Final Exam

Note: The duration of the exam is 80 minutes. Good luck!

Part 1: Each question is worth 2 points. The whole section is worth 30 points.

1. The equilibrium interest rate is determined in the ______ market and the equilibrium output level is determined in the ______ market.
   (a) goods; goods
   (b) goods; money
   (c) money; goods
   (d) money; money

2. The main goal of an expansionary fiscal policy is to ______ ; the main goal of an expansionary monetary policy is to ______.
   (a) increase output level; increase output level.
   (b) increase output level; decrease the interest rate
   (c) decrease the interest rate; increase output level
   (d) decrease the interest rate; decrease the interest rate

3. Which of the following statements best describes the operation of the crowding-out effect?
   (a) \( G \) up \( \rightarrow Y \) up \( \rightarrow Md \) down \( \rightarrow r \) down \( \rightarrow I \) down
   (b) \( G \) up \( \rightarrow Y \) up \( \rightarrow Md \) up \( \rightarrow r \) up \( \rightarrow I \) down
   (c) \( G \) up \( \rightarrow Y \) up \( \rightarrow Md \) down \( \rightarrow r \) up \( \rightarrow I \) down
   (d) \( G \) up \( \rightarrow r \) up \( \rightarrow I \) up

4. For the short-run aggregate supply curve to have a positive slope,
   (a) changes in the overall price level must be fully anticipated.
   (b) input price changes must be fully anticipated.
   (c) changes in the overall price level must lag behind input price changes.
   (d) input price changes must lag behind changes in the overall price level.

5. Demand-pull inflation occurs when the aggregate _____ curve shifts _____ .
   (a) demand; right
   (b) demand; left
   (c) supply; right
   (d) supply; left

6. *Ceteris paribus*, an increase in the price level will cause
   (a) the interest rate to fall.
   (b) an increase in the quantity of money supplied.
   (c) an excess demand for money at the original equilibrium interest rate.
   (d) the aggregate demand curve to shift to the left.

7. If 5 million workers are unemployed and 45 million workers are employed, then the unemployment rate is
   (a) 5%.  (b) 10%.  (c) 11.1%.  (d) 40%.

8. In the circular flow diagram, households ________ goods and services and ________ labor.
   (a) demand; demand  (b) supply; demand  (c) demand; supply  (d) supply; supply
9. Refer to the Figure above. If the economy is at Point A currently producing Y₀ and the Central Bank increases money supply, the economy will move to Point ______ in the short run and to Point ______ in the long run.

(a) B; C  (b) D; E  (c) E; D  (d) C; B

10. For an economy to experience both economic growth and inflation at the same time

(a) the aggregate supply curve must shift to the right.
(b) the aggregate supply curve must shift to the left.
(c) the aggregate demand curve must shift to the left.
(d) the aggregate demand curve must shift to the right.

11. The transaction demand for money comes mostly from the fact that

(a) money is a store of value.
(b) money is a medium of exchange.
(c) money is a unit of account.
(d) money has low opportunity cost.

12. The average monthly balance in Frank’s bank account is $1,200. Frank spends the same amount of money each day during the month and at the end of the month his account balance is $0. Frank’s monthly starting balance is

(a) $600.
(b) $1,200.
(c) $1,800.
(d) $2,400.

13. Which of the following is included in M2?

(a) commercial paper
(b) Treasury bonds
(c) savings accounts
(d) stocks

14. Rapid increases in prices during periods of recession is known as

(a) price gouging. (b) stagnation. (c) depression. (d) stagflation.

15. If real GDP decreases from Year 1 to Year 2, we can conclude that

(a) production levels are lower in Year 2 than in Year 1.
(b) price levels are lower in Year 2 than in Year 1.
(c) there is less unemployment in Year 2 than in Year 1.
(d) we need more information before commenting.
Part 2: Answer all of the questions. This section is worth 70 points. Read the questions carefully, and show all your work where asked, otherwise you will not be given full credit for the questions.

1. (25 points) **EXPLAIN** what will happen as a result of the following event. **DRAW** an aggregate demand and short-run aggregate supply diagram showing the initial equilibrium output level ($Y_0$) and price level ($P_0$). Show any changes of the curves and label the final equilibrium output level and price level on the same graph.

   a) The economy is in a recession (low output level). The Central Bank decreases the discount rate. (10 points)

   This policy is expansionary monetary policy. Expansionary policies within this range of the AS curve will result in high aggregate output increases and small increases in prices. In the figure below, the increase in aggregate demand from $AD_0$ to $AD_1$ results in significant increases in aggregate output and income and limited increases in prices.

