I. Multiple Choice: (50%, Choose the best answer.)

1. You will invest $11,000 for one year at 13% simple interest or at 12% interest compounded monthly. What is the effective rate of interest for the investment at 12% compounded monthly?
   a. 12.68%
   b. 12.72%
   c. 12.77%
   d. 13.76%
   e. 14.11%
2. Which of the following functions is not part of the investment banker's duties?
   a. consulting
   b. timing the issuance
   c. financing the entire process
   d. setting the price
   e. forming a distribution network
3. If the coupon rate is less than the bond's yield-to-maturity, the bond sells
   a. for $1000.
   b. for a multiple of its coupon payments.
   c. at par.
   d. at a premium.
   e. at a discount.
4. Following the work of the great economist Irving Fisher, it has become customary to express the nominal rate of interest on a default-free security as being composed of the _____ rate of interest and the _____ rate of inflation.
   a. marginal; expected
   b. real; expected
   c. marginal; real
   d. real; real
   e. marginal; real
5. Holding coupon and maturity constant, a bond with higher yield will have
   a. higher price sensitivity.
   b. no price sensitivity.
   c. lower price sensitivity.
   d. higher discount sensitivity.
   e. higher premium sensitivity.
6. Which theory states that forward rates are upwardly biased estimators of expected future spot rates; that is, the estimates are too high?
   a. the Liquidity Premium Theory
   b. the Liquidity Discount Theory
   c. the Pure Expectations Theory
   d. the Pure Immunization Theory
   e. the Market Segmentation Theory
7. According to the Fundamental Analyst's Model:
   a. Stock Value = Past Earnings × Past P/E Ratio
   b. Stock Value = Expected Earnings × Justified P/E Ratio
   c. Stock Value = Expected Earnings / Justified P/E Ratio
   d. Stock Value = Past Earnings / Past P/E Ratio
   e. Stock Value = Expected Earnings × Past P/E Ratio

8. If a two-year Treasury security yields 10.5% and a three year Treasury security yields 11%, what is the one-year forward rate for two years in the future?
   a. 10.95%
   b. 12.01%
   c. 12.21%
   d. 12.32%
   e. 13.67%

9. Consider a share of preferred stock with a par value of $100 that pays an 8% annual dividend. How much would the preferred stock be worth if the discount rate were 14%?
   a. $57.14
   b. $61.12
   c. $66.67
   d. $88.34
   e. $91.09

10. A firm's long-term growth rate is 5%. Next year's earnings are expected to be $4 per share, and the firm follows a constant payout policy, paying 40% of its earnings in dividends. The required rate of return for such a firm's shares is 15%. How much is the firm worth per share?
   a. $16.00
   b. $24.00
   c. $26.90
   d. $27.00
   e. $28.50

11. Portfolios that do not have non-systematic risk must lie on the
   a. Security Market Line only.
   b. Characteristic Line.
   c. Risk-free Line.
   d. Capital Market Line.
   e. Diversification Line.

12. The Separation Theorem
   a. separates market risk and non-market risk.
   b. separates diversifiable and non-diversifiable risk.
   c. separates systematic and non-systematic risk.
   d. separates risky from risk-free assets.
   e. shows that investors should hold the same portfolio of risky assets, no matter how risk averse they may be.

13. The risk measure for the Capital Market Line is _____, while the risk measure of the Security Market Line is _____.
   a. alpha; beta
   b. beta; alpha
   c. the standard deviation; beta
   d. the standard deviation; alpha
   e. alpha; the standard deviation
   f. beta; the standard deviation

14. If capital markets are perfect and there are no taxes, the dividend decision
   a. dramatically affects stockholder wealth.
   b. slightly affects stockholder wealth.
   c. does not affect stockholder wealth.
   d. will likely depend on the raising of new capital.
   e. will likely depend on the payment of flotation costs.

15. You are considering credit terms of 2/15; net 60. What is the rate of interest implied by these terms, assuming annual compounding?
   a. 16.55%
   b. 17.58%
   c. 18.42%
   d. 19.63%
   e. 20.00%

16. While there is a great body of evidence that is broadly consistent with the CAPM and the semi-strong form of the Efficient Market Hypothesis, recent evidence has accumulated that is at variance with the joint hypothesis of these two theories. Collectively, these apparent inconsistencies are becoming known as
   a. market inconsistencies
   b. market incongruencies
   c. market anomalies
   d. market variances
   e. market deviations

17. Werner Knaus' grocery store has $150,000 per year in sales, a tax rate of 30%, operating costs of $80,000, and depreciation expense of $3,000 per year. Calculate the after tax cash flows for Knaus' grocery store.
   a. $49,900
   b. $53,482
   c. $59,883
   d. $63,124
   e. $66,700

18. Consider a firm in the 40% tax bracket, with a before-tax required rate of return on its equity of 15% and on its debt of 12%. If the firm uses 70% equity and 30% debt financing, its after-tax weighted-average cost of capital would be given by
   a. 12.66%.
   b. 13.42%.
   c. 13.98%.
   d. 14.23%.
   e. 14.75%.

19. The first rule about the behavior of the basis is that the basis must equal _____ at the delivery date for the futures contract.
   a. a negative value
   b. zero
   c. a positive value
   d. the price of the contract
   e. the price of the contract minus the extra costs incurred

20. If there are two options that are otherwise alike, the option with the longer time to expiration must sell for an amount _____ the option that expires earlier.
   a. equal to or greater than
   b. greater than
   c. equal to
   d. less than
   e. equal to or less than

II. (15%)
a) Describe the MM (Modigliani and Miller) Proposition I with and without corporate taxes.
b) Ace Airlines is currently an unlevered firm. It is considering a capital restructuring to allow $200 of debt. The company expects to generate $151.52 in cash flows before interest and taxes, in perpetuity. The corporate tax rate is 34 percent. Its cost of debt capital is 10 percent. Unlevered firms in the same industry have a cost of equity capital of 20 percent. What will the new value of Ace Airlines be? What will the value of its levered equity be?

III. (20%)
A company has an opportunity to invest funds in the projects listed in the following table. Each of these projects has an equal element of risk. Investment outlays are made at the beginning of the first year, while cash flows after taxes are received in a lump sum at the end of each year. There is assumed to be no salvage value with any of the projects.

		Net Cash Proceeds		
Project	Required Investment	Year 1	Year 2	Year 3
A	$10,000	$10,000	-	-
B	10,000	7,500	$7,500	-
C	10,000	2,000	4,000	$12,000
D	10,000	10,000	3,000	3,000

In answering the following questions, ignore any effects that arise from tax considerations.
a) Rank the four projects according to each of the following commonly used methods:
(1) Payback period
(2) Unadjusted or accounting rate of return
(3) Internal rate of return
(4) Net present value, assuming discount rate of 6%
b) Why do the rankings differ?
c) What does each rule measure, and what does it assume?

IV. (15%)
It is argued that a short position can be created by writing a call and buying a put on the same stock at the same time.
a) Prove the above argument in terms of payoff graph.
b) What are the assumptions behind the above argument?
c) Using the following information to prove the above argument.
Market price of the stock = $60 Short-sale price = $40
Call premium = $2 Put premium = $2
Call exercise price = $40 Put exercise price = $40