

**Multiple choice:** Choose the best response to each prompt.

1. Which of the following is a negative consequence of unpredictable inflation?
  - (a) Wealth is allocated away from borrowers toward lenders.
  - (b) Inflation creates structural unemployment.
  - (c) Firms will be reluctant to change their prices.
  - (d) Firms will be reluctant to make long-term contracts with suppliers, buyers, and lenders.
  
2. Which of the following is a potential goal for monetary policy consistent with a central bank's primary goals of maximum employment and price stability?
  - (a) Stability in reserves
  - (b) Risk-averse lending
  - (c) Mortgage stability
  - (d) Exchange rate stability
  
3. What is the term for when the Fed borrows money from financial institutions using government bonds as collateral?
  - (a) Repurchase agreement
  - (b) Reverse repurchase agreement
  - (c) Quantitative easing
  - (d) Discount lending
  
4. What is forward guidance?
  - (a) When the Fed issues statements about the likely conduct of future monetary policy.
  - (b) When the Fed requires at-risk banks to follow guidance on using borrowed funds from the Fed.
  - (c) When the Fed provides forecasts for financial and economic variables.
  - (d) When the Fed requests guidance on monetary policy from Federal Reserve District presidents.
  
5. Which of the following leads to an increase in the demand for reserves?
  - (a) Increase in the federal funds rate
  - (b) Open market sale of bonds
  - (c) Increase in financial market volatility
  - (d) Increase in lending rates

6. Which of the following describes the demand curve for reserves in the Federal Funds Market?
- (a) As the federal funds rate increases, the quantity of reserves provided by the federal reserve increases.
  - (b) As the discount rate increases, the quantity of reserves demanded decreases.
  - (c) As the federal funds rate increases, the quantity of reserves demanded decreases.
  - (d) As the federal funds rate increases, the quantity of reserves provided by the federal reserve decreases.
7. Which of the following results in an increase in the equilibrium federal funds rate?
- (a) Open market sale of government bonds
  - (b) A decrease in the amount of reserves that banks choose to hold.
  - (c) Decrease in the interest rate on reserve balances
  - (d) Quantitative easing
8. Which of the following is true regarding the typical risk associated with long-term U.S. government bonds?
- (a) All of these are risks of holding government bonds.
  - (b) There is a risk of default.
  - (c) There is a risk that the government will change the interest payments made on the bond.
  - (d) There is a risk of making losses on bonds when later sold on the secondary market.
9. Which of the following is a coupon bond?
- (a) A bond that requires the borrower to make fixed payments of interest and principal until some specified maturity date.
  - (b) A coupon bond is a bond that makes multiple payments of interest on a regular basis and a final payment of the face value at maturity.
  - (c) A bond that earns or pays less interest than the market interest rate.
  - (d) A bond that requires the borrower to make a single payment at some date in the future.
10. What is the impact on the present value of a series of fixed future cash flows when the interest rate decreases?
- (a) The present value decreases.
  - (b) The present value does not change.
  - (c) The impact on the present value depends on other variables in addition to the interest rate.
  - (d) The present value increases.

11. Suppose you have a fixed-payment loan with monthly payments. What is the impact of choosing a new fixed-payment loan of the same amount, at the same interest rate, but with a longer-term until maturity?
- (a) Decrease the monthly payment
  - (b) Increase the present value of the loan.
  - (c) Decrease the total interest paid on the loan
  - (d) Increase the principal paid on the loan
12. What is the average return that will be earned on a bond purchased for a given price and held to maturity?
- (a) Interest on asset rate
  - (b) Coupon rate
  - (c) Yield to maturity
  - (d) Discount rate
13. Which of the following should lead to a decrease in bond prices?
- (a) Increase in discount rates
  - (b) Decrease in interest rates
  - (c) Increase in interest rates
  - (d) Increase in coupon rates
14. Which of the following creates a potential of making capital losses from buying and selling bonds?
- (a) Increase in inflation rate
  - (b) Increase in interest rates
  - (c) Decrease in interest rates
  - (d) Increase in the depreciation rate
15. What is the term for the characteristic when bond investor is willing to take a lower average return to avoid the possibility of assets losing significant value?
- (a) Risk taking
  - (b) Risk loving
  - (c) Risk averse
  - (d) Risk neutral

