Practice Final Exam

Part I: Multiple Choice (20 points)

1. For movements along the long-run aggregate supply curve

   A. the price level and the money wage rate change by the same percentage.
   B. the prices of goods and services change while the prices of productive resources remains constant.
   C. the price level changes while the money wage rate remains constant.
   D. the price level and the real wage rate change by the same percentage.

2. A typical business cycle can be described by the sequence.

   A. Expansion, recession, peak, trough
   B. Expansion, trough, peak, recession
   C. Expansion, peak, recession, trough
   D. expansion, trough, recession, peak

3. A major characteristic of structural unemployment that differentiates it from frictional unemployment is that structural unemployment

   A. exists only during a recession.
   B. usually lasts longer than frictional unemployment.
   C. is a short-term problem.
   D. exists in an expansion whereas there is no frictional unemployment in an expansion.

4. A discretionary fiscal policy is a fiscal policy that

   A. is triggered by the state of the economy.
   B. involves a change in government defense spending.
   C. requires action by the Congress.
   D. involves a change in corporate tax rates.

5. Which of the following will NOT shift the consumption function upward?

   A. an increase in disposable income
   B. an increase in wealth
   C. a fall in the real interest rate
   D. an increase in price

6. During the financial crisis of 2008-2009, the Fed was concerned about

   A. the bubble that was forcing asset prices higher.
   B. keeping the federal funds rate from falling too far.
   C. providing the banking system with enough liquidity.
   D. the public's rush to deposit its currency into banks.

7. When autonomous expenditure changes, the horizontal distance by which the aggregate demand curve shifts

   A. depends on the size of the wealth effect.
   B. is increased by the existence of automatic stabilizers.
   C. is determined by the inverse of the multiplier.
   D. depends on the size of the multiplier.

8. In the short run, the Federal Reserve faces a tradeoff between

   A. economic growth and employment.
   B. inflation and real GDP.

C. interest rates and unemployment.
D. inflation and price stability.

9. Suppose prices are quoted in dollars and transactions are conducted in pesos. The peso serves as a

   A. medium of exchange.
   B. unit of account.
   C. store of value.
   D. all of the above

10. Which of the following are included in the expenditure approach to calculating GDP?

    A. Government expenditure; consumption expenditure; net exports of goods and services
    B. Net exports of goods and services; net interest; net domestic income at factor cost
    C. Consumption expenditure; net exports of goods and services; depreciation
    D. Government expenditure; Consumption expenditure; net interest

11. If the demand for reserves is unchanged, an increase in the quantity of reserves will

    A. not affect the federal funds rate.
    B. increase the federal funds rate.
    C. lower the federal funds rate.
    D. None of the above answers is correct.

12. Pooling of risk occurs when depository institutions

    A. lend to a variety of different borrowers.
    B. specialize in loaning only to good borrowers.
    C. make assets more liquid.
    D. bring lenders together.

13. Fiscal policy

    A. involves changing taxes and government spending.
    B. involves changing interest rates.
    C. is enacted by the Federal Reserve.
    D. involves changing the money supply.

14. Federal Reserve policy tools include all of the following EXCEPT

    A. last resort loans.
    B. open market operations.
    C. required reserve ratios.
    D. excess reserve ratios.

15. Which of the following is one of the Fed's policy goals?

    A. price level stability
    B. exchange rate stability
    C. zero unemployment
    D. monetary base maximization

Part II. Fill-in-the-Blank (30 points, 3 points each)

Pick 10 (you can not get more than 30 points).