   ![Graph 1](image1.png)

   b) The economy is operating at full capacity. The government follows an expansionary fiscal policy. (10 points)

   Expansionary policies within this range of the AS curve will result in negligible or no aggregate output increases and accelerated increases in prices. In the figure below, the increase in aggregate demand from $AD_2$ to $AD_3$ results in very limited increases in aggregate output and income and significant increases in prices. This is the full capacity range of productive capacity.

   ![Graph 2](image2.png)
c) Is policy in part (a) or in part (b) more successful? Explain your answer. (5 points)

Policy in part (a) is more successful since it leads to significant increases in aggregate output and limited increases in prices.

2. (31 points) Answer the following questions:

a) Suppose that the government decides to increase government spending. (9 points)
   i) Is this a fiscal or a monetary policy? (2 points)
      Fiscal Policy
   ii) Is this an expansionary or a contractionary policy? (2 points)
      Expansionary policy
   iii) How will the equilibrium output and interest rate change in goods and money markets, respectively. Explain. (Hint: Use the links between income/output level, interest rate/investment) (5 points)

   In goods market AE will increase (AE curve shifts up) so Y will increase. When Y increases, money demand increases in money market (money demand curve shifts right) and as a result interest rate increases. When interest rate increases, I decreases in the goods market so does the AE and hence equilibrium Y. As a result, some part of the initial increase in Y is crowded out. Y increases less than if interest rate did not increase.

b) Suppose that the government decides to cut taxes by the same amount as it increases government spending in (a). (9 points)
   i) Is this a fiscal or a monetary policy? (2 points)
      Fiscal policy
   ii) Is this an expansionary or a contractionary policy? (2 points)
      Expansionary policy
   iii) How will the equilibrium output and interest rate change in goods and money markets, respectively. Explain. (Hint: Use the links between income/output level, interest rate/investment) (5 points)

   A tax cut leads to an increase in consumption, which is a component of AE. In goods market AE will increase (AE curve shifts up) so Y will increase. When Y increases, money demand increases in money market (money demand curve shifts right) and as a result interest rate increases. When interest rate increases, I decreases in the goods market so does the AE and hence equilibrium Y. As a result, some part of the initial increase in Y is crowded out. Y increases less than if interest rate did not increase.

c) Will the total change in equilibrium level of output be greater in (a) than in (b)? Why or why not? (4 points)
Yes, the total change in equilibrium level of output will be greater in (a) than in (b) because the government spending multiplier is larger than the tax multiplier.

d) Suppose that the Central Bank sells government securities. (9 points)

i) Is this a fiscal or a monetary policy? (2 points)
   
   **Monetary policy**

ii) Is this an expansionary or a contractionary policy? (2 points)
   
   **Contractionary policy**

iii) How will the equilibrium output and interest rate change in goods and money markets, respectively. Explain. (Hint: Use the links between income/output level, interest rate/investment) (5 points)

   Central Bank’s sale of securities leads to a decrease in money supply. A decrease money supply shifts money supply curve to the left causing interest rate to increase. When interest rate increases I decreases so does the AE. As AE decreases, equilibrium Y decreases in the goods market and this causes money demand to shift to the left in the money market. As a result, interest rate increases less than it would have if the demand for money had not decreased.

3. (14 points, 2 points each) Examine the following list of goods and services. Which goods and services should be included in Freedonian GDP in 2012, which should be excluded, and why?

   a) 2,500 hamburgers produced in 2012.

   **GDP**

   b) 2 Freedonian Drof automobiles, sold in 2012, produced in 2011.

   **Not included in GDP. The 2 Freedonian Drof automobiles produced in 2011 were not produced in 2012.**

   c) 3 Freedonian Drof automobiles, sold in 2013, produced in 2012.

   **GDP**

   d) 3 American-built Fords produced in 2012 and sold in 2012.

   **Not included in GDP. The 3 American-built Fords were not produced in Freedonia.**


   **Not included in GDP. Welfare benefits for Freedonian citizens are transfer payments.**

   f) 625 pounds of beef used in hamburgers.

   **Not included in GDP. The beef used in hamburgers are costs of intermediate goods that are captured in the price of the hamburgers.**

   g) Wages of hamburger employees.
Not included in GDP. The wages of hamburger employees are costs of intermediate services that are captured in the price of the hamburgers.