countries intend to use monetary policy to close their output gaps. Country L has a banking system with limited reserves, and Country A has a banking system with ample reserves.

A. What open-market operation would Country L implement to move the economy toward full employment in the short run?

B. What specific monetary policy action would Country A implement to move the economy toward full employment in the short run?

C. Draw a correctly labeled graph of the reserve market in Country A, and show the effect of the monetary policy action identified in part B on the policy rate.

D. Assume instead that no policy actions are taken in Country A and that the economy remains in short-run equilibrium at an output level below full employment. Will short-run aggregate supply in Country A increase, decrease, or remain the same as the economy self-adjusts in the long run? Explain.

AP Macroeconomics: **2024 Set 1**

1. The economy of Alpha is in short-run equilibrium with a cyclical unemployment rate of 3%, a frictional unemployment rate of 4%, and an actual unemployment rate of 8%.

(a) Calculate Alpha'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 Alpha, 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 Alpha's economy will adjust to full employment in the long run.

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

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

(e) Draw a correctly labeled graph of the reserve market in Alpha, 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 Alpha?

(i) The price of previously issued bonds

(ii) The price level. 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.

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.

1. Assume the economy of Vanderlandia is in short-run equilibrium with a real GDP of \$500 million. The full-employment level of real GDP is \$550 million.

(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 no policy action is taken to restore full employment.

(i) Explain how the economy will adjust in the long run.
(ii) Following the long-run adjustment process, will the price level in Vanderlandia be greater than, less than, or equal to PL_1 shown on your graph in part (a)?

(c) Assume instead that policymakers in Vanderlandia are considering changing government spending to restore full employment in the short run and that the marginal propensity to save is 0.2.

(i) Calculate the minimum change and state the direction of change in government spending required to completely close the output gap in the short run. Show your work.
(ii) On your graph in part (a), show the short-run effect of the change in government spending in part (c)(i), labeling the new equilibrium price level PL_2.

(d) Draw a correctly labeled graph of the loanable funds market, and show the effect of the change in government spending in part (c)(i) on the equilibrium real interest rate.

(e) Based on the change in the real interest rate shown on your graph in part (d), what will happen to each of the following?

(i) The price of previously issued bonds
(ii) The rate of economic growth in the long 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.

1. The economy of Northland is in short-run equilibrium with an actual unemployment rate of 7% and an actual inflation rate of 1%. The natural unemployment rate in Northland is 5%.

(a) Using the relevant numerical values given, draw a correctly labeled graph of the short-run and long-run Phillips curves. Label the current short-run equilibrium point as X. Plot the relevant numerical values provided on the graph.

(b) Is the expected inflation rate greater than, less than, or equal to 1% ? Explain.

(c) Assume the marginal propensity to consume is 0.9.

(i) If the government decreases income taxes by $20 billion, calculate the maximum change in aggregate demand. Show your work.
(ii) If instead the government increases spending by $20 billion, calculate the maximum change in aggregate demand. Show your work.

(d) On your graph in part (a), show a possible new short-run equilibrium point labeled Z that would result if the government increases spending and there is no change in inflationary expectations.

(e) How would an increase in unemployment compensation affect aggregate demand in the short run? Explain.

(f) Assume instead the government takes none of the preceding policy actions. (Northland is still in short-run equilibrium; the actual unemployment rate is 7%, the actual inflation rate is 1%, and the natural unemployment rate is 5%.) What will happen to each of the following in the long run?

(i) The short-run aggregate supply curve. Explain.
(ii) The short-run Phillips curve
(iii) The actual unemployment rate

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.

2. An economy is currently in short-run equilibrium with a recessionary output gap of $600 billion.

(a) Draw a single correctly labeled graph with both the short-run and long-run Phillips curves. Label the initial short-run equilibrium point X.

(b) Suppose the government implements fiscal policy in order to achieve full-employment output and the marginal propensity to consume is 0.75.

