MACROECONOMICS

SECTION I

Time—1 hour and 10 minutes

60 Questions

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case and then fill in the corresponding circle on the answer sheet.

1. When an economy operates inside its production possibilities curve, it can increase production of one good

   (A) at zero opportunity cost in terms of the other good
   (B) only with an increase in unemployment
   (C) only with an increase in the price level
   (D) only with an increase in technology
   (E) only if the labor force increases

2. If people save 10 percent of each additional dollar received in income, which of the following is true?

   (A) The marginal propensity to consume is less than the marginal propensity to save.
   (B) The marginal propensity to consume increases as income increases.
   (C) The marginal propensity to consume is 0.1, and the maximum value of the tax multiplier is -1.
   (D) The marginal propensity to consume equals the marginal propensity to save.
   (E) The marginal propensity to consume is 0.9, and the maximum value of the spending multiplier is 10.

3. An increase in spending on capital goods will most likely lead to which of the following in the long run?

   (A) An increase in government spending
   (B) An increase in long-run aggregate supply
   (C) An increase in consumption spending due to crowding out
   (D) A decrease in employment
   (E) A decrease in economic growth

4. The real interest rate can remain constant if an increase in transfer payments is accompanied by

   (A) a decrease in government purchases
   (B) a decrease in income tax rates
   (C) an increase in reserve requirements
   (D) an open-market sale of bonds
   (E) a decrease in private savings

5. Suppose the only revenue taken in by the government is in the form of income taxes and the tax rate is 10 percent. If national income is \$900 billion and government expenditures plus transfers are \$120 billion, which of the following is true about the government budget?

   (A) The government budget has a surplus of \$780 billion.
   (B) The government budget has a surplus of \$120 billion.
   (C) The government budget is balanced.
   (D) The government budget has a deficit of \$90 billion.
   (E) The government budget has a deficit of \$30 billion.

6. One reason the aggregate demand curve is downward-sloping is that as the price level increases,

   (A) the purchasing power of assets decreases
   (B) imports decrease
   (C) the demand for the domestic currency on the foreign exchange market increases
   (D) interest-sensitive expenditures increase
   (E) the public feels richer and spends more

	1 Crane	1 Truck
United States	50 hours	25 hours
Thailand	20 hours	30 hours

7. The table provided shows the time required to produce one crane or one truck in the United States and Thailand. The United States and Thailand have the same amount of resources. Which of the following can be accurately concluded from the data?

   (A) The United States has a comparative advantage in producing cranes, and Thailand has a comparative advantage in producing trucks.

   (B) Thailand has a comparative advantage in producing cranes, and the United States has a comparative advantage in producing trucks.

   (C) Thailand has a comparative advantage in producing both cranes and trucks.

   (D) The United States has a comparative advantage in producing both cranes and trucks.

   (E) Neither country has a comparative advantage in producing cranes and trucks.

8. All of the following concepts can be illustrated using the production possibilities curve model EXCEPT

   (A) unemployment

   (B) inflation

   (C) opportunity cost

   (D) choice

   (E) scarcity

9. An expansionary monetary policy is intended to eliminate which type of unemployment?

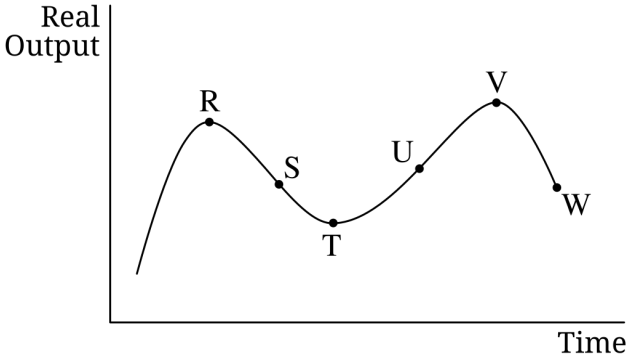
   (A) Frictional

   (B) Cyclical

   (C) Structural

   (D) Seasonal

   (E) Natural



10. Based on the graph provided, which segment represents only the expansionary phase of the business cycle?

    (A) RS

    (B) ST

    (C) SU

    (D) TV

    (E) VW

11. Which of the following correctly describes spending in a circular flow model?

    (A) Households hire resources from producers in resource markets.

    (B) Households purchase goods and services from producers in product markets.

    (C) Households purchase goods and services from producers in resource markets.

