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

1) When stock prices become _____ volatile, the demand curve for bonds shifts to the ____ and the interest rate _____.
   A) more; left; falls
   B) less; left; falls
   C) more; right; rises
   D) less; left; rises
   E) more; right; falls

2) Holding everything else equal, an increase in the money supply causes
   A) interest rates to increase initially.
   B) bond prices to decline initially.
   C) interest rates to decline initially.
   D) both (a) and (c) of the above.
   E) both (b) and (c) of the above.

3) During a business cycle expansion, the supply of bonds shifts to the _____ as businesses perceive more profitable investment opportunities, while the demand for bonds shifts to the _____ as a result of the increase in wealth generated by the economic expansion.
   A) right, left
   B) right, right
   C) left, right
   D) left, left
4) In Figure 1, one factor that would not have caused the demand for bonds to increase (shift to the right) is
   A) a reduction in the riskiness of bonds relative to other assets.
   B) a decrease in the expected return on bonds relative to other assets.
   C) an increase in the expected return on bonds relative to other assets.
   D) an increase in wealth.

5) In Figure 2, the factor responsible for the decline in the interest rate is
   A) a decline in income. B) a decline in the price level.
   C) an increase in the money supply. D) a decline in the expected inflation rate.

6) When yield curves are steeply upward sloping,
   A) short-term interest rates are about the same as long-term interest rates.
   B) medium-term interest rates are above both short-term and long-term interest rates.
   C) short-term interest rates are above long-term interest rates.
   D) long-term interest rates are above short-term interest rates.
   E) medium-term interest rates are below both short-term and long-term interest rates.
7) Which of the following statements are true?
   A) The demand for a bond declines when it becomes less liquid, increasing the interest rate spread between it and relatively more liquid bonds.
   B) A liquid asset is one that can be quickly and cheaply converted into cash.
   C) The differences in bond interest rates reflect differences in both default risk and liquidity.
   D) All of the above are true statements.
   E) Only (a) and (b) are true statements.

8) The U-shaped yield curve in Figure 3 indicates that _____ interest rates are expected to _____
   A) short-term; rise in the near-term and fall later on.
   B) short-term; fall moderately in the near-term and rise later on.
   C) short-term; fall sharply in the near-term and rise later on.
   D) short-term; remain unchanged in the near-term and rise later on.

9) According to the law of one price, if the price of Saudi crude oil is 100 riyals per barrel and the price of Mexican crude oil is 200 pesos per barrel, then the exchange rate between the Saudi riyals and mexican pesos is:
   A) 2 riyals per peso.
   B) 0.5 riyal per peso.
   C) 0.5 peso per riyal.
   D) 2 pesos per riyal.
   E) both (B) and (D) above

10) According to the interest parity condition, if the domestic interest rate is
   A) below the foreign interest rate, then there is a positive expected appreciation of the foreign currency.
   B) below the foreign interest rate, then the interest parity condition is violated.
   C) above the foreign interest rate, then there is a positive expected appreciation of the foreign currency.
   D) above the foreign interest rate, then there is a negative expected appreciation of the foreign currency.
11) When the Euro was introduced, it was valued at $1.15 and currently it trades around 87 cents. Thus, since its introduction, the dollar has _____ and the euro has _____.
   A) depreciated; depreciated  B) appreciated; appreciated
   C) appreciated; depreciated  D) depreciated; appreciated

12) If a factor increases the demand for _____ goods relative to _____ goods, the domestic currency will appreciate.
   A) domestic, foreign  B) domestic, domestic
   C) foreign, domestic  D) foreign, foreign

13) The theory of asset demand suggests that the most important factor affecting the demand for domestic and foreign deposits is the
   A) expected return on these assets relative to one another.
   B) preference for domestic goods relative to foreign goods.
   C) productivity of the domestic country relative to the foreign country.
   D) price level of the domestic country relative to the foreign country.

14) A higher domestic money supply causes the domestic currency to
   A) appreciate more in the short run than in the long run.
   B) depreciate more in the short run than in the long run.
   C) appreciate more in the long run than in the short run.
   D) depreciate more in the long run than in the short run.

