**FIFTH MIDTERM EXAM**

**EC26102: MONEY, BANKING AND FINANCIAL MARKETS**

**MAY 5, 2004**

**This exam has 22 questions on five pages. Before you begin, please check to make sure that your copy has all 22 questions and all five pages.**

**All questions will receive equal weight in determining your exam score.**

**Please answer all questions on the answer sheet provided.**

1. Consider a share of stock that sells for price $P_t$ today (time $t$) and pays a stream of dividends $D_{t+1}$, $D_{t+2}$, $D_{t+3}$,… in future years $t$+1, $t$+2, $t$+3,… out into the possibly infinite future. An investor can replicate the stream of payments made by this share of stock by buying a portfolio of discount bonds that includes:

A) A one-year discount bond with face value $D_{t+1}$, a two-year discount bond with face value $D_{t+2}$, a three-year discount bond with face value $D_{t+3}$, and so on, out into the possibly infinite future.
B) A one-year discount bond with price $D_{t+1}$, a two-year discount bond with price $D_{t+2}$, a three-year discount bond with price $D_{t+3}$, and so on, out into the possibly infinite future.
C) A one-year discount bond with yield to maturity $D_{t+1}$, a two-year discount bond with yield to maturity $D_{t+2}$, a three-year discount bond with yield to maturity $D_{t+3}$, and so on, out into the possibly infinite future.

2. According to the dividend valuation model, the price of a share of stock should equal the present value of all future __________ paid by that share of stock.

3. The dividend valuation model implies that all else equal, when interest rates (including those on discount bonds) rise, stock prices ought to:

A) Rise.
B) Fall.

4. Consider a corporation that has just declared bankruptcy, since the value of its income and assets has become so small that it can no longer make the payments of interest and principal that it owes to holders of its debt. Under such circumstances, the corporation's stockholders—its residual claimants—cannot expect to receive any future dividend payments, so the dividend valuation model predicts that the price of their shares should:

A) Fall to zero.
B) Fall to equal the value of the firm's outstanding debt.
C) Fall to equal the sum of whatever interest payments the firm can make on its debt.

5. In the Gordon growth model, the required return on equity refers to:

A) The value of today's dividend payment.
B) The constant growth rate of future dividends.
C) The constant interest rate used to discount future dividend payments back to the present.
D) None of the above.

6. According to the Gordon growth model, a share of stock that pays a smaller dividend today should:

A) Sell for a higher price today.
B) Sell for a lower price today.

7. According to the Gordon growth model, when the required return on equity $k$ is smaller, the stock should:

A) Sell for a higher price today.
B) Sell for a lower price today.

8. Let $P_t$ denote the price of a share of stock today (at time $t$), let $D_t$ denote the dividend paid by the stock this past year, let $g$ denote the assumed constant growth rate of future dividends, and let $k$ denote the assumed constant required return on equity. Then which of the following equations summarizes the Gordon growth model?

A) $P_t = \left(\dfrac{1+g}{k-g}\right)D_t$.
B) $D_t = \left(\dfrac{1+g}{k-g}\right)P_t$.
C) $P_t = \left(\dfrac{1+g}{k+g}\right)D_t$.
D) $P_t = \left(\dfrac{1+g}{1+k}\right)D_t$.
E) None of the above.

9. When using the Gordon growth model to assess the fundamental value of any particular stock, an appropriate setting for the required return on equity $k$ ought to be:

A) Lower than the interest rate on US Treasury securities.
B) Higher than the interest rate on US Treasury securities.

10. Which of the following is true?

A) The growth rate of dividends paid by the stocks in the Dow Jones Industrial Average as a group has risen over time, so that in particular, the average annual growth rate of those dividends over the past 10 years is higher than the average annual growth rate of those dividends over the past 80 years.
B) The growth rate of dividends paid by the stocks in the Dow Jones Industrial Average as a group has fallen over time, so that in particular, the average annual growth rate of those dividends over the past 10 years is lower than the average annual growth rate of those dividends over the past 80 years.

11. A bank's balance sheet contains a list of the bank's assets on one side and a list of its liabilities plus its __________, net worth, or shareholders' equity on the other.

12. A bank's checkable deposits include:

A) Demand deposits.
B) NOW (Negotiable Order of Withdrawal) accounts.
C) MMDA's (Money Market Deposit Accounts).
D) Savings Accounts.
E) Both (A) and (B) above.
F) All three, (A), (B), and (C), above.
G) All four, (A), (B), (C), and (D), above.

13. A bank's reserves consist of its __________ plus its deposits at the Federal Reserve.

14. When one bank borrows funds from another bank the loan is called a __________, or interbank, loan.

15. A bank's holdings of highly-liquid securities such as US Treasury bills are sometimes called the bank's __________ reserves.

16. By law, banks are prohibited from holding:

A) Corporate stocks.
B) Corporate bonds.
C) Municipal bonds.
D) Both (A) and (B) above.
E) All three, (A), (B), and (C), above.

17. Suppose that one of Fleet Bank's customers deposits into his or her checking account a $100 check written on someone else's account at Citibank. Until Fleet has had a chance to actually collect the $100 from Citibank, the check shows up on Fleet Bank's balance sheet as:

A) A deposit at Citibank.
B) A loan to Citibank.
C) A cash item in the process of collection.
D) An additional $100 in vault cash.
E) None of the above.

18. Banks earn profits when:

   A) The interest rate on their assets exceeds the interest rate on their liabilities.
   B) The interest rate on their liabilities exceeds the interest rate on their assets.

19. Whenever a bank loses an additional $100 in deposits it:

   A) Loses an additional $100 in reserves.
   B) Gains an additional $100 in reserves.

20. Consider an example in which Fleet Bank initially holds no excess reserves and then gains $100 in additional deposits. If the required reserve ratio is 10%, as it is in the US today, what is the maximum amount that Fleet can use to buy new securities, while still satisfying its reserve requirement?

   A) $0.
   B) $10.
   C) $90.
   D) $100.

21. Bank reserves earn interest:

   A) When they are held as required reserves but not when they are held as excess reserves.
   B) When they are held as excess reserves but not when they are held as required reserves.
   C) When they are held as required reserves and when they are held as excess reserves.
   D) None of the above: bank reserves do not earn interest.

22. Consider an example in which Fleet Bank initially holds no excess reserves and experiences a deposit outflow. To cope with this deposit outflow, Fleet Bank's options include:

   A) Selling some of its securities.
   B) Reducing its loans.
   C) Reducing its bank capital.
   D) Both (A) and (B) above.
   E) All three, (A), (B), and (C), above.