Section I - Multiple Choice

1. You are directing the President’s economic policy. He needs a fiscal policy designed to increase (demand-side) equilibrium GDP without increasing the Federal Budget Deficit. Which one of the following would accomplish this goal?
   (a) an increase in government purchases by $100,000 to fund building new roads.
   (b) a decrease in taxes by $100,000.
   (c) an increase in taxes by $100,000.
   (d) Both (a) and (c).
   (e) No fiscal policy can increase equilibrium GDP without a larger budget deficit.

2. If both the price of cars and the overall price level in the economy doubles, then auto manufacturers should
   (a) increase the production of cars.
   (b) decrease the production of cars.
   (c) leave the production of cars unchanged.
   (d) hire less labor.

3. During the 1970s the US economy experienced both high inflation and high unemployment at the same time. Using the AD-AS model, which one of the following can explain this in the short-run?
   (a) An increase in consumer confidence.
   (b) An increase in the price of fuel and raw materials.
   (c) A huge tax cut on personal income.
   (d) None of the above.

4. Barter is a system of
   (a) trade without the use of money.
   (b) trading one good for another.
   (c) the double coincidence of wants.
   (d) All of the above are correct.

5. Which one of the following is considered part of the M1 money supply?
   (a) Currency.
   (b) Checking Accounts.
   (c) A Stock Account.
   (d) Both (a) and (b).
   (e) Both (b) and (c).
6. Which one of the following would shift the aggregate demand curve to the left?
   (a) an increase in the economy-wide price level.
   (b) a decrease in the economy-wide price level.
   (c) a decrease in consumer confidence about their job security.
   (d) a decrease in the interest rate.

7. After months of intensive negotiations, the teamsters (a powerful labor union) are successful in obtaining an increase in (nominal) wages for their members. What will be the likely equilibrium effect in the AD-AS model?
   (a) An increase prices and GDP.
   (b) An increase in prices and lower GDP.
   (c) A decrease in prices and GDP.
   (d) A decrease in prices and increase in GDP.

8. A lack of consumer confidence leads to a recessionary gap. Which one of the following will be true in the long-run?
   (a) without government intervention, economy has no way to return to potential GDP and will be stuck forever in recession.
   (b) prices and nominal wages will eventually decline and GDP will return to its potential level.
   (c) prices and nominal wages will eventually increase and GDP will return to its potential level.
   (d) prices will increase but nominal wages will decrease.

9. Suppose that GDP and prices are increasing at the same time. Using the AD-AS model, which one of the following can explain this in the short-run?
   (a) A decrease in the level of investment demand.
   (b) An increase in taxes.
   (c) An increase in the money supply by the Federal Reserve.
   (d) None of the above. It is impossible for GDP and prices to be increasing at the same time.

10. The Federal Reserve conducts an open market sale of government bonds to a bank and the bank pays for it with $25,000 of its reserves. If the required reserve ratio is 20%,
    (a) M1 will increase by $25,000
    (b) M1 will decrease by $5,000
    (b) Bank reserves will decrease by $125,000.
    (c) M1 will decrease by $125,000.

11. The Federal Reserve desires to lower the market equilibrium interest rate. Which one of the following monetary policies achieves this goal?
    (a) A decrease in the required reserve ratio.
    (b) An open market sale of government securities.
    (c) An increase in the discount rate.
    (d) A decrease in bank reserves.
12. There is excessive volatility in financial markets and the public has become fearful that banks are financially unstable. In the demand-supply model of the money market which one of the following will be true?
(a) Equilibrium interest rates in the money market will increase.
(b) Equilibrium interest rates in the money market will decrease.
(c) Real money demand will decrease.
(d) Bond prices will increase.

13. The simple money multiplier
(a) is too large compared to reality since banks often hold excess reserves.
(b) decreases if the Federal Reserve increases the required reserve ratio.
(c) shows how much M1 increases for each additional dollar of bank reserves.
(d) All of the above.

14. The actual operations of the Federal Reserve System resides in the
(a) Congress of the United States.
(b) Commercial Banks.
(c) US Senate Banking Committee.
(d) The Board of Governors.

15. Which one of the following is a function of the Federal Reserve Bank?
(a) To conduct monetary policy.
(b) To regulate spending by Congress.
(c) To ensure that GDP grows as fast as possible.
(d) To ensure that the value of the stock market is growing as fast as possible.

16. According to the AD-AS model, an increase in the nation’s money supply will
(a) Decrease equilibrium GDP in the short-run.
(b) Increase equilibrium interest rates in the short-run.
(c) Lead to higher equilibrium GDP in the long-run.
(d) Lead to higher equilibrium prices and inflation in the long-run.

