

# **MBA 507: Managerial Finance**

## **Self Assessment Packet**

This Self Assessment packet is provided to assist you in determining your level of competency with the material in MBA 507.

1. Competence is critical as this course is foundational to others.
2. Our expectation is that you know this material; it will not be reviewed in a subsequent class.
3. Students who have had success in a previous equivalent course as indicated by receiving a grade of B (3.0) or better have been automatically waived the course.
4. If you have not mastered the material, it is essential that you complete the course in order to be successful in your Master's level program.
5. If you choose to take the class, your grade will be counted towards graduation and you will be required to complete the course with a grade of C (2.0) or higher or repeat the class.

Included in this packet is:

1. A course outline.
2. A self-assessment examination. A score of 80% or higher is suggested as evidence of mastery of the material. You will receive the answer key at the Advising Session.

Text suggestions:

If you would like to refresh your knowledge of MBA 507, the following textbook may aid in this endeavor.

**Ross, Westerfield and Jaffe, *Corporate Finance 6<sup>TH</sup> edition***

### **MBA 507** **COURSE OUTLINE**

**Textbook: Ross, Westerfield and Jaffe, *Corporate Finance 6<sup>TH</sup> edition***

Week 1      Overview of Corporate Finance & Financial Statement Analysis

	Ch 1, 2
Week 2	Risk and Return, basics
	Ch 9
Week 3	Risk and Return, CAPM
	Ch 10
Week 4	Risk, Cost of Capital
	Ch 12
Week 5	Time Value of Money
	Ch 3, Ch 4
Week 6	Valuation Models: Bonds
	Ch 4, Ch5
Week 7	Review/Mid-Term
Week 8	Valuation Models: Stocks
	Ch 5
Week 9	Capital Budgeting & Risk
	Ch 6
Week 10	Capital Budgeting & Risk
	Ch 7
Week 11	Final Exam

## **MBA 507 Self Test<sup>1</sup>**

<sup>1</sup> Adopted from Corporate Finance, Ross, Westerfield and Jaffe (2002) and Brigham and Gapenski (1996)

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1. Corporate securities are contingent claims because:
  - A) they don't represent a direct claim on the firm.
  - B) the firm may be bought out.
  - C) the securities' value is derived from the total value of the firm.
  - D) book value can be negative.
  - E) none of the above.
  
2. Logit Co. paid dividends of \$400 and retained 33.33% of their earnings. The sales for the year were \$12,000 and total assets of 10,000. What was the rate of return on assets?
  - A) 5% B) 6% C) 10% D) 12% E) none of the above
  
3. The return pattern on your favorite stock has been 5%, 8%, -12%, 15%, 21% over the last five years. What has your average return and total change in wealth per year over the period?
  - A) 4.5%, 6.5%
  - B) 15%, 21%
  - C) 7.4%, 6.8%
  - D) 9.25%, 8.6%
  - E) None of the above.
  
4. You have a sample of returns observations for the Malta Stock Fund. The 4 returns are 0.0725, 0.056, 0.125, 0.010. What is the average return and variance of these returns?
  - A) 6.50%, 16.9.
  - B) 6.60%, 22.5.
  - C) 26.35%, 67.6.
  - D) 8.80%, 16.9.
  - E) None of the above.
  
5. When a security is added to a portfolio the appropriate return and risk contributions are:
  - A) the expected return of the asset and its standard deviation.
  - B) the most probable return and the beta.
  - C) the expected return and the beta.
  - D) the most probable return and the beta.
  - E) these both can not be measured.

Use the following to answer questions 6-9:

Idaho Slopes (IS) and Dakota Steppes (DS) are both seasonal businesses. IS is a downhill skiing facility, while DS is a tour company that specializes in walking tours and camping. The equally likely returns on each company over the next year are expected to be:

Economy	Idaho Slopes	Dakota Steppes
Strong Downturn	-10%	2%
Mild Downturn	- 4%	7%
Slow Growth	4%	6%
Moderate Growth	12%	4%
Strong Growth	20%	4%

6. The variances of IS and DS are:
  - A) .0145; .00038
  - B) .011584; .000304
  - C) .006454; .000154
  - D) .0008068; .000193
  - E) none of the above
  
7. The covariance between the IS and DS returns is:
  - A) .00187
  - B) .00240
  - C) .00028
  - D) .000056
  - E) none of the above
  
8. The correlation between the returns of IS and DS is:
  - A) +1.0
  - B) -1.0
  - C) +.3
  - D) -.3
  - E) 0.03
  
9. If IS and DS are combined in a portfolio with 50% invested in each, the expected return and risk would be:
  - A) 5.625%; 37.2%
  - B) 4.5%; 5.48%
  - C) 8.0%; 8.2%
  - D) 5.0%; 0%
  - E) 4.5%; 0%
  
10. The total number of variance and covariance terms in portfolio is  $N^2$ . How many of these would be (including non-unique) covariance terms?
  - A)  $N$
  - B)  $N^2$
  - C)  $N^2 - N$
  - D)  $N^2 - N/2$
  - E) none of the above.
  