15) A long contract requires that the investor
   A) buy securities in the future.  B) hedge in the future.
   C) sell securities in the future.  D) close out his position in the future.

16) If a firm is due to be paid in euros in two months, to hedge against exchange rate risk the firm should
   A) stay out of the exchange futures market.
   B) sell foreign exchange futures short.
   C) buy foreign exchange futures long.
   D) none of the above.

17) All other things held constant, premiums on options will increase when the
   A) volatility of the underlying asset falls.  B) term to maturity increases.
   C) exercise price increases.  D) (a) and (c) are both true.
18) In the balance of payments, payments include:
   A) American purchases of foreign products.
   B) gifts and pensions paid to foreigners.
   C) income earned from American investment abroad.
   D) both (a) and (b) of the above.

19) Under a gold standard in which one dollar could be turned in to the U.S. Treasury and exchanged for 1/20th of an ounce of gold and one German mark could be exchanged for 1/100th of an ounce of gold, an exchange rate of _____ marks to the dollar would stimulate a flow of gold from the United States to Germany.
   A) 4  B) 5  C) 6  D) 7

20) Under a fixed exchange rate regime, when the domestic currency is overvalued,
   A) the central bank must sell the domestic currency to keep the exchange rate fixed, but as a result it loses international reserves.
   B) the central bank must purchase the domestic currency to keep the exchange rate fixed, but as a result it gains international reserves.
   C) the central bank must sell the domestic currency to keep the exchange rate fixed, but as a result it gains international reserves.
   D) the central bank must purchase the domestic currency to keep the exchange rate fixed, but as a result it loses international reserves.

21) People have a strong incentive to form rational expectations because
   A) they are guaranteed of success in the stock market.
   B) it is costly to do so.
   C) it is costly not to do so.
   D) none of the above are true.

22) The theory of efficient capital markets suggests that allocating your funds in the financial markets on the advice of a financial analyst
   A) will certainly mean higher returns than if you had made selections by throwing darts at the financial page.
   B) will always mean lower returns than if you had made selections by throwing darts at the financial page.
   C) is good for the economy.
   D) is not likely to prove superior to a strategy of making selections by throwing darts at the financial page.
23) Which of the following types of information most likely allows the exploitation of a profit opportunity?
   A) Technical analysis
   B) Hot tips from a stockbroker
   C) Financial analysts’ published recommendations
   D) None of the above

24) Important implications of efficient markets theory include:
   A) sometimes a stock price declines when good news is announced.
   B) future changes in stock prices should, for all practical purposes, be unpredictable.
   C) stock prices will respond to announcements only when the information in these announcements is new.
   D) all of the above.
   E) only (a) and (b) of the above.

25) (5 points) Bonus Question: Which of the following statements can not be ascribed to the news article "Ring in the New"?
   A) Initially, some of the countries were affected by a shortage of new coins as many shopkeepers did not keep its adequate stock.
   B) There are also plenty of folk who suspect that retailers will take advantage of their unfamiliarity with the euro to sneak prices up
   C) A common currency will not only reduce the transactions costs of intra-regional trade, but will also solve the unemployment problem faced by many of the euro area countries.
   D) Big companies have long been publishing their accounts and trading in euros and Share prices have been quoted in euros for the past three years.
Answer Key
Multiple Choice Questions:

1) Answer: D ; E
2) Answer: C
3) Answer: B
4) Answer: B
5) Answer: C
6) Answer: D
7) Answer: D
8) Answer: C
9) Answer: B ; D ; E
10) Answer: C
11) Answer: C
12) Answer: A
13) Answer: A
14) Answer: B
15) Answer: A
16) Answer: B
17) Answer: B
18) Answer: D
19) Answer: A
20) Answer: D
21) Answer: C
22) Answer: D
23) Answer: D
24) Answer: D
25) Answer: C
26. (a) (5 points) When the European currency euro was originally launched in January 1999, it was valued at 1.17 $/euro. After one year, in January 2000, suppose it was trading at $1/euro. Did the euro appreciate or depreciate against the dollar from January 1999 to January 2000? By how much? (calculate the exact value)

(b) (5 points) Now suppose that the annual interest rate on dollar bank deposits in January 1999 was 5%, while on euro deposits it was 6%. If the interest rate parity condition holds, what was the future (January 2000) exchange rate ($/euro) expected in January 1999?

