Review Problems II
Friday November 12
(you do not have to turn it in – it will be explained in the section)

I. Multiple Choice Questions
Choose the one alternative that best completes the statement or answers the question.

1) An individual is considered unemployed if he or she:
A) works only part-time.
B) works full-time in a family business.
C) is not working and is not looking for work.
D) all of the above
E) none of the above

2) The reservation wage is:
A) the wage that an employer must pay workers to reduce turnover to a reasonable level.
B) the wage that ensures a laid-off individual will wait for re-hire, rather than find another job.
C) the wage that would make an individual indifferent between working or not working.
D) the wage offer that will end a labor-strike.
E) the bribe that must be paid to a maitre d’ when you want a table but did not call in advance.

3) Efficiency wage theory suggests that:
A) workers will be paid more than their reservation wage.
B) productivity might drop if the wage rate is too high.
C) the government can only set tax rates so high before people will prefer not to work.
D) unskilled workers will have a lower turnover rate than skilled workers.
E) firms will be more resistant to wage increases as the labor market tightens.

4) In the wage-setting relation, the nominal wage falls when:
A) the price level falls.
B) the unemployment rate falls.
C) unemployment benefits increase.
D) the minimum wage increases.
E) all of the above

5) The natural rate of unemployment is the rate of unemployment:
A) that occurs when the money market is in equilibrium.
B) where the markup of prices over costs is zero.
C) where the markup of prices over costs is equal to its historical value.
D) that occurs when both the goods and financial markets are in equilibrium.
E) consistent with both the wage-setting and price-setting equations.
6) The aggregate demand curve will shift to the right when which of the following occurs?
A) a decrease in the money supply
B) a reduction in consumer confidence
C) a rise in the price level
D) a decrease in taxes
E) a decrease in the price level

7) "Money is neutral" means that a change in the money supply:
A) will make society neither more nor less moral than it was before.
B) will not change output in the short run.
C) will not change output in the medium run.
D) will not change the price level in the short run.
E) will not change the price level in the medium run.

8) An increase in government spending will, in the medium run, cause no change in:
A) unemployment.
B) the interest rate.
C) the price level.
D) all of the above
E) none of the above

9) Suppose there is a reduction in the price of oil. This change in the price of oil will cause which of the following in the medium run?
A) a decrease in output
B) an increase in the price level
C) an increase in the interest rate
D) all of the above
E) none of the above

10) The aggregate supply curve will shift north west when which of the following occurs?
A) a decrease in the money supply.
B) a reduction in z (in the WS relation)
C) a rise in the price level
D) an increase in the mark-up
E) a decrease in the price level

Key:   E C A A E
D C A E D
II. Problems

1. AS-AD problem

During the mid eighties, the price of oil in the United States fell. Assume that the economy was originally at its long run equilibrium $Y_n^e$. (Use the model of chapter 7 to answer this question)

a. Show on the price setting/wage setting graph the effect of this reduction on the real wage and on the natural rate of unemployment $u_n$. Name the axes and the two curves and show the shifts, if any, of the relevant curve or curves.

What happens to the markup $\mu$? increases decreases stays the same
What happens to the coefficient $z$? increases decreases stays the same
(positive effects on the wage setting equation)
What happens to the natural rate of unemployment $u_n$? increases decreases stays the same
What happens to the real wage? increases decreases stays the same
(underline the correct answer)

b. Now use the AD/AS graph and the IS/LM graph to illustrate the short run and medium run effects of the reduction in the price of oil. Name the axes and the curves and show the shifts, if any, of the relevant curve or curves. (use the subscript SR for the short run shifts and the subscript MR for the medium run shifts and use arrows to illustrate the direction of the shifts)
**In the short run**

What happens to output? increases decreases stays the same

What happens to the price level? increases decreases stays the same

What happens to the rate of interest? increases decreases stays the same

**In the medium run** *(from short run to medium run equilibrium)*

What happens to output? increases decreases stays the same

What happens to the price level? increases decreases stays the same

What happens to the rate of interest? increases decreases stays the same

(underline the correct answer)
2. Monetary policy in the medium run

Use the following IS-LM model to calculate the effect on various aggregates of an increase in the money supply.

- Consumption: \( C = 100 + 0.66Y_D \)
- Investment: \( I = 800 - 16.66i \)
- Tax: \( T = 600 \)
- Government expenditure: \( G = 500 \)
- Real money demand: \( L = Y - 100i \)
- Money supply: \( M = 1200 \)
- Price level: \( P = 1 \)

\( Y \) is output, \( Y_D \) is disposable income and \( i \) is the rate of interest expressed as a percentage.

The IS curve is: \( Y = 3000 - 50i \) and the LM curve: \( i = 0.01Y - 12 \) and the short run equilibrium of the economy is \( Y = 2400 \) and \( i = 12\% \) - let’s also assume that the economy is at its medium run equilibrium level.

a. Calculate the corresponding levels of consumption, investment and the real money supply.

\[
C = \quad I = \quad M/P = \quad
\]

b. Now assume that the Fed doubles the nominal money supply. Solve the model i.e. what are the equations for the IS and the LM curves and the corresponding equilibrium values of \( Y \) and \( i \) in the short run.
IS curve: \[ Y = \text{______________} \]

LM curve: \[ i = \text{______________} \]

\[ Y = \text{______________} \quad i = \text{______________} \]

Calculate the corresponding levels of consumption, investment and the real money supply.

\[ C = \text{______________} \quad I = \text{______________} \]

\[ M/P = \text{______________} \]

c. Is the economy now

\[ \text{beyond} \quad \text{or} \quad \text{below} \]

its full employment level?

What happens to the price level in the medium run?
What is the price level consistent with the medium run equilibrium: \( P = \) \_

(note that in this model the price level is proportional to the nominal money supply)

Now solve the model i.e. what are the equations for the IS and the LM curves and the corresponding equilibrium values of \( Y \) and \( i \) in the medium run.

**IS curve:** \( Y = \) \_

**LM curve:** \( i = \) \_

\[ Y = \text{________________} \quad i = \text{________________} \]

Calculate the corresponding levels of consumption, investment and the real money supply.

\[ C = \text{________________} \quad I = \text{________________} \]
M/P = __________________

d. Compare the values of consumption and of investment in the 3 cases above i.e. the original position, the short run adjustment and the medium run adjustment.

Consumption has …

Investment has …

(Finish the sentences above.)

Is monetary policy neutral or non-neutral in the medium run