11. Recent research by Fama and French calls into questions the CAPM because they find:
  - A) average security returns are negatively related to the firm P/E and M/B ratios.
  - B) P/E and M/B are only two of several factors explaining average returns.
  - C) a weak relationship between average returns and beta for 1941 to 1990 and no relationship from 1963 to 1990.
  - D) a and c.
  - E) b and c.

12. Slippery Slope Roof Contracting has an equity beta of 1.2, capital structure with 2/3 debt, and a zero tax rate. What is their asset beta?  
 A) 1.8 B) .40 C) .72 D) 1.2 E) none of the above
13. RKKL is considering buying a company that has no leverage but an asset beta of 0.7. The market risk premium is 6% and the risk-free rate is 2%. If they plan to use 75% debt, what will the required rate of return be?  
 A) 18.8% B) 6.2% C) 8% D) 14.6% E) not enough information to calculate.

Use the following to answer question 14:

The current market rate of return is 12% and the risk-free rate is 4%. You have been given the job of determining your firm's cost of capital components. The company has 10 million shares outstanding with a current value of \$22.50 per share. The debt represents 30% of the capital structure and the yield to maturity is 12%. The  $\beta$  of the equity is 1.4 and the tax rate is 30%.

14. What is the market value of debt and its net cost to the firm?  
 A) 9,642,857; 8.4% D) 6,750,000; 12%  
 B) 9,642,857; 12% E) 4,725,000; 12%  
 C) 6,750,000; 8.4%
15. When a specialist trades with an informed trader, s/he faces a loss due to:  
 A) market impact costs.  
 B) adverse selection.  
 C) broker's quote.  
 D) increasing the number of uninformed traders.  
 E) none of the above.
16. Corporate managers can maximize shareholder wealth by choosing positive NPV projects because:  
 A) all investors have the same preferences.  
 B) the unhappy shareholders can sell off shares.  
 C) the separation theorem in financial markets states that all investors will be satisfied with the same investment decision regardless of personal preferences.  
 D) managers are wiser than shareholders regarding investments.  
 E) none of the above.

17. You have deposited \$1,500 in an account that promises to pay 8% compounded quarterly for the next five years. How much will you have in the account at the end?  
 A) \$1,598.33 B) \$2,228.92 C) \$2,203.99 D) \$6991.44 E) None of the above
18. Which of the following amounts is closest to the end value of investing \$9,000 for 7 years at a continuously compounded rate of 11%?  
 A) \$18,685.44 D) \$19,437.90  
 B) \$19,369.83 E) None of the above.  
 C) \$15,930.00
19. Aunt Clarisse has promised to leave you \$60 a year starting next year and have it increase at 4% a year thereafter. The payments are expected to go on indefinitely. How much has Aunt Clarisse left you if your opportunity costs is 9%.  
 A) \$ 693.33. B) \$1200.00. C) \$1248.00. D) \$ 666.67 E) None of the above.
20. LCP, a newly formed medical group, is currently paying dividends of \$.50. These dividends are expected to grow at a 20% rate for the next 5 years and at a 3% rate thereafter. What is the value of the stock if the appropriate discount rate is 12%?  
 A) \$ 8.08. B) \$11.17. C) \$14.22. D) \$17.32. E) \$30.90.
21. Stand Still Co. has been earning \$1 per share on 400,000 shares, and paying out all of the earnings. The discount rate for a company of this risk is 10%. The company has an investment opportunity with a cost of \$1,500,000 and expects to earn \$230,000 after taxes, but they must reinvest 35% of these earnings to continue to maintain the expansion in earnings. What is the value of the company without the investment and what is the value with the investment?  
 A) \$200,000; \$1,500,000 D) \$4,000,000; \$610,390  
 B) \$4,000,000; \$6,600,000 E) \$400,000; \$15,000,000  
 C) \$4,000,000; \$4,610,390
22. The market rate of interest on 2 year bonds is 6.25% while the rate on a one year bond maturing on one year is 5.50%. The forward rate on a one year bond one year from now is 6.5%. The liquidity premium to induce investors to hold the 2 year bond is:  
 A) 0.25%. B) 0.005%. C) 0.125%. D) 0.50%. E) -0.25%.

