1) Which of the following are true statements?
A) Money or the money supply is defined as anything that is generally accepted in payment for goods and services or in the repayment of debts.
B) Inflation is a condition of a continually rising price level.
C) The inflation rate is measured as the rate of change in the aggregate price level.
D) All of the above are true statements.

2) Which of the following statements about the characteristics of debt and equity is untrue?
A) They can both be long-term financial instruments.
B) They can both be short-term financial instruments.
C) They both involve a claim on the issuer's income.
D) They both enable a corporation to raise funds.

3) The Foreign Exchange Market
A) Allows one currency to be converted into another.
B) Helps maintain a stable price for the gold which backs U.S. dollars.
C) Becomes less important as globalization of financial markets increases.
D) Is where U.S. goods are exchanged for foreign currency.

4) When interest rates fluctuate, which bonds will experience the least price volatility?
A) 10-year bonds
B) 5-year bonds
C) 1-year bonds
D) 20-year bonds

5) Which of the following are benefits of Financial Intermediaries?
A) Financial Intermediaries channel funds from savers to borrowers.
B) Financial Intermediaries allow people to time their purchases better.
C) Financial Intermediaries provide a safe way for savers to earn a return on their savings.
D) Financial Intermediaries do all of the above.

6) A corporation acquires new funds only when its securities are sold
A) in the primary market by an investment bank.
B) in the primary market by a stock exchange broker.
C) in the secondary market by a securities dealer.
D) in the secondary market by a commercial bank.
7) The problem created by asymmetric information before the transaction occurs is called _____, while the problem created after the transaction occurs is called _____.
A) adverse selection; moral hazard
B) moral hazard; adverse selection
C) costly state verification; free-riding
D) free-riding; costly state verification

8) The conversion of a barter economy to one that uses money increases efficiency by reducing
A) the need to exchange goods.
B) the need to specialize.
C) the need to employ team production methods.
D) transactions costs.

9) If the price level doubles, the value of money
A) doubles.
B) more than doubles, due to scale economies.
C) rises but does not double, due to diminishing returns.
D) falls by 50 percent.

10) Which of the following statements accurately describes the three different measures of the money supply--M1, M2, and M3?
A) The three measures do not move together, so they cannot be used interchangeably by policymakers.
B) The three measures' movements closely parallel each other, even on a month-to-month basis.
C) Short-run movements in the money supply are extremely reliable.
D) Both (a) and (c) of the above.

11) People hold money even during inflationary episodes when other assets prove to be better stores of value. This can be explained by the fact that money is
A) extremely liquid.
B) a unique good for which there are no substitutes.
C) the only thing accepted in economic exchange.
D) all of the above.

12) If there are five goods in a barter economy, one needs to know ten prices in order to exchange one good for another. If, however, there are ten goods in a barter economy, then one needs to know _____ prices in order to exchange one good for another.
A) 20
B) 25
C) 30
D) 45
13) In which of the following situations would you prefer to be making a loan?
   A) The interest rate is 9 percent and the expected inflation rate is 7 percent.
   B) **The interest rate is 4 percent and the expected inflation rate is 1 percent.**
   C) The interest rate is 13 percent and the expected inflation rate is 15 percent.
   D) The interest rate is 25 percent and the expected inflation rate is 50 percent.

14) The interest rate that equates the present value of payments received from a debt instrument with its value today is the
   A) simple interest rate.
   B) discount rate.
   C) **yield to maturity.**
   D) real interest rate.

15) 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

16) Which of the following are true statements?
   A) Wealth is the total collection of pieces of property that are a store of value.
   B) Money is frequently confused with income.
   C) Income is a flow of earnings per unit of time.
   D) All of the above are true.

17) Which of the following $1,000 face-value securities has the highest yield to maturity?
   A) A 5 percent coupon bond with a price of $600
   B) A 5 percent coupon bond with a price of $800.
   C) A 5 percent coupon bond with a price of $1,000.
   D) A 5 percent coupon bond with a price of $1,200.

18) **Bonus Question I:** The article “Nothing to fear but fear itself” states that
   A) The current economic environment relates to subjective uncertainty of “unknown unknowns” in contrast to objective uncertainty of “known unknowns”
   B) To get out of current financial impasse the policymakers must take measures to reduce uncertainty in financial markets
   C) The demand for US treasuries reducing risk spreads as a result
   D) **both A and B above.**

19) **(Bonus II)** The article “Inside the banks” talks about the idea of a “bad bank”. It relates to
   A) banks that are insolvent, i.e., their net worth have gone negative
   B) banks that are illiquid, i.e., the banks that have a positive net worth but are unable to meet their current withdrawal demands
   C) **banks that will be formed by taking all bad assets out of currently troubled banks**
   D) both A and B above.
20. You inherited a huge amount of money (more than a million) recently and want to invest it for next two years.