    (D) Producers hire resources from households in product markets.

    (E) Producers sell resources to households in product markets.

12. If some unemployed individuals become discouraged and stop looking for employment, which of the following will occur in the short run?

    (A) The unemployment rate will increase.

    (B) The unemployment rate will decrease.

    (C) The labor force will increase.

    (D) Real output will increase.

    (E) The labor force participation rate will increase.

13. Which of the following would NOT be included in the gross domestic product of the United States in 2018?

    (A) The value of computers produced in the United States in 2018 but not sold

    (B) The value of cars produced in the United States in 2018 by a Japanese motor company

    (C) The value of cars produced in Japan in 2018 by a United States motor company

    (D) The amount a patient paid to a dentist for dental services completed in 2018 in the United States

    (E) The value of a restaurant meal purchased by a Japanese tourist in 2018 in the United States

14. Which of the following individuals benefits from unexpected inflation?

    (A) A retiree living on a fixed pension

    (B) A landlord receiving fixed lease payments

    (C) A student saving $10 each month in a piggy bank

    (D) A creditor lending out $1,000 as a fixed-rate loan

    (E) A debtor making payments on existing fixed-rate loans

15. Frictional unemployment may be caused by

    (A) people losing jobs when their skills become obsolete

    (B) people quitting jobs to look for better jobs

    (C) people dropping out of the job market after a considerable search

    (D) a general downturn in economic activity

    (E) a decrease in aggregate supply

16. Country X has the following macroeconomic statistics.

Real Output (Billions $)	**Unemployment Rate (%)**
110	1
108	2
106	3
104	4
102	5
100	6
98	7

    Suppose the current cyclical unemployment rate is 2%, the frictional unemployment rate is 4%, and the structural unemployment rate is 1%. What is the full-employment level of real output?

    (A) $100 billion

    (B) $102 billion

    (C) $104 billion

    (D) $106 billion

    (E) $110 billion

17. The table provided shows the end-of-year consumer price index (CPI) for an economy.

Year	**CPI**
2008	80
2009	100
2010	105

    Which of the following statements is true based on the information given?

    (A) The inflation rate in 2009 was 20 percent.

    (B) The base year for the price index is 2008.

    (C) The inflation rate was higher in 2010 than in 2009.

    (D) The inflation rate in 2010 was 5 percent.

    (E) Prices of all products rose in 2009 and 2010.

18. One limitation of using real GDP to measure a nation's economic performance is that

    (A) real GDP does not account for inflation
    (B) real GDP does not count final goods
    (C) real GDP estimates an economy's potential, not its actual performance
    (D) real GDP does not account for nonmarket transactions
    (E) real GDP understates the rate of unemployment

19. Real gross domestic product is equal to which of the following?

    (A) Real wages of households
    (B) Real income plus government transfer payments
    (C) Nominal output adjusted for price-level changes
    (D) Nominal output less depreciation
    (E) Changes in the standard of living

Price	Quantity Demanded	Quantity Supplied
$5	140	20
$10	120	40
$15	100	60
$20	80	80
$20	60	100

20. Based on the data provided in the table, what is true about the market for pizza if the current market price is $10?

    (A) The supply curve will shift to the left.
    (B) The demand curve will shift to the right.
    (C) The market price for pizza will decrease.
    (D) There is a shortage of 80 units.
    (E) There is a surplus of 160 units.

21. In the short run, a contractionary fiscal policy will

    (A) shift the aggregate demand curve to the left
    (B) shift the short-run aggregate supply curve to the right
    (C) increase the money supply
    (D) increase the demand for loanable funds
    (E) increase the government budget deficit

22. A reduction in aggregate demand will necessarily cause an increase in unemployment in the short run when

    (A) nominal wages or prices are sticky downward
    (B) nominal wages and prices are flexible
    (C) the aggregate supply curve is vertical
    (D) the money supply grows at a constant rate
    (E) imports exceed exports

23. A decrease in nominal wages will cause the

    (A) price level to increase
    (B) real output to remain the same
    (C) long-run aggregate supply curve to shift to the left
    (D) short-run aggregate supply curve to shift to the right
    (E) aggregate demand curve to shift to the right

24. With an upward-sloping aggregate supply curve, an increase in government transfer payments will most likely

    (A) reduce the price level
    (B) reduce the level of nominal gross domestic product
    (C) increase real gross domestic product in the short run
    (D) shift the short-run aggregate supply curve to the right
    (E) shift both the aggregate demand curve and the long-run aggregate supply curve to the left

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26. Which of the following is an example of an automatic stabilizer that is contractionary?

