MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) An increase in discount loans by the Fed leads to
   A) a decline in the monetary base.
   B) a decline in the money supply.
   C) an increase in the money supply.
   D) all of the above.
   E) only (a) and (b) of the above.

2) If a bank chooses to purchase securities rather than extend loans with its excess reserves, 
   A) the expansion of deposits in the banking system will be dampened.
   B) the effect on deposits will be the same as if the bank had held its excess reserves in 
      vault cash.
   C) the effect on deposits will be the same as if the bank had extended loans.
   D) all of the above.
   E) only (a) and (b) of the above.

3) Holding everything else constant, 
   A) if an asset's risk rises relative to that of alternative assets, the demand will increase.
   B) the more liquid an asset, relative to alternative assets, the greater will be the demand.
   C) the lower the expected return relative to alternative assets, the greater will be the 
      demand.
   D) only (a) and (b) of the above.
4) If a member of the nonbank public purchases a government bond from the Federal Reserve with currency,
   A) reserves will fall.
   B) the monetary base will fall.
   C) reserves will remain unchanged.
   D) both (a) and (b) will occur.
   E) both (b) and (c) will occur.

5) If the expected path of one-year interest rates over the next five years is 4 percent, 5 percent, 7 percent, 8 percent, and 6 percent, then the expectations theory predicts that today's interest rate on the five-year bond is
   A) 4 percent.  B) 5 percent.  C) 6 percent.  D) 7 percent.  E) 8 percent.

6) If a person selling bonds to the Fed cashes the Fed's check,
   A) reserves remain unchanged, but currency in circulation declines.
   B) reserves remain unchanged, but currency in circulation increases.
   C) currency in circulation remains unchanged, but reserves increase.
   D) currency in circulation remains unchanged, but reserves decline.

7) When the interest rate on a bond is _____ the equilibrium interest rate, in the bond market there is excess _____ and the interest rate will _____.
   A) below; demand; rise
   B) below; demand; fall
   C) below; supply; fall
   D) above; supply; rise
   E) below; supply; rise

8) _____ is the most important monetary policy tool because it is the primary determinant of changes in reserves and the _____, the main source of fluctuations in the money supply.
   A) Open market operations; monetary base
   B) Open market operations; money multiplier
   C) Changes in reserve requirements; monetary base
   D) Changes in reserve requirements; money multiplier
9) (Bonus Question) Some economists have argued that the Federal Reserve should have raised interest rates sooner in the late 1990s to let air out of America's stockmarket bubble and curb an unsustainable boom in investment. Opponents of this view hold that
A) America's financial bubble has burst. Yet the economy has seen its mildest recession in decades. Therefore, central banks can indeed ignore asset prices and focus solely on inflation
B) Asset price bubbles should not be controlled through monetary policy, as it can have an adverse impact on long-term economic growth
C) Central banks have no more information than is available to the private sector, so they can not spot a bubble for certain
D) all of the above
E) only (a) and (c) above

10) Excess reserves are equal to
   A) total reserves minus discount loans.
   B) vault cash plus deposits with Federal Reserve banks minus required reserves.
   C) vault cash minus required reserves.
   D) deposits with the Fed minus vault cash plus required reserves.

11) Open market sales _____ reserves and the monetary base thereby _____ the _____.
    A) lower; lowering; money supply
    B) raise; raising; money supply
    C) lower; lowering; money multiplier
    D) raise; raising; money multiplier
    E) lower; raising; money multiplier

12) Changes in the reserve requirement are an infrequently used monetary policy tool since
    A) this tool is too blunt.
    B) this tool is too weak.
    C) banks find it costly to adjust to such changes.
    D) both (a) and (c) of the above are true

13) Disadvantages of discount policy include
    A) the confusion concerning the Fed's intentions about future monetary policy because of the uncertainty about what a change in the discount rate is intended to signal.
    B) large fluctuations in the volume of discount loans caused by infrequent adjustments in the discount rate to market interest rates.
    C) its relative imprecision, when compared to open market operations, over control of the money supply.
    D) all of the above.
    E) only (a) and (b) of the above.
14) The risk premium on corporate bonds becomes smaller if
   A) the riskiness of corporate bonds increases.
   B) the liquidity of corporate bonds increases.
   C) the liquidity of corporate bonds decreases.
   D) both (a) and (c) occur.