(a) Your bank is offering you a certificate of deposit with an annual interest rate of 10% to mature in two years. There is another option you want to consider: a 2-year 10% coupon bond with a face value of $10,000, at a price of $10,100. How will you choose between the two options? Try to answer without using a financial calculator and show your work. (5 points)

Ans: A 10% coupon bond with a price above its Face Value has its yield to maturity below 10%. The other alternative offers 10% and, therefore, should be preferred.

(b) Suppose your bank was offering you only 9.5% annual interest rate. What will you do now? Show your work. (5 points) (Hint: what should be the price of bond if the market interest rate was 9.5%? Compared to this, is the market price of 10,100 on the bond higher or lower? If lower then isn’t the investor getting a good deal?)

Ans: With 9.5% alternative rate in the market, what should be the present value of bond’s cash flow receipts?

\[ PV \text{ (at 9.5\%)} = \frac{1,000}{1.095^1} + \frac{11,000}{1.095^2} = 10087 \]

At 9.5% the bond is worth only 10087, whereas as the price is 10,100. Conversely, at a price of 10100, the bond’s yield to maturity must be below 9.5%. The bank’s offers is still preferable.

21. A 6-month treasury note with a face value of $1000 is selling at $950 on a discount basis.

(a) If the annual rate of inflation is expected to be 1%, what is the expected real rate of return? Show your work. (6 points)

Ans: The 6-month yield to maturity on the discount bond is

\[ 1 + i = \frac{1000}{950} = 1.05263 \Rightarrow \]

\[ i = 0.5263 \]

Thus the 6-month interest rate is 5.26%. Multiplying by 2 obtains an approximate annual interest rate of 10.52%. Hence, the expected annual real rate of return is

\[ i_r = i - \pi^e, \]

\[ i_r = 10.52 - 1 = 9.52\% \]

(b) Will the investor be better off, if the actual inflation turns out to be 0% instead? Show your work. (2 points)

Ans: If the actual inflation rate turns out to be 0%:

\[ i_r = i - \pi^e, \]

\[ i_r = 10.52 - 0 = 10.52\% \]
22. Suppose you buy a 2-year bond with a Face Value of $1000, a coupon rate of 5%. The yield to maturity turns out to be 5%.

(a) What is its selling price? Show your work (3 points)

**Ans:** Since the yield to maturity equals its coupon rate, its price must equal the Face Value. Thus

\[ P_t = 1000. \]

(b) One year later, the interest rate rises to 10%. If have to sell this bond next year, what price will you end up selling at? Show your work. (3 points)

**Ans:** After one year, the cash flow remaining with the bond is its last coupon and Face Value payment: 50 + 1000. The price it will get in the market is its discounted present value at 10\% interest rate that will prevail next year

\[ P_{t+1} = \frac{1050}{1.1} = 954.55 \]

(c) What is your effective rate of return in part (b)? Show your work. (2 points)

**Ans:** The effective rate of return is

\[
Ret = \frac{C + P_{t+1} - P_t}{P_t} = \frac{50 + 954.55 - 1000}{1000} = 0.00455
\]

\[ = 0.455\% \]

23. (6 points) Consider two stocks: Boeing and Wal-Mart. Suppose by looking at the past data you have come to the following conclusion:

<table>
<thead>
<tr>
<th>Stock</th>
<th>Return in Good times (Probability: 50%)</th>
<th>Return in Bad times (Probability: 50%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boeing</td>
<td>8 %</td>
<td>12 %</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>9 %</td>
<td>11 %</td>
</tr>
</tbody>
</table>

Which stock will you prefer and why? Base your conclusion after explicit calculation of expected return and standard deviations of returns for each stock.

**Ans:** Let us calculate the expected return and standard deviation of the two returns. First expected returns:

\[ E(R_{\text{Boeing}}) = 0.5 (8 + 12) = 10\% \]
\[ E(R_{\text{WalMart}}) = 0.5 (9 + 11) = 10\% \]

Then, variances:

\[ Var(R_{\text{Boeing}}) = 0.5 (8 - 10)^2 + 0.5 (12 - 10)^2 = 2^2 \]
\[ Var(R_{\text{WalMart}}) = 0.5 (9 - 10)^2 + 0.5 (11 - 10)^2 = 1^2 \]

Standard deviations are square roots of variances:

\[ \sigma(R_{\text{Boeing}}) = 2 \]
\[ \sigma(R_{\text{WalMart}}) = 1 \]
Boeing has a higher standard deviation, that is, a higher risk. Both returns are equal. So, prefer WalMart.