Finance 340 – Financial Management
Fall 2011
Midterm Exam #1 – Version A – Suggested Solutions

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TTh 9:30-10:45

_____ 1. Which of the following statements is CORRECT?

A. In most corporations, the CFO ranks above the CEO.
B. By law in most states, the chairman of the board must also be the CEO.
C. IT IS POSSIBLE FOR A PERSON TO SIMULTANEOUSLY SERVE AS CEO AND CHAIRMAN OF THE BOARD OF DIRECTORS.
D. The CFO generally reports to the firm's chief accounting officer, who is normally the controller.
E. The CFO is responsible for raising capital and for making sure that capital expenditures are desirable, but he or she is not responsible for the validity of the financial statements, as the controller and the auditors have that responsibility.

_____ 2. Which of the following are traded in money markets?

A. Foreign currencies
B. Consumer automobile loans
C. Common stocks
D. Long-term bonds
E. SHORT-TERM DEBT SECURITIES SUCH AS TREASURY BILLS AND COMMERCIAL PAPER

_____ 3. Which of the following statements is CORRECT?

A. THE NEW YORK STOCK EXCHANGE IS AN AUCTION MARKET, AND IT HAS A PHYSICAL LOCATION.
B. Home mortgage loans are traded in the money market.
C. If an investor sells shares of stock through a broker, then it would be a primary market transaction.
D. Capital markets deal only with common stocks and other equity securities.
E. While the distinctions are blurring, investment banks generally specialize in lending money, whereas commercial banks generally help companies raise capital from other parties.

_____ 4. True or ***FALSE***: If a stock's market price is above its intrinsic value, then the stock can be thought of as being undervalued, and it would be a good buy.

_____ 5. True or ***FALSE***: The primary goal of a financial manager should always be to maximize the firm's net income.

_____ 6. True or ***FALSE***: Empirical studies suggest that you can look at past price movements of a stock to determine if it is currently over or under valued.

_____ 7. Suppose you deposit $3,000 today into an account that will earn 5 percent interest, compounded annually. How much will your account be worth at the end of 30 years?

A. $90,000.00
B. $12,965.83
C. $199,316.54
D. $4,500.00
E. None of the above; the correct answer is _____.

_____ 8. Suppose instead that the account in the previous question earns 5 percent interest, compounded quarterly. How much will the account be worth at the end of 30 years in this case?

A. $21,000.00
B. $4,354.84
C. $825,651.17
D. $13,320.64
E. None of the above; the correct answer is _____.

_____ 9. What is the present value of an investment that is expected to pay $8,000 at the end of three years if the appropriate discount rate is 16 percent?

A. $8,000.00
B. $5,125.26
C. $12,487.17
D. $17,967.12
E. None of the above; the correct answer is _____.

_____ 10. Harold has borrowed $1.2 million over 25 years with monthly payments (and monthly compounding) at 12 percent interest. What is the required monthly payment on this loan?

A. $12,638.69
B. $4,000.00
C. $12,749.99
D. There is not enough information to answer this question.
E. None of the above; the correct answer is _____.

_____ 11. Suppose that Harold makes payments of $15,000 per month. How long will it take him to fully repay the loan from the previous question?

A. 80 months
B. 162 MONTHS
C. 59 months
D. 300 months
E. None of the above; the correct answer is _____.

_____ 12. Consider a $40,000 loan amortized over 20 years with annual payments at 6 percent interest. How much interest will accrue in the 5th year?

A. $2,115
B. $2,400
C. $2,000
D. $1,373
E. None of the above; the correct answer is _____.

_____ 13. How much will Harold owe on this loan at the end of the 5th year?

A. $33,870
B. $30,000
C. $1,373
D. $31,730
E. None of the above; the correct answer is _____.

_____ 14. You can buy a perpetuity that pays $1,000 annually, and your required rate of return on this investment is 15 percent. What is this investment worth today?

A. $15,000.00
B. $6,666.67
C. $66.67
D. $5,018.77
E. None of the above; the correct answer is _____.

_____ 15. How much will this investment be worth next year?

A. $5,667.67
B. $56.67
C. $5,018.77
D. $6,666.67
E. None of the above; the correct answer is _____.

_____ 16. Artie is trying to save for retirement. He would like to have enough saved to provide him with $80,000 in income per year for 25 years (a 25-year ordinary annuity). If his investments during retirement will earn 7 percent annually, how much must he have in his retirement account to accomplish his goal? (Hint: Assume he will spend all of the principal balance over the 25 years of retirement and that payments happen at the end of each year, so that the retirement fund is an ordinary annuity.)

A. $932,287
B. $5,059,923
C. $434,195
D. There is not enough information to answer this question.
E. None of the above; the correct answer is _____.

_____ 17. Artie has 15 years until he retires. If he makes annual contributions into his retirement account (once again earning 7 percent), how large must these contributions be to grow to the sum you calculated in the last question?

A. $102,360
B. $37,100
C. $337,904
D. There is not enough information to answer this question.
E. None of the above; the correct answer is _____.

_____ 18. Marcus has borrowed $75,000 using a loan that requires annual payments of $10,100 over the next 10 years. If his loan is fully repaid over that time, what is the implied interest rate on the loan?