15) The theory of purchasing power parity cannot fully explain exchange rate movements because
   A) not all goods are identical in different countries.
   B) monetary policy differs across countries.
   C) some goods are not traded between countries.
   D) of both (a) and (c) of the above.
   E) of both (b) and (c) of the above.

16) Anything that increases the demand for foreign goods relative to domestic goods tends to _____ the domestic currency because domestic goods will only continue to sell well if the value of the domestic currency is _____.
   A) depreciate; lower       B) depreciate; higher
   C) appreciate; lower      D) appreciate; higher

17) If the interest rates on all bonds rise from 5 to 6 percent over the course of the year, which bond would you prefer to have been holding?
   A) A bond with one year to maturity   B) A bond with five years to maturity
   C) A bond with ten years to maturity  D) A bond with twenty years to maturity

18) Economists have focused more attention on the formation of expectations in recent years. This increase in interest can probably best be explained by the recognition that
   A) expectations influence the behavior of participants in the economy and thus have a major impact on economic activity.
   B) expectations influence only a few individuals, have little impact on the overall economy, but can have important effects on a few markets.
   C) expectations influence many individuals, have little impact on the overall economy, but can have distributional effects.
   D) models that ignore expectations have little predictive power, even in the short run.
19) According to the liquidity premium theory of the term structure
   A) the interest rate on long-term bonds will equal an average of short-term interest rates that people expect to occur over the life of the long-term bonds plus a term premium.
   B) buyers of bonds may prefer bonds of one maturity over another, yet interest rates on bonds of different maturities move together over time.
   C) even with a positive term premium, if future short-term interest rates are expected to fall significantly, then the yield curve will be downward sloping.
   D) all of the above.
   E) only (a) and (b) of the above.

20) A current account surplus indicates that America is _____ its claims on foreign wealth, while a deficit indicates that this country is _____ its claims on foreign wealth.
    A) reducing, reducing   B) reducing, increasing
    C) increasing, reducing  D) increasing, increasing

21) Which of the following are true concerning the distinction between interest rates and return?
    A) The rate of return on a bond will not necessarily equal the interest rate on that bond.
    B) The return can be expressed as the difference between the current yield and the rate of capital gains.
    C) The rate of return will be greater than the interest rate when the price of the bond falls between time t and time t+1.
    D) All of the above are true.
    E) Only (a) and (b) of the above are true.

22) Sometimes one observes that the price of a company’s stock falls after the announcement of favorable earnings. This phenomenon is
    A) clearly inconsistent with the theory of efficient capital markets.
    B) consistent with the theory of efficient capital markets if the earnings were not as high as anticipated.
    C) consistent with the theory of efficient capital markets if the earnings were not as low as anticipated.
    D) the result of none of the above.

23) In the simple deposit expansion model, an expansion in checkable deposits of $1,000 when the required reserve ratio is equal to 10 percent implies that the Fed
    A) sold $1000 in government bonds.   B) sold $100 in government bonds.
    C) purchased $1000 in government bonds.   D) purchased $100 in government bonds.
24) The Fed can exert more precise control over _____ than it can over _____.
   A) high-powered money; reserves
   B) high-powered money; the monetary base
   C) the monetary base; high-powered money
   D) reserves; high-powered money

25) If you expect the inflation rate to be 4 percent next year and a one year bond has a yield to maturity of 7 percent, then the real interest rate on this bond is
   A) -3 percent.  B) -2 percent.  C) 3 percent.  D) 7 percent.
Answer Key
Multiple Choice Questions

1) Answer: C
2) Answer: C
3) Answer: B
4) Answer: E
5) Answer: C
6) Answer: B
7) Answer: E
8) Answer: A
9) Answer: E
10) Answer: B
11) Answer: A
12) Answer: D
13) Answer: D
14) Answer: B
15) Answer: D
16) Answer: A
17) Answer: A
18) Answer: A
19) Answer: D
20) Answer: C
21) Answer: A
22) Answer: D
23) Answer: D
24) Answer: A
25) Answer: C
26. (a) Here is a part of WSJ news report on foreign exchange (Wednesday, May 8th 2002):” In early trading (on Wednesday), the euro was at 90.90 U.S. cents, below 91.47 cents late Tuesday in New York. The dollar (against Yen) was at ¥128.53 (on Wednesday), stronger than ¥127.92 late Tuesday in New York.” Based on this report:

(i) (2 points) What was the yen/euro exchange rate on May 8, 2002 (early trading). Show your work.

