Econ 102/100, March 16, 2006

Answers

Part I: Multiple Choice: (26 Questions, 3 pts each=78 pts)

Select the best answer among the given choices

1. Based on the following information, what would be the increase in the unemployment rate be if the discouraged workers were categorized as Unemployed?

Total population 300,000,000
Adult population 200,000,000
Adult population who have given up on finding work 30,000,000
Number employed 140,000,000
Number unemployed 10,000,000

- **a) 15.6% higher**
- b) 20.0% higher
- c) 13.3% higher
- d) 16.7% higher
- e) None of the above, the unemployment rate would decrease.

2. Which of the following statements is correct?

A. The natural rate of unemployment includes frictional unemployment, structural unemployment and cyclical unemployment.
B. In ordered to be considered employed, a person must have worked full time during the previous month.
C. The unemployment rate underestimates the hardship in a weak labor market because of discouraged workers.
D. The labor-force participation rate has been greatly increased over the last 50 years for women, but not for men.

- a) A and C
- b) B and C
- **c) C and D**
- d) A, B, and D
- e) B, C, and D

3. Which of the following would **NOT** cause the price level to rise according to the quantity theory model?

a) The Fed buys government bonds from the public through open market operations
b) An increase in the velocity of money
c) An increase in real GDP
d) The Fed lowers the discount rate
e) None of the above (that is, all of the above *would* cause the price level to rise)

4. Which of the following statements is true?

A. The inflation tax affects everyone differently.
B. Hyperinflation does not have any adverse affects because of money neutrality.
C. Creditors benefit from unexpected increases in the price level.

a) A only
b) B only
c) A and B
d) B and C
e) A, B and C

5. Which of the following statements about the functions of the Federal Reserve is **INCORRECT**?

a) The Fed can increase money supply by purchasing government bonds
b) The Fed can increase money supply by decreasing the reserve requirement
c) The Fed can increase money supply by decreasing the discount rate
d) The Fed can increase money supply by decreasing the reserve holdings of the commercial banks
e) The Fed can increase money supply by decreasing the interest rate on the loans that the Fed makes to banks

Questions 6 and 7 are related:

6. Suppose that the original total value of stone wheels (used as money) on the Island of Yap is 1000 fei. The commercial banking system keeps reserves at exactly 10% of all deposits and no stone wheels are held in the hands of islanders. One day, an islander called Braveman discovers a new rock and chisels 10 more stone wheels, worth a total of 200 fei, out of it and then deposits those wheels in the bank. Based on this information, the original money supply on the island is______ and increases by ______ after Braveman's deposit.

a) 10,000 fei; 2,000 fei
b) 1,000 fei; 200 fei
c) 10,000 fei; 12,000 fei
d) 9,000 fei; 1,800 fei
e) 1,000 fei; 2,000 fei

7. After Braveman's deposit, by what amount will the money supply on Yap increase if the reserve ratio is decreased to 8%?

a) 1,500 fei
b) 2,000 fei
c) 2,500 fei
d) 3,000 fei
e) 3,500 fei

8. Which of the following statements about exchange rates is **INCORRECT**?

a) When purchasing power parity holds, the real exchange rate equals 1
b) When purchasing power parity holds, the nominal exchange rate equals the ratio of foreign price to domestic price
c) When purchasing power parity holds, the nominal exchange rate of dollars will be equal to the amount of foreign currency a unit of it can buy
d) When purchasing power parity holds, the ratio of the real exchange rate to the nominal exchange rate will be 1
e) None of the above (that is, all of the above statements are correct)

9. Nadia, a strange girl from rural Slovakia who gets enjoyment only from consuming widgets and nothing else, is contemplating the following vacation options:

A: A summer in Nice where widgets cost 8 Euros each
B: A summer in Toledo, Ohio where widgets cost 1 dollar each
C: A summer in Bratislava where widgets cost 2000 Koruna

The exchange rates are 4 Euro per dollar, 1,500 Koruna per dollar and 375 Koruna per Euro.

Which vacation do you recommend for Nadia?

- **a) Toledo, Ohio**
- b) Nice
- c) Bratislava
- d) She should go to London and take advantage of the arbitrage opportunities on the currency exchange since she can make money trading in Euros, Dollars and Koruna
- e) None of the above

10. All else equal, tighter monetary policy (whereby the supply of money in the economy is increased more slowly over time) in the long run open economy model must

- a) Increase inflation and raise the equilibrium real interest rate and real exchange rate.
- b) Increase inflation and the nominal interest rate.
- c) Decrease inflation and lower real interest rate and real exchange rate.
- **d) Decrease inflation and the nominal interest rate.**
- e) None of the above.