    (A) A government-legislated increase in the marginal income tax rate

    (B) Bond purchases by the nation's central bank

    (C) An increase in transfer payments

    (D) An increase in tax revenues as GDP increases

    (E) An increase in unemployment compensation

27. Which of the following correctly describes an effective fiscal policy action to close an inflationary gap?

    (A) Decreasing taxes, which will increase aggregate demand

    (B) Increasing taxes, which will increase aggregate demand

    (C) Increasing government spending, which will decrease private investment

    (D) Increasing government spending, which will decrease interest rates

    (E) Decreasing government spending, which will decrease aggregate demand

28. Assume that an economy is currently in a recession. If policy-makers do nothing and wages and prices are flexible, which of the following will occur in the long run?

    (A) The short-run aggregate supply curve will shift to the right, leading to full employment.

    (B) The short-run aggregate supply curve will shift to the left, leading to full employment.

    (C) The aggregate demand curve will shift to the right, leading to full employment.

    (D) The aggregate demand curve will shift to the left, leading to full employment.

    (E) The unemployment rate will continue to increase.

29. If there is no crowding out, a $10 billion increase in investment in physical capital will most likely lead to a

    (A) less than $10 billion increase in aggregate supply

    (B) more than $10 billion increase in aggregate demand

    (C) $10 billion increase in aggregate demand

    (D) $10 billion increase in aggregate supply

    (E) $10 billion increase in the money supply

30. Which of the following will cause an increase in the price level in the short run?

    (A) A rightward shift in the aggregate demand curve

    (B) A rightward shift in the short-run aggregate supply curve

    (C) A rightward shift in the long-run aggregate supply curve

    (D) An increase in savings

    (E) An increase in imports

31. What is the most likely short-run effect of an increase in the price of oil, a key input for production?

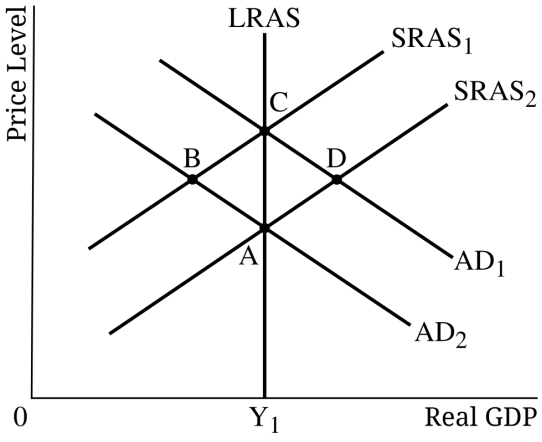
    (A) An increase in long-run aggregate supply

    (B) Demand-pull inflation

    (C) A reduction in the unemployment rate

    (D) An increase in real gross domestic product

    (E) Cost-push inflation



32. Assume the economy is currently in short-run equilibrium at point D, as shown in the graph provided, and that the banking system has limited reserves. Which of the following is a monetary policy action that would restore long-run equilibrium?

    (A) An open-market purchase of government bonds, which would move the economy to point C

    (B) An open-market sale of government bonds, which would move the economy to point A

    (C) An increase in the required reserve ratio, which would move the economy to point C

    (D) An increase in government spending, which would move the economy to point C

    (E) An increase in taxes, which would move the economy to point A

33. Assume Bank A has the following balance sheet.

Assets		Liabilities	
Reserves	$50,000	Checkable deposits	$100,000
Loans	$50,000	Stockholders' equity	$100,000
Securities	$50,000		
Property	$50,000		

    If the required reserve ratio is 25 percent, what is the maximum amount by which Bank A can increase its loans?

    (A) $0

    (B) $25,000

    (C) $50,000

    (D) $100,000

    (E) $150,000

34. Assume that the required reserve ratio is 10 percent and the banking system has limited reserves. If the central bank buys $1,000 of bonds from commercial banks, which of the following will occur?

    (A) The money supply will increase by a maximum of $1,000.

    (B) There will be a maximum of $9,000 of new loans made by all banks.

    (C) Demand deposits will increase by a maximum of $9,000.

    (D) The amount of new cash reserves injected into the banking system will be $100.