23. The yield to maturity is:
- A) the rate that equates the price of the bond with the discounted cashflows.
  - B) the expected rate to be earned if held to maturity.
  - C) the rate that is used to determine the market price of the bond.
  - D) equal to the current yield for bonds priced at par.
  - E) all of the above.
24. Which of the following amounts is closest to the value of a bond that pays \$55 semiannually and has an effective semiannual interest rate of 5%? The face value is \$1,000 and the bond matures in 3 years. There are exactly six months before the first interest payment.
- A) \$1,014. B) \$1,055. C) \$ 888. D) \$1,025. E) \$1,000.
25. An investment project is most likely to be accepted by the payback period rule and not accepted by the NPV rule if the project has:
- A) a large initial investment with moderate positive cash flows over a very long period of time.
  - B) a very large negative cash flow at the termination of the project.
  - C) most of the cash flow at the beginning of the project.
  - D) All projects approved by the payback period rule will be accepted by the NPV rule.
  - E) The payback period rule and the NPV rule cannot be used to evaluate the same type of projects.
26. An investment project has the cashflow stream of -250, 75, 125, 100, and 50. The cost of capital is 12%. What is the discount payback period?
- A) 2.5 years. B) 2.7 years. C) 3.38 years. D) 1.40 years. E) 1.25 years.
27. An investment cost \$10,000 with expected cashflows of \$3,000 for 5 years. The discount rate is 15.235%. The NPV is \_\_\_ and the IRR is \_\_\_ for that project.
- A) 0; 15.235%.
  - B) 3.33; 27.22%.
  - C) 5,000; 0%.
  - D) Can not answer without one or the other value as input.
  - E) None of the above.



33. You have been asked to evaluate two machines. The benefits from ownership are identical. Machine A costs \$300 to buy and install, lasts for 5 years, and costs \$160 per year to operate. Machine B costs \$500, lasts for 7 years, and costs \$120 per year to operate. Both machines have zero salvage value. Assuming that this is a one-time acquisition, which machine do you recommend if the cost of capital is 15%?
- A) Machine A, the PV is \$163 more than Machine B.  
 B) Machine A, the PV of its costs is \$163 less than Machine B.  
 C) Machine A, because the project length is two years less than Machine B.  
 D) Machine B, the PV is \$163 more than Machine A.  
 E) Machine B, the PV of its costs is \$163 less than Machine A.

34. Given the following information:

<u>Existing Capital Structure</u>	<u>Book Values</u>
Bonds	\$10,000,000
Preferred Stock	\$1,600,000
Common Stock	\$2,000,000

Bond Information

- coupon rate 16%/yr
- market rate is 10%/yr (csa, compounded semi-annually)
- maturity 20 years

Preferred Stock Information

- dividend is \$.50/quarter
- market price \$16/share
- value when originally issued (par) was \$8/share

Common Stock Information

- last year's dividend was \$0.25/quarter
- expected constant growth rate of dividends is 10%/yr (ca, compounded annually)
- value when original issued (par) was \$2/sh
- beta equals 1.2

General Information

- market rate on the 90-day t-bill is 5%/yr ca
- expected rate of return of the market portfolio is 20%/yr ca
- the firm's tax rate is 40%

What is the firm's weighted average cost of capital?

35. Your firm is considering buying a new piece of equipment. Given the following relevant information regarding this piece of equipment, would you recommend that the company make the purchase? Support your recommendation with the computed NPV figure. (Assume your firm uses straight line depreciation, the firm's marginal tax rate is 34% and the required rate of return on this project is 12%/yr ca)

- (i) the purchase price of the equipment is \$1,500,000, its expected life is 10 years and its expected salvage value after 10 years of use is \$200,000.
- (ii) there will be an immediate need to increase working capital from its existing level of \$400,000 to \$500,000
- (iii) using this piece of equipment will increase before tax revenue by \$100,000/yr in the first 4 years and by \$150,000/yr in the remaining 6 years.
- (iv) using this piece of equipment will increase before tax operating expenses by \$80,000/yr for all 10 years.