11. New concern about the future of their country causes the citizens of the Square Republic to put their savings into US dollars instead of the local currency (which is referred to as 'capital flight' from Square Republic). Which of the following statements is true?

I. Capital flight from the Square Republic will reduce the equilibrium real interest rate there.
II. Capital flight will imply that net exports are lower in the Square Republic because investment and hence output fall.
III. Capital flight will cause real depreciation of the Republic's currency.

a) I only
b) II only
c) III only
d) I, II and III
e) None of the above.

12. Suppose US citizens experience a sudden burst of caution and permanently increase their marginal propensity to save. In the long run open economy model, all else being equal, this would

I. Lower the real interest rate and depreciate the real exchange rate in the US.
II. Decrease US consumption of foreign and domestic goods and cause NX to rise.
III. Increase domestic investment in the US economy and cause foreign portfolio investment into the US to fall.

a) I only
b) II only
c) III only
d) All of I, II, and III
e) None of I, II, and III

13. Nadia, a Slovakian citizen, purchases a new Volkswagon from Germany using Slovakian currency. The German automaker then holds the Slovakian currency in a Slovakian bank. This transaction has which of the following implications for national accounting purposes?

I. An increase in Slovakia's Net Foreign Investment
II. An increase in Germany's Foreign Portfolio Investment
III. A decrease in Slovakia's Foreign Direct Investment

a) I only
b) II only
c) III only
d) I and II
e) I and III

14. Which of the following is generally **NOT** considered a cost of inflation?

a) Transaction costs associated with the need to update prices
b) Transaction costs associated with the need to visit the bank regularly
c) The misallocation of resources
d) The inability to purchase previously cheaper goods
e) Inflation induced tax distortion

15. Countries A and B are currently identical. If the citizens of country A suddenly decide to save a greater portion of their earnings, which of the following will most likely be true in the long run?

a) Country A will have a higher growth rate
b) Country A will have a higher GDP per capita
c) Country A will have both a higher GDP per capita and a higher growth rate
d) Country A and Country B will eventually have the same GDP per capita
e) None of the above

16. The government of Slovakia is contemplating an increase in the minimum wage in the widget manufacturing industry, the only industry in the country. The proposed minimum wage is $1 less than the current equilibrium wage of $8 per hour. This proposed regulation would

a) Increase frictional unemployment
b) Increase structural unemployment
c) Increase the natural rate of unemployment
d) Increase cyclical unemployment
e) None of the above

17. From 2004 to 2005, how did US exports and imports change?

a) Exports and imports both fell, with exports falling by more than imports.
b) Exports fell and imports rose.
c) Exports rose and imports fell.
d) Exports and imports both rose, with imports rising by more than exports.
e) We don't know. The US does not report data on exports and imports separately.

18. According to the assigned news article about Ben Bernanke's appearance before Congress, the new chair of the Fed differs from his predecessor Alan Greenspan by

a) Speaking more clearly about monetary policy
b) Being more willing to discuss the budget deficit
c) Reversing Greenspan's position on fighting inflation
d) Reversing Greenspan's position on unemployment
e) Being more willing to criticize President Bush

19. If a person holds two jobs, under what circumstances will the Bureau of Labor Statistics count them as two employed persons?

a) If they are mentally ill with multiple personality disorder.
b) If both jobs are for more than 30 hours a week.
c) If both jobs are unionized.
d) If each of the two employers is unaware of the other.
e) A person would not be double counted under any circumstance.

20. In years when the US trade deficit has increased, it has usually been the case that US income and employment were ____________. The reason for this is that ______________________________.

a) Decreasing; rising imports destroy jobs.
b) Decreasing; imports contribute negatively to GDP.
c) Increasing; people import more as their incomes rise.
d) Increasing; the trade deficit permits greater lending to foreigners.
e) Moving in opposite directions; trade permits production without employing labor.

21. Suppose that the British government has issued a perpetuity that pays interest of £90 per year and that the exchange rate between the US dollar and the British pound is \$1 = £0.5. If the nominal interest rate in the U.K. is 3%, how much would an American have to pay, in US dollars, for one of these perpetuities?

a) \$175
b) \$540
c) \$1500
d) \$3000
e) \$6000

22. In the years since 1960, which of the following has been true of the "twin deficits" of the United States, measured as a percent of US GDP?

a) The trade deficit is now larger than it has been in any of the last 40 years.
b) The government has run a budget deficit every year since 1980.
c) The budget and trade deficits have always moved, year to year, in the same direction.
d) The budget deficit is now larger than it has been in any of the last 40 years.
e) The twin deficits both disappeared after 2001.