    (E) The money supply will increase by a maximum of $10,000.

35. Which of the following is counted in the M2 measure, but not the M1 measure, of the United States money supply?

    (A) Savings accounts

    (B) Currency

    (C) Stocks

    (D) Small time deposits

    (E) Checkable deposits

36. An increase in the real interest rate will most likely affect private investment in plant and equipment and the quantity of personal savings in which of the following ways?

    (A) Private investment in plant and equipment will increase, and personal savings will increase.

    (B) Private investment in plant and equipment will increase, and personal savings will decrease.

    (C) Private investment in plant and equipment will decrease, and personal savings will increase.

    (D) Private investment in plant and equipment will decrease, and personal savings will not change.

    (E) Private investment in plant and equipment will not change, and personal savings will decrease.

37. Assume the banking system in a nation has limited reserves. Following an unanticipated increase in the money supply, the price level and real output will change in which of the following ways in the short run?

    (A) The price level will increase, and real output will increase.

    (B) The price level will increase, and real output will decrease.

    (C) The price level will increase, and real output will not change.

    (D) The price level will not change, and real output will not change.

    (E) The price level will decrease, and real output will increase.

38. Assume firms increase their borrowing in order to expand capacity. How will this additional borrowing affect the loanable funds market?

    (A) The supply of loanable funds curve will shift to the left.

    (B) The supply of loanable funds curve will shift to the right.

    (C) The demand for loanable funds curve will shift to the left.

    (D) The demand for loanable funds curve will shift to the right.

    (E) The loanable funds market will not be affected.

39. Which of the following is an example of a contractionary monetary policy action by a central bank?

    (A) Increasing interest on reserves

    (B) Buying government securities on the open market

    (C) Decreasing government spending

    (D) Increasing business taxes

    (E) Decreasing the policy rate

40. Assume the banking system in a nation has limited reserves. When the central bank increases the required reserve ratio, a commercial bank's

    (A) excess reserves remain unchanged

    (B) excess reserves increase

    (C) excess reserves decrease

    (D) required reserves decrease

    (E) required reserves remain unchanged

41. Which of the following policy actions will offset the effect of a decrease in investment in plant and equipment on aggregate demand in the short run in the United States?

    (A) An open-market sale of government bonds

    (B) An increase in marginal income taxes

    (C) An increase in the required reserve ratio

    (D) A decrease in government spending

    (E) A decrease in interest on reserves

42. An increase in real income will cause which of the following to occur in the short run?

    (A) Imports will decrease.

    (B) Consumption spending will decrease.

    (C) Nominal interest rates will decrease.

    (D) The monetary base will increase.

    (E) Money demand will increase.

43. Assume that a central bank operating in a banking system with limited reserves decreases its required reserve ratio. As a result, demand deposits and total reserves will most likely change in which of the following ways after all adjustments take place in the banking system and assuming banks lend out all excess reserves?

    (A) Demand deposits will increase, and total reserves will increase.

    (B) Demand deposits will increase, and total reserves will not change.

    (C) Demand deposits will not change, and total reserves will increase.

    (D) Demand deposits will decrease, and total reserves will not change.

    (E) Demand deposits will decrease, and total reserves will increase.

44. Which of the following is true for savings accounts?

(A) Savings accounts are shares of ownership in a company.

(B) Savings accounts are part of the monetary base.

(C) Savings accounts are interest-bearing assets.

(D) Savings accounts are the most liquid form of financial assets.

(E) Savings accounts are used as tools of monetary policy.

45. Assume a country has ample reserves in its banking system. Which combination of monetary and fiscal policies will necessarily reduce the price level in the short run?

(A) Selling bonds through open-market operations and increasing government spending

(B) Increasing administered interest rates and decreasing government spending

(C) Buying bonds through open-market operations and leaving government spending unchanged

(D) Decreasing administered interest rates and decreasing government spending

(E) Decreasing the policy rate and increasing government spending

46. Crowding out is most likely to occur with which of the following changes?

(A) A decrease in government spending

(B) An increase in the government budget surplus

(C) An increase in the government budget deficit

(D) A decrease in the real interest rate

(E) A decrease in the trade deficit

47. Increases in public investment in education and increased educational attainment by workers will have which of the following effects in the long run?

(A) Labor productivity will increase, and real GDP per capita will increase.

(B) Labor productivity will increase, and real GDP per capita will decrease.

