RP 1
Friday October 22
(you do not have to turn it in – it will be explained in the section)

I. **Multiple Choice Questions:**

1. Which of the following is NOT a component of consumption
   a. purchase of a new home
   b. purchase of a refrigerator
   c. housing services
   d. education services
   e. holiday cruise

2. The labor force in the United States consists of
   a. the employed.
   b. the employed and the officially unemployed.
   c. the employed, the officially unemployed, and discouraged workers.
   d. the entire population.
   e. the entire adult population.

3. The GDP deflator is
   a. the rate at which GDP declines in a recession.
   b. the GDP in one country divided by the GDP in another country.
   c. the ratio of nominal GDP to real GDP.
   d. the price of a typical consumer’s basket of goods.
   e. real GDP divided by the average wage rate.

4. When the government runs a budget deficit, we know that
   a. the country’s GDP deflator is increasing.
   b. the country’s real GDP is falling.
   c. the country is importing more than it is exporting.
   d. the government’s debt is increasing.
   e. the government is spending less than it is collecting in taxes.

5. Which of the following is an *endogenous* variable in our model of the goods market?
   a. consumption (C).
   b. disposable income (Y_D).
   c. saving (S).
   d. income (Y).
   e. all of the above.
6. Which of the following is an asset on a bank’s balance sheet?
   a. Reserves.
   b. Loans.
   c. Bonds.
   d. All of the above.
   e. None of the above.

7. Which of the following is always true in equilibrium?
   a. consumption equals saving.
   b. output equals consumption.
   c. total saving equals zero.
   d. total saving equals investment.
   e. all of the above.

8. Which of the following will cause the money supply to increase?
   a. an increase in the monetary base.
   b. a decrease in the ratio of reserves to deposits.
   c. a shift in public preferences away from currency toward checkable deposits.
   d. all of the above.
   e. none of the above.

9. When \( C = c_0 + c_1 Y_D \), an increase in \( c_0 \) will cause which of the following to increase?
   a. Equilibrium income.
   b. Equilibrium disposable income.
   c. Equilibrium saving.
   d. All of the above.
   e. None of the above.

10. The demand for money
   a. varies inversely with the interest rate.
   b. varies inversely with income.
   c. is equal to the demand for bonds.
   d. has the same absolute value, but opposite sign, as the demand for bonds.
   e. is infinite—people always want more money.

11. The LM curve tells us, for each interest rate, the level of output where
   a. the good market is in equilibrium.
   b. there is no inventory investment.
   c. output is equal to demand.
   d. all of the above.
   e. none of the above.
12. Which of the following occurs as we move rightward along the LM curve?
   a. A rise in the interest rate causes investment spending to decrease.
   b. A drop in the interest rate causes investment spending to increase.
   c. A rise in the interest rate causes the central bank to create more money.
   d. A rise in the interest rate causes the government to increase spending.
   e. A rise in the interest rate causes the demand for money to decrease.

Report your answers by circling the correct letter:

1. a b c d e 7. a b c d e
2. a b c d e 8. a b c d e
3. a b c d e 9. a b c d e
4. a b c d e 10. a b c d e
5. a b c d e 11. a b c d e
6. a b c d e 12. a b c d e

**II Problem**

Consider the following model of the goods market  (circle the correct answer when relevant)

\[
C = 200 + .75 Y_D \quad (1) \quad \text{C is consumption}
\]

\[
Y_D = Y - T \quad (2) \quad \text{Y}_D \text{ is disposable income}
\]

\[
T = 100 + .2Y \quad (3) \quad \text{T is taxes and } Y \text{ is income}
\]

\[
I = 250 - 500i \quad (4) \quad \text{I is investment}
\]

\[
G = 475 \quad (5) \quad \text{G is government spending}
\]

\[
Z = C + I + G \quad (6) \quad \text{Z is aggregate demand}
\]

\[
i = .1 \ (10\%) \quad (7) \quad \text{i is equilibrium interest}
\]
a. Calculate equilibrium income \( Y = \) ________________

b. The money demand is characterized by the following equation:

\[
M^d = 0.5Y - 1,000i \tag{8}
\]

Calculate the money supply necessary to keep this economy in equilibrium

\[ M^s = \] ________________

c. Show the IS-LM equilibrium of the economy on the graph below. Name all the axes and curves and enter the value of \( Y \) and \( i \) in equilibrium.
d. Now assume that this economy is affected by a decrease in consumer confidence: i.e. the intercept of the consumption function falls to 150 i.e. $C = 150 + .75 Y_D$.

Show the impact on the economy using the IS-LM framework below:

Name all the axes and curves and show the relevant shift(s) of the curve(s) – show the old equilibrium $i_0$ and $Y_0$ and the new equilibrium $i_1$ and $Y_1$

e. Calculate the new equilibrium Y and i for the economy. Use all the same equations as above except for the new consumption function.

i. Derive the new equation for IS (Y as a function of i):

ii. Derive the equation for LM assuming the same money supply as calculated in b. (i as a function of Y):
iii. Calculate the new equilibrium value of $Y$ and $i$ for the economy:

f. What happens to the total amount of taxes paid by the public?
   
   * increases  * decreases  * or  * stays the same

Calculate the change in tax (if relevant):

What happens to the budget surplus?

   * increases  * decreases  * or  * stays the same

Calculate the change (if relevant):

Will this form of taxation (as illustrated in equation (3))

   * amplify  * dampen  * or  * have no impact on

   the ups and downs of the economy (i.e. the business cycle)