23. Which of the following would cause a rightward shift in the long-run aggregate supply curve?

a) An increase in the labor force.
b) An increase in the stock of physical capital.
c) An increase in the stock of human capital.
d) An improvement in technology.
e) All of the above.

24. Which of the following, considered alone, contributes most to US GDP in 2006? (All actions take place in 2006 unless stated otherwise.)

a) I buy a Mercedes car for $60,000 from an Ann Arbor dealer who has imported it from Germany for $40,000.
b) I give my 14-year-old grandson in Florida a gift of $50,000, for him to use later to pay for college.
c) I spend $10,000 building a machine that will produce economic forecasts that I will begin selling in 2007.
d) I borrow $80,000 from my friend Paul to pay off the credit card debts I accumulated in previous years.
e) I buy pizza from Cottage Inn for all of my students in Econ 102, at a cost of $1000.

25. Why is the paper currency issued by the U.S. government valuable for you to have?

a) Because the U.S. government will give you gold in exchange for it.
b) Because other people and businesses in the U.S. accept it in exchange for goods and services
c) Because you can convert it to U.S. coins, the metal in which is worth at least the face value of the coins.
d) Because the U.S. government guarantees that you can exchange dollars for euros and other foreign currencies at specified rates of exchange.
e) All of the above.

26. The following is price information about Country A;

Item	Price in 2005	Price in 2006
UGG boots (per pair)	$100	$110
Northface puffy coat	$250	$300
Jeans	$150	$150

The consumption basket in Country A is 2 pairs of UGG boots, 1 Northface puffy coat and 3 jeans.

If employers in Country A use the CPI to measure inflation and would like to increase wages in order to allow their employees to maintain the same level of real income in 2005 and 2006, how much of a wage increase must they award to employees?

a) 5.2%
b) 7.8%
c) 10.3%
d) 12.0%
e) Cannot tell from information provided

Short Answer Questions:

1. [10 points] Suppose initially that banks always try to hold reserves equal to exactly 16% of their deposits, lending out the rest, and that the public never holds cash (that is, they use only bank deposits as money). Initially the banking system is in equilibrium with reserves of $1 million.

   a. (3 points) How big is the money supply in this equilibrium, and what (and how much) are the collective assets (reserves and loans) and liabilities (deposits) of the commercial banks?
   The money multiplier is 1/0.16 = 6.25, so the money supply is $6.25 million. This is also the amount of demand deposits, since that is the only form in which the public holds money, and these are the liabilities of the commercial banks. Their assets are the $1 million in reserves and the remaining $5.25 million in outstanding loans.

   b. (4 points) Suppose now that the central bank conducts an open market operation, selling $100,000 worth of government bonds to the public. The public pays by checks drawn on commercial banks, which in turn transfer $100,000 of their reserves to the central bank. Before any further adjustment takes place, what are now the deposits and reserves of the banks, and how does their level of reserves compare to their target of 16%? How will they respond to this situation?
   The banks have now experienced a fall in both their deposits and their reserves of $100,000, to $900,000 of reserves and $6.15 million of deposits. Their target level of reserves is .16*6.15 million = $984,000, so they have an $84,000 shortage of reserves. They will respond by reducing their loans.

   c. (3 points) Once a new equilibrium is reached in the banking system, with banks having their target level of reserves, what will be the new money supply and the levels of reserves, deposits, and loans?
   Reserves are now $900,000, and they will not change with the behavior of the banks (they are controlled by the central bank). Using the money multiplier, the new equilibrium level of deposits is 6.25*900,000 = $5,625,000, and the loans must have been reduced to 5,625,000 – 900,000 = $4,725,000.