Solution: (a) In January 2000, 1 euro was could buy less dollars than in January 1999. Hence, euro depreciated. To calculate its appreciation (if the value is negative then it’s depreciation), use

\[
\frac{E_{2000} - E_{1999}}{E_{1999}} = \frac{1 - 1.17}{1.17} = \frac{0.17}{1.17} = -0.14530
\]

Hence it depreciated by 14.5%.

(b) Let’s say that the expected future exchange rate (euro/dollar) is \(E_{2000}^e\). Then, from an euro country’s perspective

\[
i_{\text{euro}} = i_{\text{dollar}} - \frac{E_{2000}^e - E_{1999}}{E_{1999}}; \quad \text{or}
\]

\[
0.06 = 0.05 - \frac{E_{2000}^e - 1.17}{1.17}; \quad \text{or}
\]

\[
E_{2000}^e = 1.17 + 1.17(0.05 - 0.06) = 1.1583
\]
27. The Capital Asset Pricing Model (CAPM) implies that the expected return on a security $a$ (say $E(R_a)$) is related with the expected return on the market portfolio $M$ (say $E(R_M)$) in the following way

$$E(R_a) - r = \beta_a (E(R_M) - r)$$

where $r$ is the risk-free interest rate.

(a) (5 points) What does $\beta$ stand for (i.e., what is it commonly known as)? Can it be negative? If yes, what does it imply for the asset’s return in relation to the market portfolio’s return (Hint: how do they move in relation to each other)?

(b) (5 points) Suppose a mutual fund is holding an asset whose expected return is equal to the risk-free return $r$, even though the asset’s standard deviation is not zero (i.e., it is not risk-free). How would the CAPM rationalize that?

Answer: (a) $\beta$ denotes (what is commonly known as) asset a’s beta. If it is positive, then on an average the asset return moves more in the same direction as the market portfolio. Yes, it can be negative if on an average the asset return moves more in the opposite direction to that of the market portfolio.

(b) From the CAPM formula it is implied that an asset’s return can be same as the risk-free return only if its beta ($\beta$) is zero. It means that the asset return shows no tendency to move either along or in opposite direction with the return on market portfolio.
28. (a) (4 points) Assuming that the expectations theory is the correct theory of the term structure, calculate the interest rates in the term structure for maturities of one to five years for the following path of one-year interest rates over the next five years: 5%, 6%, 7%, 6%, 6%

(b) (4 points) Now suppose investors prefer short-term bonds. Specifically, the liquidity premiums for one- to five-year bonds are 0%, 0.25%, 0.5%, 0.75%, and 1%, respectively. How would your answers to part (a) change? Calculate the new values.

Solution: (a) According to the expectations theory, long-term interest rates are averages of expected future short-term interest rates. Therefore,

<table>
<thead>
<tr>
<th>Term to maturity</th>
<th>interest rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>$\frac{5+6}{2}=5.5$</td>
</tr>
<tr>
<td>3</td>
<td>$\frac{5+6+7}{3}=6$</td>
</tr>
<tr>
<td>4</td>
<td>$\frac{5+6+7+6}{4}=6$</td>
</tr>
<tr>
<td>5</td>
<td>$\frac{5+6+7+6+6}{5}=6$</td>
</tr>
</tbody>
</table>

(b) If agents demand a liquidity premium (by preferring short term bonds), then the interest rates are calculated by adding the relevant liquidity premium to the above interest rates

<table>
<thead>
<tr>
<th>Term to maturity</th>
<th>interest rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$5 + 0 = 5$</td>
</tr>
<tr>
<td>2</td>
<td>$5.5 + 0.25 = 5.75$</td>
</tr>
<tr>
<td>3</td>
<td>$6 + 0.5 = 6.5$</td>
</tr>
<tr>
<td>4</td>
<td>$6 + 0.75 = 6.75$</td>
</tr>
<tr>
<td>5</td>
<td>$6 + 1 = 7$</td>
</tr>
</tbody>
</table>