(i) Calculate the minimum change in government spending required to increase aggregate demand by the amount of the output gap of $600 billion. Show your work.
(ii) Suppose instead the government wants to change taxes rather than government spending. Calculate the minimum change in taxes required to increase aggregate demand by the amount of the output gap of $600 billion. Show your work.

(c) Assume instead the government takes no policy action to close the output gap shown in part (a). Explain how the economy will adjust in the long run.

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. Canada is an open economy that is currently in a recessionary output gap.

(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) The current equilibrium real output and price level, labeled as Y_1 and PL_1, respectively

(ii) Full-employment output, labeled Y_f

(b) The central bank and the government do not take any policy actions to close the output gap.

(i) Explain how the economy will adjust to full employment in the long run.

(ii) On your graph in part (a), show how the economy adjusts to full employment in the long run.

(c) Suppose the Canadian government is unwilling to wait for the long-run adjustment process. The marginal propensity to consume is 0.8. The equilibrium real output is $500 billion and the full-employment output is $540 billion.

(i) Calculate the minimum change and indicate the direction of change in government spending required to shift the aggregate demand curve by the amount of the output gap.

(ii) Calculate the minimum change and indicate the direction of change in taxes required to shift the aggregate demand curve by the amount of the output gap.

(d) Assume instead that the Canadian central bank takes actions to restore the economy to full-employment output by influencing investment spending. Draw a correctly labeled graph of the money market, and show the effect of the actions taken by the central bank on the equilibrium interest rate.

(e) Canada and Mexico are trading partners. Draw a correctly labeled graph of the foreign exchange market of the Canadian dollar, and show the effect of the change in the interest rate in part (d) on the value of the Canadian dollar with respect to the Mexican peso.

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 economy of Artland is currently operating above full employment.

(a) Draw a correctly labeled graph of the short-run aggregate supply, long-run aggregate supply, and aggregate demand curves, 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) Assume the central bank and the government do not take any policy actions to close the output gap.

(i) On your graph in part (a), show how the economy automatically adjusts in the long run and label the new equilibrium price level PL_2.

(ii) Explain the cause of the adjustment shown in part (b)(i).

(c) Alternatively, suppose the government wants to close the output gap using fiscal policy.

(i) Identify a fiscal policy action the government could implement to close the output gap.

(ii) How will the fiscal policy action identified in part (c)(i) affect the following?

- The unemployment rate
- The natural rate of unemployment

(iii) In closing the output gap, will the automatic adjustment identified in part (b)(i) produce a higher, a lower, or the same price level compared to the fiscal policy identified in part (c)(i) ?

(d) Draw a correctly labeled graph of the market for loanable funds. Show the effect of the fiscal policy action identified in part (c)(i) on the equilibrium real interest rate.

(e) Given the interest rate change identified in part (d), will the long-run aggregate supply curve shift to the right, shift to the left, or remain the same in the long run? Explain.

MACROECONOMICS
Section II
Total Time—60 minutes
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 that the economy of Country X has an actual unemployment rate of 7%, a natural rate of unemployment of 5%, and an inflation rate of 3%.

   (a) Using the numerical values given above, draw a correctly labeled graph of the short-run and long-run Phillips curves. Label the current short-run equilibrium as point B. Plot the numerical values above on the graph.

   (b) Assume that the government of Country X takes no policy action to reduce unemployment. In the long run, will each of the following shift to the right, shift to the left, or remain the same?

      (i) Short-run aggregate supply curve. Explain.

      (ii) Long-run Phillips curve

   (c) Identify a fiscal policy action that could be used to reduce the unemployment rate in the short run.

   (d) Draw a correctly labeled graph of aggregate demand and short-run aggregate supply, and show the impact on the equilibrium price level and real gross domestic product (GDP) of the fiscal policy action identified in part (c).

   (e) Based on the change in real GDP identified in part (d), will the supply of Country X's currency in the foreign exchange market increase, decrease, or remain the same? Explain.

   (f) Based on your answer to part (e) and assuming a flexible exchange rate system, will Country X's currency appreciate, depreciate, or remain the same in the foreign exchange market?