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. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. 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 currently operating below the full-employment level of real gross domestic product with a balanced budget.

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

      (i) Current output and price level, labeled as Y_1 and PL_1, respectively

      (ii) Full-employment output, labeled as Y_f

   (b) The United States government increases spending on goods and services by $100 billion, which is financed by borrowing. How will the increase in government spending affect each of the following?

      (i) Cyclical unemployment

      (ii) The natural rate of unemployment

   (c) If the marginal propensity to consume is equal to 0.75, calculate the maximum possible change in real gross domestic product that could result from the $100 billion increase in government spending.

   (d) Using a correctly labeled graph of the loanable funds market, show the effect of the $100 billion increase in government spending on the real interest rate.

   (e) Based on the real interest rate change in part (d), what is the effect on the long-run economic growth rate? Explain.

   (f) Now assume that instead of financing the $100 billion increase in government spending by borrowing, the United States government increases taxes by $100 billion. With this equal increase in government spending and taxes, will the real gross domestic product increase, decrease, or remain the same? 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.

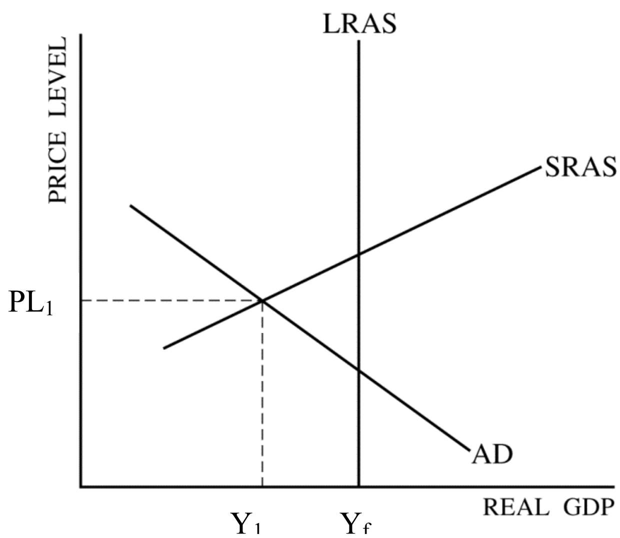
   (c) The South Korean currency is the won. Draw a correctly labeled graph of the foreign exchange market for the United States dollar. Show the effect of the lower inflation rate in the United States on the won price per United States dollar.

STOP

END OF EXAM

Question 1

11 Points (2+2+1+2+2+2)



(a) 2 points:

- One point is earned for drawing a correctly labeled graph showing an equilibrium with AD, SRAS, Y_1, and PL_1 labeled.
- One point is earned for drawing a vertical LRAS curve at Y_f to the right of the intersection of AD and SRAS.

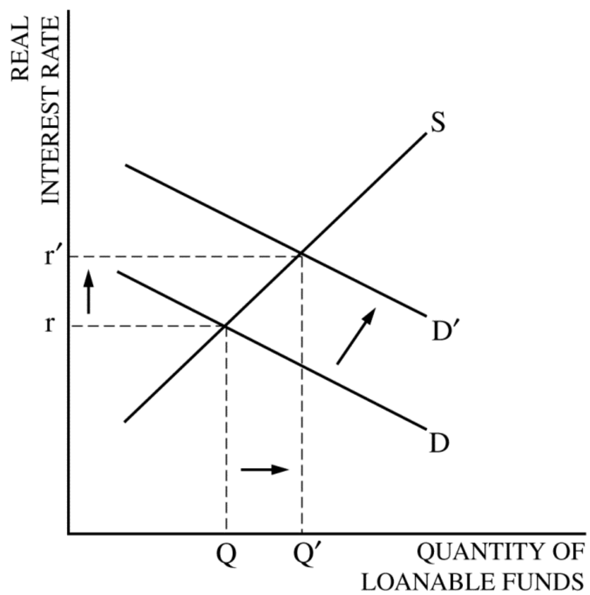
(b) 2 points:

- One point is earned for stating that cyclical unemployment will decrease.
- One point is earned for stating that the natural rate of unemployment will not change.

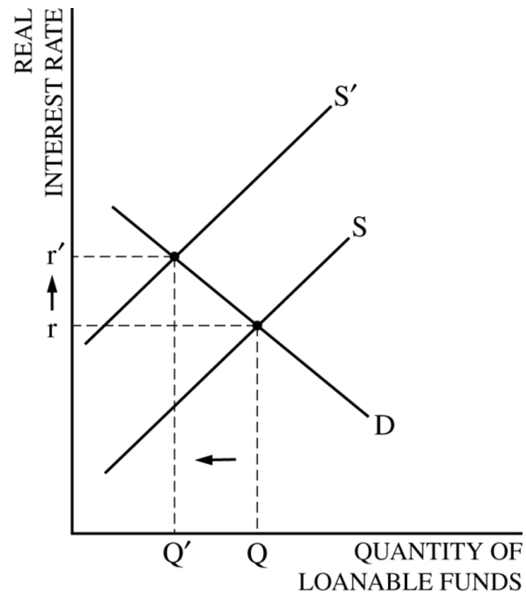
(c) 1 point:

- One point is earned for calculating the maximum change in real GDP:
  Change in GDP = (1/0.25) X \$100 billion = \$400 billion.

Question 1 (continued)



OR



(d) 2 points:
- One point is earned for drawing a correctly labeled loanable funds market graph.
- One point is earned for shifting the demand curve to the right (or shifting the supply curve to the left) and showing an increase in the real interest rate.

(e) 2 points:
- One point is earned for stating that the economic growth rate will fall.
- One point is earned for explaining that the higher real interest rate will slow down capital formation.

(f) 2 points:
- One point is earned for stating that real gross domestic product will increase.
- One point is earned for explaining that the expansionary effect of the increase in government spending outweighs the contractionary effect of the increase in taxes of the same size. (Or students may explain by calculating the net increase in GDP, $100 billion, or stating the tax multiplier is smaller than the spending multiplier.)