1. Creating liquidity/pooling risk/lowering the cost of borrowing/lowering the cost of monitoring borrowers is one of the economic benefits provided by the depository institutions.
2. Venezuela/North Korea/Ukraine/South Sudan/Syria is a country that currently has one of the highest inflation rates in the world.
3. Institutions hypothesis suggests that differences in the way societies organize themselves and shape the incentives of individuals and businesses are ultimately responsible for the large differences in prosperity observed around the globe.
4. The market that determines the real interest rate and the quantity of funds loaned is called loanable funds market.
5. The equation $Y = C + I + G + NX$ is called the accounting identity.
6. The decrease of aggregate demand after a rise in the price level happens because of the intertemporal substitution effect.
7. The amount by which a change in the autonomous expenditure changed the equilibrium real GDP is called the expenditure multiplier.
8. Productivity is the value of goods and services that a worker generates for each hour of work.
9. Contraction starts at the peak of a business cycle and ends at the trough.
10. Open market operation is a purchase/sale of government securities by the Fed from/to commercial banks or the public.
11. The funds that firms use to buy tools, instruments, machines, buildings, and other items that are used to produce goods and services are called financial capital.
12. Real GDP minus potential GDP is the output gap.

Part III. Problems (50 points)

1. (25 points, 25 minutes)

a) (5 points) In 2013, you worked 1000 hours and earned \$20 per hour. In 2014, you worked 1050 hours and earned \$22. The CPI was 200 in 2013 and 235 in 2014. What were you real 2013 wages (in 2014 dollars)?

First, calculate the nominal total wages in both years:

$$W^N_{2013} = wage\ rate \cdot hours\ worked = \$20 \cdot 1000 = \$20,000$$

$$W^N_{2014} = wage\ rate \cdot hours\ worked = \$22 \cdot 1050 = \$23,100$$

The real 2013 wages are:

$$\mathrm{W}^{2014}_{2013} = \frac{\mathrm{W}^N_{2013}}{CPI^{2013}} \cdot CPI^{2014} = \frac{\$20,000}{200} \cdot 235 = \$23,500$$

Answer: **\$23,500**

b) (4 points) What was the real income growth between the two years?

$$g^W = \frac{W^R_{2014} - W^R_{2013}}{W^R_{2013}} = \frac{\$23,100 - \$23,500}{\$20,000} = \frac{\$-400}{\$20,000} = -1.70\%$$

Answer: **-1.70%**

c) (3 points) By law, you have to pay federal tax on your income. In 2014, the tax rate on nominal income was 25%. How much tax did you pay for each hour you worked in 2014?

$$\text{Tax paid per hour of work} = \text{wage rate} \cdot \text{tax rate} = \$22 \cdot 0.25 = \$5.50$$

Answer: **\$5.50**

d) (5 points) What is your *real* after-tax wage rate (denote by w^{AT})?

The real after-tax wage rate is:

$$w^{AT} = \$22 - \$5.50 = \$16.50$$

Answer: **\$16.50**

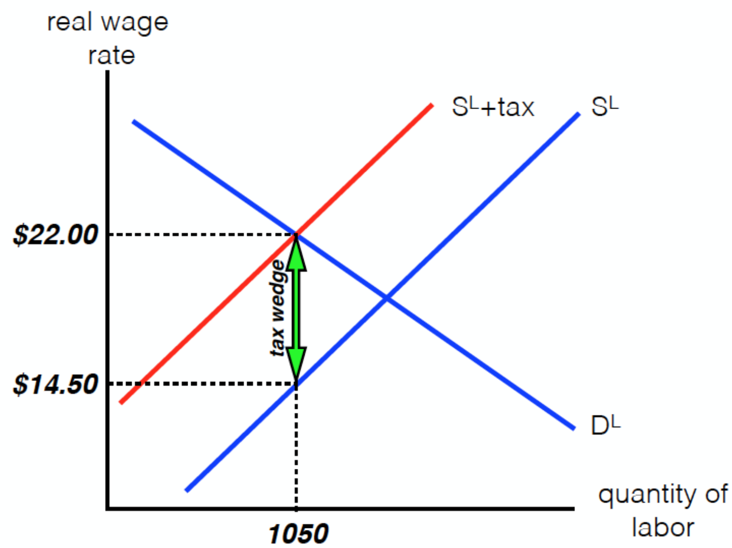
e) (3 points) What is your tax wedge?