(ii) (3 points) By how much (%) the yen appreciated or depreciated against the euro between Late Tuesday and early Wednesday? Show your work.

(b) (5 points) Now suppose that the annual interest rate on Yen bank deposits on May 8th, 2002 is 1%. Further, suppose that the expected yen/euro exchange rate for May 8th, 2003 is 110 ¥/euro. Assuming that the interest parity condition holds, what does it imply for the interest rate on euro bank deposits? Show your work.

Ans. (a) (i) May 8, 2002 yen/euro exchange rate = 0.909 $/euro*128.53 yen/$ = 116.83 yen/euro

(ii) yen/euro exchange rate on Tuesday = 0.9147 $/euro*127.92 yen/$ = 117.01 yen/euro

Hence, euro changes against yen by

\[
\frac{116.83 - 117.01}{116.83} = -0.0015 = -0.15\%
\]

Since the sign is negative, the euro depreciates, which means the yen appreciates.

(b) The interest parity condition implies that

\[
i_{euro} = i_{yen} - \frac{E_{t+1}^e - E_t}{E_t}
\]

where \( E \) denotes yen/euro exchange rate. Hence, the euro deposit rate is

\[
i_{euro} = 0.01 - \frac{110 - 116.83}{116.83} = 0.068 = 6.8\%
\]
27. (10 points) We know that the required reserve ratio \( r_d \) is 10\%. Assume that the banking system has an excess reserves equal to $4 \text{ billion}$. Further, the currency in circulation equals $450 \text{ billion}$, and the total amount of checkable deposits equals $900 \text{ billion}$. Based on these numbers, calculate

(a) required reserves held by the banking system
(b) total reserves held by the banking system,
(c) monetary base
(d) total money supply (M1)
(c) the money multiplier

**Ans.** (a) 
\[ RR = r_d \times D = 0.1 \times 900 = 90 \text{ billion} \]
(b) 
\[ R = RR + ER = 90 + 4 = 94 \text{ billion} \]
(c) 
\[ MB = C + R = 450 + 94 = 544 \text{ billion} \]
(d) 
\[ M1 = C + D = 450 + 900 = 1350 \text{ billion} \]
(c) 
\[ m = \frac{M1}{MB} = \frac{1350}{544} = 2.48 \]
28. You have got some money to invest. There are only two investment opportunities: (a) 10% coupon bond issued by Apple (A) with a face value of $1000, and (b) 8% coupon bond offered by Big5 (B) also with a face value of $1000. Both bonds mature exactly in two years from now. Assume that there is no future uncertainty.

(a) (3 points) Bond A is priced at $1000. What is its yield to maturity?
(b) (5 points) Bond B is priced at $900. Will you prefer buying A to B? Why or why not? Show your work.

Ans. (a) A coupon bond with a face value equal to its price has its yield to maturity equal to its coupon rate. Hence bond A’s YTM = 10%. This can be easily checked as

\[
\frac{100}{(1 + 0.1)} + \frac{100}{(1 + 0.1)^2} + \frac{1000}{(1 + 0.1)^2} = 1000
\]

(b) Bond B pays $80 (coupon) in the first year, and $80 (coupon) + $1000 (face value) in the second year. Hence at 10% interest rate (that one can get from A) its present value is

\[
\frac{80}{(1 + 0.1)} + \frac{80}{(1 + 0.1)^2} + \frac{1000}{(1 + 0.1)^2} = 965.3
\]

Hence, Bond B is priced less ($900 < 965.3) than its present value. It’s a good bargain. Prefer B to A.

Alternatively, one can calculate Bond B’s YTM by solving the equation

\[
\frac{80}{(1 + i)} + \frac{80}{(1 + i)^2} + \frac{1000}{(1 + i)^2} = 900
\]

Solution is: \{i = 0.14079\} - Bond B’s YTM is 14.08%. Hence, prefer B to A.