(C) Labor productivity will increase, and real GDP per capita will not change.

(D) Labor productivity will decrease, and real GDP per capita will increase.

(E) Labor productivity will decrease, and real GDP per capita will decrease.

48. Increases in government borrowing to finance increases in budget deficits will most likely result in

(A) a decrease in the real interest rate

(B) a decrease in private domestic investment

(C) a rightward shift in the long-run Phillips curve

(D) an increase in the money supply

(E) an increase in financial capital outflows

49. Following a decrease in marginal income tax rates and a decrease in corporate tax rates, which of the following will most likely happen to aggregate demand, short-run aggregate supply, and the price level in the short run?

(A) Aggregate demand will increase, there will be no change to short-run aggregate supply, and the price level will decrease.

(B) Aggregate demand will increase, short-run aggregate supply will decrease, and the price level will decrease.

(C) Aggregate demand will increase, short-run aggregate supply will increase, and there will be an indeterminate impact on the price level.

(D) There will be no change to aggregate demand, short-run aggregate supply will increase, and the price level will increase.

(E) Aggregate demand will decrease, short-run aggregate supply will decrease, and there will be an indeterminate impact on the price level.

50. An increase in which of the following will most likely lead to long-run economic growth?

(A) Transfer payments
(B) Personal consumption expenditures
(C) The real interest rate
(D) Exports
(E) The stock of physical capital

51. Movement along the short-run Phillips curve describes the relationship between inflation and unemployment when

(A) aggregate demand changes for a given short-run aggregate supply curve
(B) short-run aggregate supply changes for a given aggregate demand curve
(C) aggregate demand decreases and short-run aggregate supply increases
(D) aggregate demand increases and short-run aggregate supply decreases
(E) policy changes are perfectly anticipated and the aggregate supply curve is vertical

52. According to the quantity theory of money, an increase in the nominal gross domestic product with a constant money supply means that the velocity of money must have

(A) increased
(B) decreased
(C) not changed
(D) initially increased, then decreased
(E) initially decreased, then increased

53. Which of the following is true for a long-run Phillips curve?

(A) It represents points for which expected and actual inflation rates are equal.
(B) It shifts to the left when aggregate supply decreases.
(C) It shifts to the left when money supply decreases.
(D) It shifts to the right when transfer payments decrease.
(E) It is horizontal because there is no change in inflation.

54. Which of the following statements about the national debt is true?

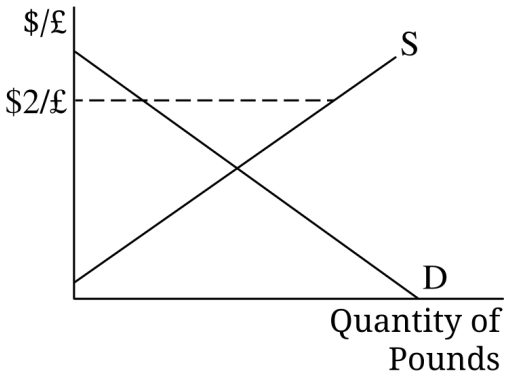
(A) Interest payments on the national debt are paid only when the debt is owned by foreign investors.
(B) Gross domestic product minus the national debt equals net domestic product.
(C) A government budget surplus reduces the national debt.
(D) A country's national debt increases when its exports exceed its imports.
(E) A decrease in interest rates reduces the value of the national debt.

55. If real interest rates in the United States increase relative to the rest of the world, which of the following will occur?

(A) Domestic private investment in plant and equipment will increase.
(B) The supply of United States dollars in the foreign exchange market will increase.
(C) The demand for United States dollars in the foreign exchange market will increase.
(D) Net exports in the United States will increase.
(E) The United States capital and financial account will be in deficit.

56. Japan and the European Union are trading partners with flexible exchange rates. The currency of Japan is the yen, and the currency of the European Union is the euro. Which of the following will happen in the foreign exchange market if Japan increases its imports from Europe?

(A) A depreciation of the euro
(B) An increase in the supply of the euro
(C) An increase in the demand for the euro
(D) An increase in the demand for the yen
(E) A decrease in the supply of the yen



57. The United States and the United Kingdom are trading partners with flexible exchange rates. The currency of the United States is the dollar ($), and the currency of the United Kingdom is the pound (£). The graph provided shows the foreign exchange market for the pound. At an exchange rate of $2 per pound, which of the following will occur?