The tax wedge is:

$$\text{tax wedge} = w^{BT} - w^{AT} = \$22 - \$16.50 = \$5.50$$

Answer: **\$5.50**

f) (5 points) Using the numbers you found above, complete the graph for the labor market below, assuming you are the only supplier of labor hours. The demand for labor is independent from the tax rate on wages, but supply does depend on the tax rate. ***Clearly mark the tax wedge and all the relevant numbers.*** *Label every curve.*



INSTEAD OF \$14.50, IT SHOULD BE \$16.50 IN THE ABOVE FIGURE.

2. (25 points, 25 minutes) Consider a country with one bank, one household, and a Central Bank. The balance sheet items for each entity on 01/01/2012 are described below.

The Fed has:

- $10,000 in T-bills
- $21,500 in T-notes

The bank has:

- $50,000 in T-bills
- $1,000 in cash (notes only)
- deposit account at the Fed with $30,000 in it

The household:

- a deposit account at the bank with $5,000 in it
- $500 in cash

a) (5 points) Construct balance sheets for the Fed, the bank, and the firm on 01/01/2012.

The central bank:

Assets		Liabilities	
Item	*value*	*Item*	*value*
T-bills	$10,000	Bank's deposits	$30,000
T-notes	$21,500	Currency	$1,500
Total assets	$31,500	Total liabilities	$31,500

The bank:

Assets		Liabilities	
Item	*value*	*Item*	*value*
T-bills	$50,000	HH deposits	$5,000
Deposits at the Fed	$30,000		
Cash	$1,000		
Total assets	$81,000	Total liabilities	$5,000

The household:

Assets		Liabilities	
Item	*value*	*Item*	*value*
Deposits at the bank	$5,000		
Cash	$500		
Total assets	$5,500	Total liabilities	$0

b) (4 points) The required reserve ratio (RR) is 15%. What are the bank's excess reserves?

Total reserves = Cash + Deposits at the Fed = $1,000 + $30,000 = $31,000

Required reserves = RR $\cdot$HH deposits = $0.15 \cdot \$5,000 = \$750$

Excess reserves = Total reserves - Required reserves = $31,000 - $750 = $30,250

Answer: **$30,250**

c) (4 points) The household wants to buy a car that costs $40,000. Since the household doesn't have this much money on hand, it has to take a loan from the bank. How much money does the central bank need to inject in the economy so the bank can provide such a loan to the firm?

The available loanable funds from the bank are the bank's excess reserves. The bank currently has $30,250 available to lend. Since the household needs to borrow $40,000, the Fed has to increase the bank's excess reserves by $9,750.

Answer: **$9,750**

d) (5 points) On 01/02/2012 The central bank proceeds with buying the required number of securities (the number you found in part c) from the bank. **When it buys securities from the bank, it pays to the bank in cash.** Construct the balance sheets for the central bank, the bank, and the firm on 01/02/2012.

The central bank:

Assets		Liabilities	
Item	*value*	*Item*	*value*
T-bills	$19,750	Bank's deposits	$30,000
T-notes	$21,500	Currency	$11,250
Total assets	$41,250	Total liabilities	$41,250

The bank:

Assets		Liabilities	
Item	*value*	*Item*	*value*
T-bills	$40,250	HH deposits	$5,000
Deposits at the Fed	$30,000		
Cash	$10,750		
Total assets	$81,000	Total liabilities	$5,000

The household:

Assets		Liabilities	
Item	*value*	*Item*	*value*
Deposits at the bank	$5,000		
Cash	$500		
Total assets	$5,500	Total liabilities	$0

e) (5 points) On the next day, the household comes to the bank to apply for the loan. The loan officer at the bank approves the application. The household immediately gets a loan for the required amount in cash. Construct the balance sheets for the central bank, the bank, and the household on 01/03/2012. Assume that the household doesn't buy the car until a week later.

