Directions

1. There are two parts to the exam. The first part consists of multiple choice and short answer questions. The first 25 questions are worth 2 points each; the next 20 are worth 3 points each (110 points total). All of your answers to the first 45 questions go on the answer sheet attached to the end of the exam. The second part of the exam consists of short essay problems worth 25 points. There is space provided after each question for the second part of the exam. No credit will be given for answers that are misplaced.

2. You may use a calculator.

3. You have until the end of the period to finish the exam. No extra time will be allowed.

4. Academic dishonesty is a serious offense. In the event I found someone behaving in a dishonest manner, I will ask that the maximum penalty allowed by the university be imposed.
2 point questions:

Use the equation of exchange to answer the next 2 questions.
1. Holding the velocity of money and real GDP constant, if the money supply increases 10 percent prices will
   a. increase 10%
   b. increase less than 10%
   c. decrease less than 10%
   d. decrease 10%.

2. If the money supply and the velocity of money are unchanged, a 5% increase in real GDP will cause:
   a. a 5% decrease in prices.
   b. a 5% increase in prices.
   c. a 5% increase in nominal GDP.
   d. a 5% decrease in nominal GDP.

3. If the nominal interest rate rises 5% and the inflation rate rises 4%, the real interest rate will
   a. rise 1%
   b. fall 1%.
   c. rise 9%.
   d. fall 9%

4. If the one-year nominal interest rate is 10% and inflation is expected to be 6% over the next year, the expected real interest rate is ______.
   a. 16%
   b. 12%
   c. 4%
   d. -4%.

5. If everyone expects inflation to be 10% over the next year and the Federal Reserve suddenly decreases inflation well below that rate,
   a. lenders will win and borrowers will lose.
   b. lenders will lose and borrowers will win.
   c. both lenders and borrowers will lose.
   d. both lenders and borrowers will win.

To answer the next 2 questions, suppose that you purchase a one year indexed bond for $1000. It has a purchase price of $1000 and a coupon rate of 3%. If inflation over the next year is 6%, (round your answers to the nearest tenth of a percent, e.g. 3.1%)

6. the nominal return on this bond will be _____.
7. the real return on this bond will be _____.
8. An indexed bond is intended to keep the *(real, nominal)* return on the bond fixed.
   a. real
   b. nominal

9. If bond investors become convinced that inflation will be lower next year than they previously believed, the price of non-indexed bonds should *(rise, fall)* and their nominal yield should *(rise, fall)*.
   a. rise; rise.
   b. rise; fall
   c. fall; rise.
   d. fall; fall.

10. In a fully indexed income tax system, if there is 10% inflation over the next year, *nominal* tax revenues should
    a. increase 10%.
    b. increase more than 10%.
    c. increase, but less than 10%.
    d. not change.

11. During the Great Depression there were many bank runs and bank failures. What government agency was established in the 1930s to stop the problem with bank runs? __________.

12. The interest that the Fed charges member banks for a loan of reserves is called the _____ rate.

13. The interest rate that banks charge each other for loans of reserves is called the _____ rate.

14. Who is the chair of the Federal Reserve system?

15. How many districts are there in the Federal Reserve system?

If the Fed wants to increase the money supply, it should
16. *(increase, decrease)* the discount rate.
17. *(buy, sell)* government securities.
18. *(raise, lower)* the required reserve ratio.

Indicate whether each of the following will increase or decrease aggregate demand (Just put I for increase or D for decrease).
19. A cut in personal income taxes.
20. An increase in the money supply.
21. A recession in countries that we trade with.
22. Workers begin to worry that a recession is coming and they may lose their jobs.
Indicate whether each of the following will increase (I), decrease (D), or not affect (N) the long run aggregate supply curve.
23. An increase in the amount of capital or labor in the economy.
24. An increase in the money supply.
25. The first U.S. president to significantly promote “supply side economics” was President

3 point questions.

To answer the questions that follow, assume that the banking system starts with the following "base case" balance sheet and that
* the public initially holds $10 billion of cash outside the bank.
* the reserve ratio is 20%
* banks always loan out excess reserves.

**BALANCE SHEET (All figures are in billions of $)**

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26. The monetary base is $_______ billion and M1 is $_______ billion.
27. Reserves are $_______ billion.

Suppose the reserve ratio is cut from 20 to 10 percent.
28. before the banking system adjusts to the change, required reserves will become $______ billion.
29. the bank system will eventually *(increase, decrease)* loans by $______ billion.
30. M1 will *(increase, decrease)* by $______ billion.

31. If the Federal Reserve purchases $20 billion in government securities and the required reserve ratio is 10%, M1 will *(increase, decrease)* by $______ billion.

32. If the required reserve ratio is 10% and the public chooses to hold $1 billion less as cash and deposits the money into a demand deposit, M1 will *(increase, decrease)* by $______ billion.

33. As the require reserve ratio increases, a Fed purchase of government bonds will cause the money supply to _____.
   a. increase more.
   b. increase less.
   c. decrease more.
   d. decrease less.
To answer the next 3 questions, consider the diagram below.