A. 5.81%
B. 13.47%
C. 6.82%
D. 10.00%
E. None of the above; the correct answer is _____.

_____ 19. What is the present value of a 20-year, $1,000 ANNUITY DUE if the discount rate is 14 percent?

A. $20,000
B. $6,623
C. $7,550
D. $103,768
E. None of the above; the correct answer is _____.

_____ 20. Wolfgang is considering an investment that is expected to pay $45,000 per year for the next five years and will be worth $500,000 at the end of the fifth year. If his discount rate is 13 percent, what is the most he should be willing to pay for this investment?

A. $725,000.00
B. $658,275.41
C. $429,655.37
D. $398,434.67
E. None of the above; the correct answer is _____.

_____ 21. You have an account that pays 4 percent interest, compounded annually. Suppose you deposit $4,000 into this account at the end of each the next 10 years. After that, you deposit $6,000 into the account at the end of each of the next 15 years. How much will you have in this account at the end of this 25 year period?

A. $77,511
B. $130,000
C. $206,631
D. $16,727
E. None of the above; the correct answer is _____.

_____ 22. Consider an investment that will generate the following stream of cash flows in the future:

n	$
1	6,500
2	6,500
3	10,000
4	12,000
5	12,000

What is the present value of this investment using an 18 percent discount rate?

A. $38,421
B. $27,698
C. $47,000
D. $32,683
E. None of the above; the correct answer is _____.

_____ 23. An investment pays you 9 percent interest compounded semiannually. A second investment, of equal risk, pays interest compounded quarterly. What nominal rate of interest would you have to receive on the second investment in order to make you indifferent between the two investments?

A. 9.00%
B. 9.20%
C. 8.90%
D. 9.31%
E. None of the above; the correct answer is _____.

_____ 24. Bill plans to deposit $200 into a bank account at the end of every month. The bank account has a nominal interest rate of 8 percent and interest is compounded monthly. How much will Bill have in the account at the end of 2½ years (30 months)?

A. $6,861.89
B. $6,617.77
C. $6,364.75
D. $22,656.64
E. None of the above; the correct answer is _____.

Use the following information to answer the next 9 questions:

KANACO CORPORATION: INCOME STATEMENTS FOR YEAR ENDING DECEMBER 31 (MILLIONS OF DOLLARS)

	2011	2010
Sales	$3,600.0	$3,000.0
Operating costs (excluding depreciation and amortization)	3,060.0	2,550.0
EBITDA	$ 540.0	$ 450.0
Depreciation and amortization	90.0	75.0
Earnings before interest and taxes	$ 450.0	$ 375.0
Interest	65.0	60.0
Earnings before taxes	$ 385.0	$ 315.0
Taxes (40%)	154.0	126.0
Net income available to common stockholders	$ 231.0	$ 189.0
Common dividends	$ 181.5	$ 13.2
Share price	$46.35	$44.08

KANACO CORPORATION: BALANCE SHEETS FOR YEAR ENDING DECEMBER 31 (MILLIONS OF DOLLARS)

	2011	2010
Assets:		
Cash and marketable securities	$ 36.0	$ 30.0
Accounts receivable	540.0	450.0
Inventories	540.0	600.0
Total current assets	$1,116.0	$1,080.0
Net plant and equipment	900.0	750.0
Total assets	$2,016.0	$1,830.0
Liabilities and equity:		
Accounts payable	$ 324.0	$ 270.0
Notes payable	201.0	155.0
Accruals	216.0	180.0
Total current liabilities	$ 741.0	$ 605.0
Long-term bonds	450.0	450.0
Total debt	$1,191.0	$1,055.0
Common stock (50 million shares)	150.0	150.0
Retained earnings	675.0	625.0
Total common equity	$ 825.0	$ 775.0
Total liabilities and equity	$2,016.0	$1,830.0

_____ 25. What is Kanaco's current ratio for 2011?

A. 0.66×
B. 0.78×
C. 2.07×
D. 1.51×
E. None of the above; the correct answer is _____.

_____ 26. What is Kanaco's days sales outstanding for 2011?

A. 55 DAYS
B. 10 days
C. 113 days
D. 45 days
E. None of the above; the correct answer is _____.

_____ 27. What is Kanaco's total asset turnover for 2011?

A. 0.59×
B. 1.69×
C. 0.56×
D. 1.79×
E. None of the above; the correct answer is _____.

_____ 28. What is Kanaco's debt ratio for 2011?

A. 36.8%
B. 59.1%
C. 22.3%
D. 33.1%
E. None of the above; the correct answer is _____.

_____ 29. What is Kanaco's price/earnings ratio?

A. 10.0×
B. 12.8×
C. 8.7×
D. 3.6×
E. None of the above; the correct answer is _____.

_____ 30. What is Kanaco's market/book ratio?

A. 2.8×
B. 1.2×
C. 3.6×
D. 4.4×
E. None of the above; the correct answer is _____.

_____ 31. What is Kanaco's free cash flow for 2011.

A. $270.0
B. $231.0
C. $174.0
D. –$16.0
E. $220.0

_____ 32. (4 points) Calculate each part of the DuPont Equation for Kanaco in 2011 and use it to derive Kanaco's return on equity.

ROE = Profit Margin × Total Asset Turnover × Equity Multiplier

= 231/3,600 × 3,600 / 2,016 × 2,016 / 825

= 0.064 × 1.79 × 2.44

= 28%