    (A) There will be excess supply of the dollar.
    (B) There will be excess demand for the pound.
    (C) The pound will appreciate.
    (D) The dollar will appreciate.
    (E) A £2 souvenir in Britain will cost $1 for United States tourists.

58. The United States and the European Union are trading partners with flexible exchange rates. The currency of the United States is the dollar ($), and the currency of the European Union is the euro. Which of the following is true if the exchange rate between the euro and the dollar changes from $1.00 per euro to $1.25 per euro?

    (A) United States exports to Europe will increase.
    (B) European exports to the United States will increase.
    (C) The dollar has appreciated.
    (D) The euro has depreciated.
    (E) The money supply in the United States will increase.

59. Under a flexible exchange-rate system, the exchange rate between two countries' currencies is determined by the

    (A) amount of gold reserves held by the central bank in each country
    (B) gross domestic product of the exporting country
    (C) demand for and supply of each country's currency
    (D) amount of resources available to the importing country
    (E) real interest rate in the exporting country

60. The current account portion of a nation's balance of payments accounts includes

    (A) foreign direct investment
    (B) purchases of foreign bonds
    (C) purchases of foreign real estate
    (D) holdings of foreign currencies
    (E) exports of services

STOP
END OF SECTION I

MACROECONOMICS

SECTION II

Total Time—1 hour

Reading Period—10 minutes

Writing Period—50 minutes

3 Questions

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. If the question prompts you to "Calculate," you must show how you arrived at your final answer. Use a pen with black or dark blue ink.

You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

1. Assume the United States economy is currently facing an inflationary gap of $500 billion, a natural rate of unemployment of 5 percent, and an actual rate of inflation of 4 percent.

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

   (b) Suppose the federal government decreases government spending without changing taxes, and the marginal propensity to consume is 0.8.

      i. Calculate the minimum decrease in government spending needed to change aggregate demand by the amount of the output gap. Show your work.

      ii. Based solely on the decrease in government spending, what will happen to the short-run Phillips curve in the short run?

      iii. Based solely on the decrease in government spending, what will happen to the equilibrium real interest rate in the loanable funds market? Explain.

      iv. The United States and Mexico are trading partners with flexible exchange rates. The currency of Mexico is the peso and the currency of the United States is the dollar. Draw a correctly labeled graph of the foreign exchange market for the dollar, and show the impact of the real interest rate change from part (b) (iii) on the international value of the dollar.

   (c) Assume instead the government chooses to decrease government spending by $500 billion and decrease income taxes by $500 billion.

      i. What will be the numerical value and direction of the maximum change in aggregate demand?

      ii. What will happen to the demand for loanable funds? Explain.

   (d) In the absence of any policy actions to correct the inflationary gap, what will happen to real gross domestic product in the United States in the long run? Explain.

2. Assume the required reserve ratio in the country of Rayogi is 5 percent, and the banking system in Rayogi has limited reserves.

   (a) If Rayogi's central bank sells $10 million of securities to commercial banks and the commercial banks pay for the securities out of their reserves, calculate the maximum possible change in the money supply. Show your work.

   (b) Draw a correctly labeled graph of the money market, and show the effect of the change in the money supply identified in part (a) on the equilibrium nominal interest rate in Rayogi.

   (c) Assume no change in inflationary expectations. Based on the change in the nominal interest rate identified in part (b), what will happen to the real interest rate in Rayogi?

   (d) Based on your answer to part (c), what will happen to the economic growth rate in Rayogi? Explain.

3. In the country of Zuma, the natural rate of unemployment is 5 percent, the actual rate of unemployment is 10 percent, and the nominal interest rate is 3 percent.

   (a) Zuma produces two goods: food and capital goods. Draw a correctly labeled production possibilities curve for Zuma with food on the horizontal axis and capital goods on the vertical axis. Indicate a point on your graph, labeled W, which represents the current state of the economy.

   (b) Should the government increase, decrease, or keep income taxes unchanged to move the economy toward potential output? Explain.

   (c) On your graph in part (a), show another point, labeled Y, which shows the effect of the change in income taxes identified in part (b).

   (d) Suppose now there is an improved method of producing food only.

      i. Show the effect of this new method of production on your graph in part (a), labeling the new production possibilities curve as PPC_2.

      ii. Based on your answer to part (d) (i), what happens to the opportunity cost of producing capital goods?

STOP
END OF EXAM

3 Answer