2. (4 points) Consider the following information about countries A and B:

Country	Nominal Interest Rate	Money Supply in Year 1	Velocity	Real GDP in Year 1	Growth Rate of Money Supply	Growth Rate of Real GDP
A	2%	1,000	10	20,000	10%	10%
B	10%	2,000	8	32,000	10%	1%

Assume that the nominal interest rate and the velocity of money are both constant.
Each country produces a single good.
Residents of one country cannot invest or lend in the other country.

a) What is the price level of the single good produced in each country in Year 1? (2 pts)

From MV=PY, P=MV/Y. Thus:

A: 1000*10/20,000 = 0.5

B: 2000*8/32000 = 0.5

b) What are the real rates of interest in the two countries? (2 pts)

Since velocity is constant, $g_P = g_M - g_Y$

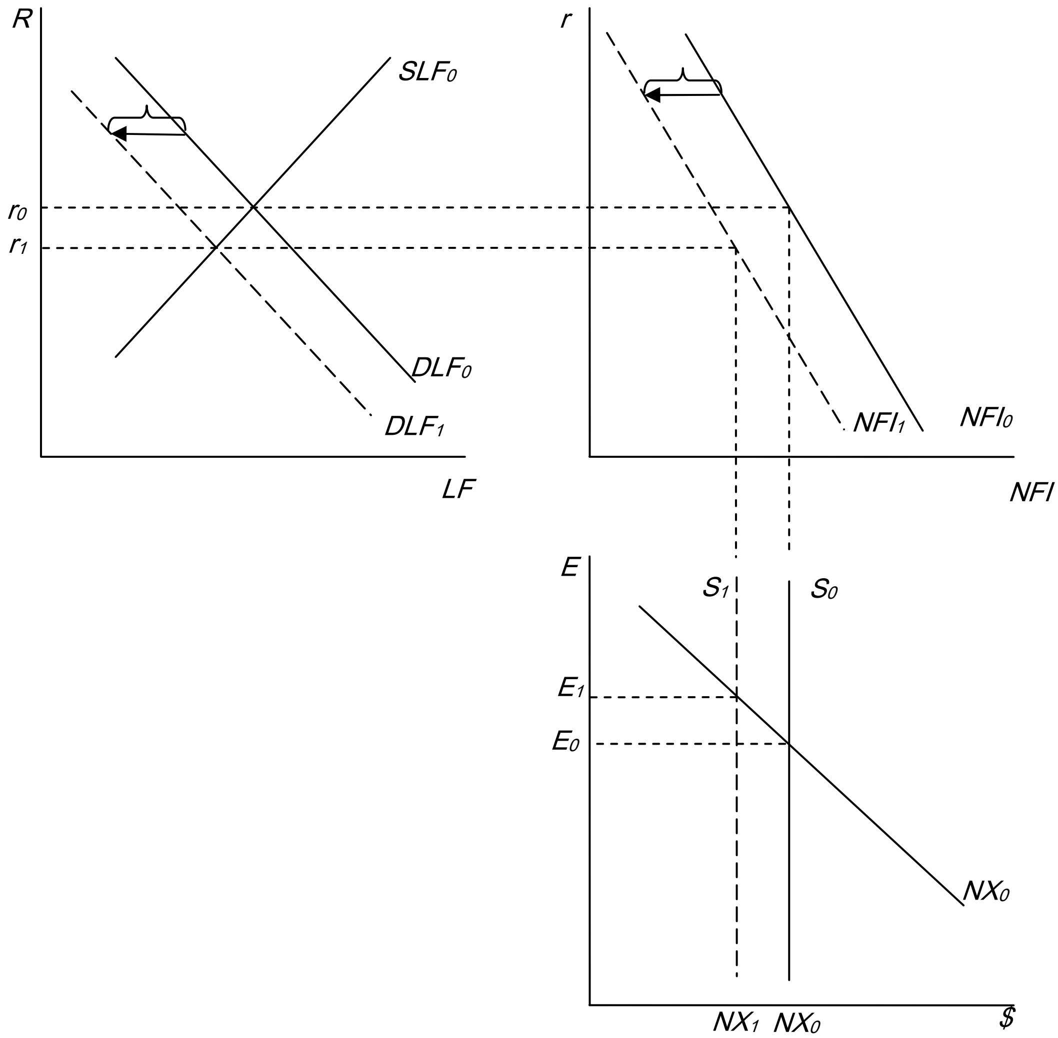
Also, the real rate of interest is the nominal rate minus the rate of inflation, g_P.

Thus:

A: 2% – (10% – 10%) = 2%

B: 10% – (10% – 1%) = 1%

3. (6 points) Use the graphs of Mankiw's Open Economy Model, shown below, to find the effects of a "capital inflow." That is, suppose that foreigners decide to increase the amounts that they will lend to the domestic economy, for any give level



of the real interest rate there. Show how this will shift any curve or curves in the figures, and from that determine the direction of the effect of this on the following (circle the correct choices below):

The domestic real interest rate	Increase	Decrease	No change
Domestic investment	Increase	Decrease	No change
Net exports	Increase	Decrease	No change
Real exchange rate	Appreciate	Depreciate	No change