Multiple Choice Questions:

1. When the inflation rate is expected to be zero, Steve plans to lend money if the interest rate is at least 4 percent a year and Cindy plans to borrow money if the interest rate is no more than 4 percent a year. Steve and Cindy make a loan agreement for one year at an interest rate of 4 percent a year when the inflation rate is zero. But if Steve and Cindy expect an inflation rate of 1 percent a year, they would be willing to make a loan agreement at ____ a year.
   A) 1 percent
   B) 4 percent
   C) 3 percent
   D) 5 percent
   **Answer: D**

2. When the inflation rate is expected to be zero, Steve wants to lend money if the interest rate is at least 4 percent per year, and Cindy wants to borrow money if the interest rate is no more than 4 percent per year. Steve and Cindy make a loan agreement for one year anticipating the inflation rate to be 2 percent. During the year, the inflation rate is actually 1 percent. As a result, ____.
   A) Steve loses
   B) Steve and Cindy both gain
   C) Cindy gains and Steve is unaffected
   D) Steve gains
   **Answer: D**

3. The positive slope of the consumption function indicates that
   A) consumers spend less out of each extra dollar of income.
   B) the stock of household wealth is subject to change.
   C) when prices fall consumers spend more.
   D) consumers increase their total consumption expenditure when disposable income increases.
   **Answer: D**

4. At a level of disposable income of $0, consumption expenditure is $3500. Then
   A) saving equals 0.
   B) saving equals –$3500.
   C) saving equals $3500.
   D) the \( MPC = zero \).
   **Answer: B**

5. The marginal propensity to consume refers to
   A) the additional saving that occurs out of an additional dollar of disposable income.
   B) the additional consumption expenditure that occurs out of an additional dollar of disposable income.
   C) the additional consumption expenditure that occurs out of an additional dollar of investment.
   D) total consumption expenditure divided by total disposable income.
   **Answer: B**
6. If the MPC equals 0.75, then
   A) for every $100 increase in consumption expenditure, disposable income increases by $75.
   B) consumption expenditure is always more than disposable income.
   C) for every $100 increase in disposable income, saving increases by $75.
   D) for every $100 increase in disposable income, saving increases by $25.
   **Answer: D**

7. Which of the following makes the multiplier larger?
   A) An increase in the marginal propensity to import.
   B) An increase in the tax rate.
   C) An increase in the marginal propensity to consume.
   D) An increase in the marginal propensity to save.
   **Answer: C**

8. Suppose the price level is constant and there are no imports or taxes. If the marginal propensity to consume is 0.8 and the real GDP needs to be increased by $500 billion, then
   A) consumption spending needs to increase by $500 billion.
   B) saving needs to be reduced by $500 billion in order to generate the extra $500 billion.
   C) an increase in investment spending of $200 billion is needed to generate the desired increase of $500 billion.
   D) an increase in autonomous spending of $100 billion will lead to the increase of $500 billion.
   **Answer: D**

9. Which of the following government bodies does **NOT** participate directly in formulating U.S. fiscal policy?
   A) The President and his cabinet
   B) The Federal Reserve Board
   C) The House of Representatives
   D) The Senate
   **Answer: B**

10. What is the largest source of revenue for the federal government?
    A) Social security taxes
    B) Corporate income taxes
    C) Personal income taxes
    D) Sales tax
    **Answer: C**

11. Federal government expenditures as a percentage of GDP are currently equal to approximately
    A) 10 percent.
    B) 20 percent.
    C) 50 percent.
    D) 66 percent.
    **Answer: B**

12. Since 1942, the federal government debt as a percentage of GDP
    A) steadily increased and now is at its highest point ever.
    B) hit its highest point near World War II and then generally declined until the early 1980s.
    C) increased over most of the period following World War II and hit it highest point during the early 1980s, after which is has declined.
    D) has stayed roughly constant since the mid 1940s.
    **Answer: B**
13. Investment is financed by
   A) saving by households, government saving, and foreign borrowing.
   B) saving by household, government spending, and taxation.
   C) taxation, net exports, and government spending.
   D) government spending, taxation, and foreign borrowing.
   Answer: A

14. The U.S. federal budget over the past 20 plus years has been
   A) in balance most years.
   B) in deficit most of the years.
   C) in surplus most of the years.
   D) in surplus about half the time and deficit the other half.
   Answer: B

15. The federal government debt is equal to the
   A) obligations of benefits from federal taxes and expenditures.
   B) sum of all annual federal expenditures.
   C) cumulative sum of annual federal deficits minus surpluses.
   D) annual difference between federal revenues and expenditures.
   Answer: C

16. Which of the following is the largest source of federal government revenue?
   A) corporate income taxes.
   B) social security taxes.
   C) personal income taxes.
   D) borrowing.
   Answer: C

17. Consider the Fisher equation: \( i = r + \pi \) where \( r \) is real interest rate, \( \pi \) is inflation rate, and \( i \) is the 
    nominal interest rate. If \( \pi = 3.5\% \), and real interest rate is 0.06. What is the nominal interest rate should 
    be?
   A) 0.095
   B) 3.56%
   C) .025
   D) .1
   Answer: A

18. The use of the U.S. federal budget to help stabilize the economy grew in reaction to the ____ and is 
    known as ____.
   A) stagflation of the 1970s; fiscal policy
   B) Great Depression of the 1930s; fiscal policy
   C) stagflation of the 1970s; monetary policy
   D) Great Depression of the 1930s; monetary policy
   Answer: B