16. Which of the following causes an increase in demand for a financial asset?
- (a) Greater amount of time and costs to get accurate information on the likely return and risks associated with the financial asset.
  - (b) Less risk of loss associated with a financial asset.
  - (c) Less liquidity for a financial asset.
  - (d) Increase in the supply of an asset.
17. Which of the following is idiosyncratic risk?
- (a) Risk that is unique to a particular asset that is not necessarily true of the market as a whole.
  - (b) Risk that is common to all assets of a certain type.
  - (c) Risk that decreases in economic expansions and increases in economic recessions.
  - (d) Market risk
18. What action affects the supply of bonds?
- (a) Financial investors become willing to lend money in exchange for a return.
  - (b) The central bank provides discount loans to banks.
  - (c) Banks decrease their reserves and invest more in government and corporate bonds.
  - (d) The Fed makes an open market sale of bonds.
19. Which of the following will lead to an increase in interest rates in the bond market?
- (a) An open market purchase of bonds.
  - (b) A decrease in liquidity
  - (c) A decrease in market risk
  - (d) A decrease in interest rate risk
20. If forward guidance leads to a greater certainty regarding the future path of interest rates, what will be the impact on the market for bonds?
- (a) Decrease in the supply of bonds
  - (b) Decrease in demand for bonds
  - (c) Increase in supply of bonds
  - (d) Increase in demand for bonds

21. Which of the following leads to a decrease in the supply of bonds?
- (a) Decrease in market risk
  - (b) Decrease in bond liquidity
  - (c) Decrease in interest rates
  - (d) Decline in business confidence on future profitability
22. Which factor would likely decrease the supply of loanable funds?
- (a) A rise in interest rates
  - (b) An increase in consumption spending
  - (c) A government policy that provides tax incentives for saving
  - (d) A decline in investment opportunities
23. If the government increases its borrowing, what happens to the demand for loanable funds?
- (a) It increases
  - (b) It remains unchanged
  - (c) It becomes unpredictable
  - (d) It decreases
24. If banks become more willing to lend, what happens in the loanable funds market?
- (a) Government borrowing decreases
  - (b) Interest rates increase
  - (c) Supply of funds increases
  - (d) Demand for funds increases
25. What bond market risk may decrease with effective forward guidance?
- (a) Foreclosure risk
  - (b) Cash flow risk
  - (c) Default risk
  - (d) Capital gains risk

**Short-answer and problem-solving questions:** Provide written answers to each question in the space provided.

26. (5 points) Suppose the Federal Reserve conducts an open market purchase of bonds and decreases the discount rate. Using the market for reserves, describe and illustrate the impact on reserves and the federal funds rate.
27. (5 points) Suppose the Federal Reserve increases the interest rate on reserve balances. Using the market for reserves, describe and illustrate the impact on reserves and the federal funds rate.
28. (5 points) Suppose banks are confident regarding the current state of financial markets, and they decide to hold a smaller portion of their deposits on reserve. What defensive open market operation should the Fed conduct to ensure that the equilibrium federal funds rate does not change? Use the model for supply and demand for reserves to describe and illustrate the impact of both the change in behavior by banks and the impact of the defensive open market operation.

29. (5 points) Suppose the Federal Reserve raises the interest rate on reserves and simultaneously conducts an open market sale of bonds. Using the market for reserves, describe and illustrate the combined effect on reserves and the federal funds rate.
30. (5 points) Suppose you have an unsubsidized student loan for \$75,000. You must start making monthly payments on the loan in 16 months, and monthly payments will continue for 10 years. Suppose the interest rate is 5%, compounded monthly. Compute the monthly payment amount. You must show the math used to solve this problem for credit. Show the equation for the present value calculation that includes numbers you plug into the formula.
31. (5 points) Suppose a 5-year zero-coupon discount bond with a face value of \$1,000 is sold for \$830. Compute the yield to maturity for the discount bond. Show the equation for the present value calculation that includes numbers you plug into the formula.

32. (5 points) Suppose a coupon bond on the secondary market has a face value of \$1,000, makes one payment per year, has an annual coupon rate of 5%, and has 6 years until maturity. Suppose the average market interest rate expected over the next six years is 6%. Use this interest rate to compute the present value of this bond.
33. (5 points) Suppose recent errors in bond ratings cause financial investors to be skeptical regarding the actual risk associated with bond ratings. Describe and illustrate the impact on the market for bonds. What is the equilibrium impact on the price of bonds, the interest rate on bonds, and the quantity of borrowing?
34. (5 points) Suppose the Fed conducts an open market purchase of bonds. Describe and illustrate the impact on the market for bonds. What is the equilibrium impact on the price of bonds and the interest rate on bonds?

35. (5 points) Suppose financial investors expect interest rates to increase, starting in 6 weeks at the next FOMC meeting, and expect interest rates to fall for about one year. Describe and illustrate the impact on the market for bonds with a two-year maturity, including the impact on the price of bonds and the interest rate.