17. Which one of the following ideas are consistent with the Monetarist/Classical view of the economy?
(a) The aggregate supply curve is flat.
(b) The aggregate demand curve is vertical.
(c) Government policies can always help improve economic conditions.
(d) Self-correcting market forces are sufficient to keep GDP at potential GDP.

18. Which one of the following will increase the Federal Budget Deficit?
(a) An economic recession which decreases GDP.
(b) An increase in income taxes.
(c) A decrease in government spending.
(d) An increase in the nation’s money supply.
19. What’s the best argument for reducing the size of the Federal Budget Deficit?
   (a) It is always wrong for the government to spend beyond its means.
   (b) It will lead to higher interest rates and reduce capital formation.
   (c) Government spending never contributes towards economic growth.
   (d) Taxes will be raised to pay the debt owed to domestic US residents.

Section II - Problems

Problems 1 - 3 refer to the following economy described by

\[ C = a + 0.75(Y-T) \quad ID = 75 \quad G = 20 \quad NX = -11 \]
\[ a = 100 \]

Notice parts (a) - (d) are exactly the same as from Assignment 3 (but practice makes perfect!)

1. Suppose that \( T = T_0 = 12 \).
   (a) What’s the federal budget deficit (or surplus) of this economy?
   (b) What is the level of autonomous spending and the autonomous spending multiplier? Compute the demand-side equilibrium level of GDP. Show that \( IU = 0 \).
   (c) The recent declines in the stock market has decreased consumer and business confidence. Autonomous consumption falls to 75 and \( ID \) falls to 50. Compute the new equilibrium level of GDP.
   (d) Graph your answers to parts (b) and (c) in a diagram.
   (e) You are coordinating the President’s economic policy and the goal is to return the economy back to the original equilibrium level of GDP computed in part (b). Two fiscal policy options are presented (i) adjusting government purchases (\( G \)) or (ii) adjusting taxes (\( T \)). How much of a change in government purchases (\( G \)) would be necessary? How much of a change in taxes is required? Which policy would minimize the increase in the federal budget deficit?

2. In class we discussed the idea that real consumer wealth (i.e., the purchasing power of their wealth) would increase if economy-wide prices \( P \) declined. One way to capture this idea is assuming that autonomous consumption depended negatively on prices:

\[ C = a/P + 0.75(Y-T) \]

Using \( a = 100 \) and \( T = T_0 = 12 \). Calculate the demand-side equilibrium level of GDP for \( P = 1, 1.50, \) and 2. Plot this aggregate demand curve (\( P \) on vertical axis and \( Y \) on horizontal axis).
3. The law of demand in the labor market says that the amount of labor demanded by firms in the U.S. economy decreases when the cost of labor, or the real wage, increases:

\[ L = 360 - \omega \]

where \( \omega = \frac{W}{P} \) is the real wage rate and \( L \) is in billions of hours worked.

(a) Plot the labor demand schedule for \( \omega = 5, 10, \) and 20.

Suppose that every worker hired in the economy can supply two units of output \( Y \):

\[ Y = 2(L) \]

(b) Assume that the nominal wage \( W = 10 \) and \( P = 1 \), what is the real wage \( \omega \)?

Compute (i) how much labor will firms will hire (\( L \)) and (ii) how much GDP the economy will produce (\( Y \))?

(c) Keeping \( W = 10 \), redo part (b) using \( P = 1.50 \) and \( P = 2.0 \). Plot your answers in aggregate supply curve which relates \( P \) to \( Y \). Is the AS curve upward sloping? What’s happening to the real wage along the AS curve?

(d) Suppose \( P \) increases to 2. Eventually, as labor contracts expire, workers will want to renegotiate their nominal wages to restore the original real wage they were getting in part (b). How much of a raise in nominal wages (\( W \)) should they demand? What will happen to labor demanded by firms and GDP produced? Graph what happens to the AS curve.

4. The Federal Reserve requires banks to hold 8% of their deposits on reserve. The total reserves of the banking system is $50,000.

(a) Compute the money supply multiplier and the money supply (\( MS \)).

Suppose that money demand is given by

\[ MD = 800 - 3500r \]

where \( r \) is the interest rate.

(b) Explain the economic intuition behind the money demand equation.

(c) Compute the equilibrium interest rate rate in the money market.
(d) The Federal Reserve sets an interest rate goal of 2%. As Chairperson, you have two options available: (i) changing the required reserve ratio and (ii) conducting an open market operation. Compute exactly how you would carry out monetary policy under each option.

(e) Every percent decrease in the interest rate causes businesses to increase borrowing and investment spending on factories and equipment by $10 billion. If the autonomous spending multiplier is 2, what will be the effect of your monetary policy on demand-side equilibrium GDP?