19. The reach the full multiplier effect, it is necessary to have:
   A) aggregate demand is flat.
   B) aggregate demand is vertical.
   C) short run aggregate supply is flat.
   D) short run aggregate supply is vertical.
   Answer: C
20. The Keynesian model of aggregate expenditure assumes that 
   A) individual prices are flexible but the price level is fixed. 
   B) both individual prices and the price level are flexible. 
   C) both individual prices and the price level are fixed.  
   D) individual prices are fixed but the price level is flexible. 
   Answer: C

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<th>Disposable income (dollars)</th>
<th>Consumption expenditure (dollars)</th>
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<tr>
<td>100</td>
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</tr>
<tr>
<td>200</td>
<td>300</td>
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<td>500</td>
<td>525</td>
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<tr>
<td>600</td>
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21. Using the data in above table, the marginal propensity to consume is 
   A) increasing as disposable income increases. 
   B) equal to 1.0 when disposable income equals $600. 
   C) constant at 0.75. 
   D) constant at 0.25. 
   Answer: C

22. If wealth increases, the consumption function 
   A) shifts upward. 
   B) shifts downward. 
   C) is unaffected. 
   D) has a steeper slope. 
   Answer: A

<table>
<thead>
<tr>
<th>Real GDP</th>
<th>C</th>
<th>I</th>
<th>G</th>
<th>NX</th>
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<td>400</td>
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</tbody>
</table>

23. In the above table, $C$ is consumption expenditure, $I$ is investment, $G$ is government purchases, and $NX$ is net exports. All entries are in dollars. The equilibrium level of real GDP is 
   A) $2,500. 
   B) $2,400. 
   C) $2,300. 
   D) $2,200. 
   Answer: B
24. In the above table, $C$ is consumption expenditure, $I$ is investment, $G$ is government purchases, and $NX$ is net exports. All entries are in dollars. The slope of the aggregate expenditure function is

A) –0.10.
B) 0.10.
C) 0.60.
D) 0.70.

**Answer: C**

25. In the above figure, equilibrium expenditure is

A) less than $10 trillion.
B) $10 trillion.
C) more than $10 trillion.
D) some amount that cannot be determined without more information.

**Answer: B**

**Essay Questions:**

1. Suppose Andy is a farmer who produces corns. He has an estimated $1,000 worth of corns. There are two ways that he can use his corns.
   a. He can sell his corns at price $p_t$, and deposit all the money in the bank, and earns nominally interest rate $i$ in a year. After a year, he can use the money to buy corns. The inflation rate is $\pi$.
   b. He can sell his corns and use this money to buy new crop machine. Using this new machine, he can produce 8% more corns.

   **Solutions:**
   a. Andy has $1000/p_t$ amount of corns. He sells his corns at price $p_t$ and get $1,000. If he deposits money in the bank, he will get (in nominal term) $1,000(1 + i)$ in a year. In a year the price of corn is $p_t(1+\pi)$. If he uses his money from the bank to buy corns, he would be able to get $1,000 (1 + i)/(p_t(1+\pi))$ amount of corns.
b. Let the productivity increase of the machine be \( r = 0.08 \). By using this machine, he would produce \( \frac{1000}{p_t}(1+r) \) amount of corns.

The two methods would produce the same amount of corns:

\[
1000 \frac{(1+i)}{(p_t(1+\pi))} = \frac{1000}{p_t}(1+r)
\]

\[
(1+i) = (1+\pi) * (1+r)
\]

\[
i = \pi + r + \pi r
\]

If \( \pi \) and \( r \) are small, then \( i \approx \pi + r \). This is Fisher equation.

2. (10 points) Textbook page 334: #6 and #8

Solutions:

#6  a. The consumption function is: \( C = C_0 + MPC (Y - T) = 1 + 0.9 (Y - 4) \) where \( Y \) is before tax income, \( T \) is total tax (equals to 4).

b. The aggregate expenditure curve is:
\[
AE = I + G + C_0 + MPC (Y - T) = 5 + 4 + 1 + 0.9 (Y - 4)
\]
\[
= 6.4 + 0.9Y
\]

c. In equilibrium, expenditure and income are the same. \( AE = Y \)
\[
Y = 6.4 + 0.9Y \Rightarrow 0.1Y = 6.4 \Rightarrow Y = 64
\]

In equilibrium, \( Y = \$64 \) billion.

d. If investment falls to \( \$3 \) billion (from \( \$5 \) billion), the aggregate expenditure function is \( AE = 4.4 + 0.9Y \). Equilibrium output is: \( \$44 \) billion.

The multiplier is 10 (multiplier = \( \frac{1}{1-\text{MPC}} \))

#8  a. If investment increases by \( \$1 \) billion, then the quantity of real GDP demanded is:

The multiplier is 10, therefore, the increased demand due to \( \$1 \) billion additional investment is: \( \$10 \) billion.

The real quantity of real GDP demanded is: \( \$64 + \$10 = \$74 \) billion.

b. In the long run, when price can fully adjust, real GDP does not increase at all.

c. Whether price level changes depends on short run aggregate supply curve. If the aggregate supply curve is flat, price level would not change. If the aggregate supply curve is positively sloped, then price level would increase.

In the long run, price will increase.