Suppose that the economy is at the point A in the above diagram.
34. At A, the economy’s unemployment rate is (above, below) the natural rate and there is (upward, downward) pressure on real wages.
   a. above; upward.
   b. above; downward.
   c. below; upward.
   d. below; downward.

35. In the long run, the economy’s price level will (rise, fall) and output will (rise, fall).
   a. rise; fall
   b. rise; rise.
   c. fall; rise.
   d. fall; fall.

36. Starting at A, in the long run the economy will return to equilibrium as
   a. SRAS shifts left and AD remains stable.
   b. SRAS shifts right and AD remains stable.
   c. SRAS remains stable and AD shifts right.
   d. SRAS remains stable and AD shifts left.
Suppose the economy is initially at the point B in the above diagram. Because of a recession in Europe, suppose that the demand for U.S. exports decreases.

37. The short run effect of this decreased demand for U.S. exports is that prices in the U.S. will _____ and the U.S. unemployment rate will ______.
   a. increase; increase.
   b. increase; fall
   c. decrease; rise.
   d. decrease; fall.

38. Compared to the starting point at B (i.e. before the demand for U.S. exports fell), in the long run this decrease in the demand for U.S. exports will _____ the unemployment rate and ____ the level of output.
   a. decrease; increase.
   b. not change; increase.
   c. decrease; not change.
   d. not change; not change.

39. If the Federal Reserve wanted to offset the effect of the European recession on the U.S. economy, it would be best for the Fed to:
   a. increase the money supply since that would lower interest rates and increase aggregate demand.
   b. increase the money supply since that would raise interest rates and decrease aggregate demand.
   c. decrease the money supply since that would lower interest rates and increase aggregate demand.
   d. decrease the money supply since that would raise interest rates and decrease aggregate demand.
To answer the next 3 questions, suppose that the economy is faced with the short run (SRPC) and long run (LRPC) Phillips curves drawn below.

40. Based upon the above short run Phillips curve, if the Federal Reserve adjusted its monetary policy to create inflation of inflation 4% over the next year, the unemployment rate will be (above, below) the natural rate. This will eventually put (upward, downward) pressure on real wages.
   a. above; upward.
   b. above; downward.
   c. below; upward.
   d. below; downward.

41. According to the above Phillips curves, if the Federal Reserve adjusted its monetary policy to create inflation of 8%, in the short run we should expect real wages to (rise, fall) and real GDP to (rise, fall).
   a. rise; fall.
   b. rise; rise.
   c. fall; rise.
   d. fall; fall.

42. According to the above Phillips curves, people currently expect inflation to be ____ percent. If inflation expectations change to 4 percent, the SRPC would shift (right, left).
   a. 3; right
   b. 3; left.
   c. 5; right.
   d. 5; left.
To answer the next two questions, suppose that the Federal Reserve increases the money supply.

43. In the short run, this will cause interest rates to (rise, fall) and aggregate demand to (rise, fall).
   a. rise; fall.
   b. rise; rise.
   c. fall; rise.
   d. fall; fall

44. As the economy moves from the new short run equilibrium to the long run equilibrium, prices will (rise, fall) and real interest rates will (rise, fall).
   a. rise; fall.
   b. rise; rise.
   c. fall; rise.
   d. fall; fall

45. If the price level in the U.S. doubles, U.S. net exports are likely to (fall, rise) if exchange rates are fixed. However, if exchange rates are flexible, net exports would stay the same if the number of U.S. dollars per unit of foreign currency was (doubled, halved).
   a. fall; doubled.
   b. fall; halved.
   c. rise; doubled.
   d. rise; halved.
Short answers.

Here is a quote from the 4/7/97 *Fortune* magazine:

“The Fed's next move will depend on its perception of economic growth. Any sign of excessive growth, which can lead to higher prices down the road or tightness in the labor market (which leads to higher prices), will almost assuredly contribute to more (interest) rate hikes.”

1a. (4 pts) Draw an AS/AD diagram where the economy is at a short run equilibrium which reflects earlier “excessive growth”. (Include both long run and short run AS curves in your diagram).

1b. (5 pts) On the basis of the above diagram, how will this excessive growth will lead to higher prices “down the road” (i.e. what changes occur in the above diagram in the long run and WHY)?

1c. (5 pts) Explain why an increase in interest rates would help reduce these inflationary pressures.
2. (5 pts) Another quote from the same Fortune magazine article:

"The unemployment rate is a direct measure of pressures in the labor market," notes Frederick Breimyer, the chief economist at State Street Bank. The Fed, he points out, thinks an acceptable level is 5.25% to 5.5%.

Since unemployment is generally not viewed as a good thing, why does the Fed think that an unemployment rate below the 5.25 to 5.5% range is “unacceptable”?

3. (6 pts) With “supply side” economics, the objective is to increase long run aggregate supply. Name two policies that might be effective at achieving this objective and indicate why they might be successful.
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