The central bank:

Assets		Liabilities	
Item	*value*	*Item*	*value*
T-bills	$19,750	Bank's deposits	$0
T-notes	$21,500	Currency	$41,500
Total assets	$41,500	Total liabilities	$41,500

The bank:

Assets		Liabilities	
Item	*value*	*Item*	*value*
T-bills	$40,250	HH deposits	$5,000
Deposits at the Fed	$0		
Cash	$750		
Car loan	$40,000		
Total assets	$81,000	Total liabilities	$5,000

The household:

Assets		Liabilities	
Item	*value*	*Item*	*value*
Deposits at the bank	$5,000	Cal loan	$40,000
Cash	$40,500		
Total assets	$45,500	Total liabilities	$40,000

f) (2 points) What are the bank's excess reserves on 01/03/2015?

Excess reserves = Total reserves - Required reserves = $750 - $750 = $0

Answer: **$0**

Extra Practice Questions

1. CPI stands for Consumer Price Index.

2. The stock of business structures and equipment used for production is called physical capital.

3. Labor force participation rate is the percentage of the working age population that is either employed or unemployed.

4. One of the reasons why potential GDP increases is advance in technology/increase in the FE quantity of labor/ increase in the quantity of capital.

5. The interest rate at which banks borrow/lend overnight from/to other banks is called the Federal funds rate.

6. An inflation that starts with an increase in input prices is called the cost-push inflation.

1. If you use $500 of currency to purchase a saving deposit,

   A. M1 decreases and M2 increases.
   B. M1 decreases, but M2 is unchanged.
   C. M1 and M2 both increase.
   D. M1 is unchanged, but M2 increases.

2. Depository institution create liquidity when they

   A. have liabilities that are illiquid.
   B. buy assets that are liquid.
   C. borrow long and lend short.
   D. borrow short and lend long.

3. Which of the following statements is correct?

   A. Actual aggregate expenditures does not always equal real GDP.
   B. Planned investment exceeds actual investment when real GDP is greater than aggregate planned expenditures.
   C. Actual investment exceeds planned investment when real GDP is less than aggregate planned expenditures.
   D. None of the above is correct.

4. As the price level falls, the quantity of real wealth _____ and the aggregate quantity of real GDP demanded _____.

   A. increases; increases
   B. decreases; increases
   C. decreases; decreases
   D. increases; decreases

5. Catherine quit her job in order to look for a new one; therefore, she is best considered as

   A. seasonally unemployed.
   B. frictionally unemployed.
   C. cyclically unemployed.
   D. structurally unemployed.

6. When you bought your textbook for this course, you were using money as a

   A. unit of account.
   B. medium of exchange.
   C. store of value.
   D. price mechanism.

7. Choose the statement that is incorrect.

   A. By measuring the standard of living by using real GDP per person we remove any influence from rising prices.
   B. Real GDP per person fluctuates around potential GDP per person
   C. Real GDP per person grows at a constant rate.
   D. We can compare the standard of living over time by calculating real GDP per person in different years.

8. Checks are NOT money because they

   A. are not backed by either gold or silver.
   B. have value in exchange but little intrinsic value.
   C. are merely instructions to transfer money.
   D. are issued by banks, not by the government.

9. Examples of thrift institutions include

   A. commercial banks, savings and loan associations, and insurance companies.
   B. money market mutual funds, commercial banks, and credit unions.
   C. savings and loan associations, savings banks, and credit unions.
   D. savings deposits and checking deposits.

10. In 2012 the Fed announced hat it would purchase $40 billion of mortgage securities per month. These purchases shifted the _____ reserves curve _____.

    A. supply of; leftward
    B. supply of; rightward
    C. demand for; rightward
    D. demand for; leftward

11. Which of the following is NOT an asset of the Federal Reserve?

    A. loans to depository institutions
    B. Federal Reserve notes
    C. government securities
    D. None of the above are correct because they are all assets of the Federal Reserve