Carleton UNIVERSITY

FINAL EXAMINATION

Fall 2010

Student Last Name: _____

Student First Name: _____

Student Number:_____

DURATION: 3 HOURS **No. of Students: 255**
Department Name & Course Number: BUSI 2504 **Section: C, E, F**
Course Instructor(s) : Mitch Murphy, Yuriy Zabolotnyuk

AUTHORIZED MEMORANDA

Calculator
Hand-written notes on one side of 8.5" x 11" sheet

Students MUST count the number of pages in this examination question paper before beginning to write, and report any discrepancy to a proctor.
This question paper has 8 (eight) pages.

This examination question paper may not be taken from the examination room.

In addition to this question paper, students require: an examination booklet yes
Scantron sheet yes

		Received
Multiple choice questions (50 marks):	1 - 25 – 50 marks	_____
Problems (50 marks):	Q1 –13 marks	_____
	Q2 –12 marks	_____
	Q3 –12 marks	_____
	Q4 –13 marks	_____
	Total – 100 marks	_____

Do ALL 25 multiple choice problems: 2 marks per question for a total of 50 marks.

1. The primary goal of financial management is to:
   A) Maximize market share.
   B) Maximize current value of the existing stock.
   C) Maximize profits.
   D) Minimize operational costs.
   E) Maintain steady earnings growth.

2. Agency costs are:
   A) The total dividends paid to shareholders over the lifetime of the firm.
   B) The costs that result from default and bankruptcy of the firm.
   C) Corporate income subject to double taxation.
   D) The costs of conflicts of interest between stockholders and management.
   E) The total interest paid to creditors over the lifetime of the firm.

3. At a 12% rate of interest, you will quadruple your money in approximately ____ years.
   A) 3
   B) 6
   C) 12
   D) 24
   E) 48

4. An account paying annual compound interest was opened with $1,000 ten years ago. Today, the account balance is $1,500. If the same interest rate is offered on an account paying simple interest, how much income would be earned over the same time period?
   A) $86.20
   B) $92.47
   C) $413.80
   D) $436.29
   E) $500.00

5. Your banker quotes you two different loan payments on a $12,000 car loan, one calling for 36 monthly payments and the other calling for 24 monthly payments. Both loans have the same APR and EAR. She then tells you that the shorter loan is a better deal because the total payments you would make over the life of the loan would be lower. What is she ignoring?

   A) The payment would be lower on the 24 month loan.
   B) The 24 month contract will actually cost you more in total payments, not less.
   C) The interest you could earn by saving the difference between the two loan payments.
   D) The fact that you must make 12 more payments on the longer term loan.
   E) The APR and EAR for the two loans are irrelevant.

6. Which one of the following would have the greatest present value, assuming a positive discount rate?
   A) $1,000 today plus $100 a month for 2 years
   B) $1,000 today plus $200 a month for a year
   C) $1,000 today plus $400 a month for six months
   D) $2,200 today plus $200 a month for six months
   E) $2,200 today plus $100 a month for a year

7. When you were born, your dear old Aunt Minnie promised to deposit $1,000 into a savings account bearing a 5% compounded annual rate on each birthday, beginning with your first. You have just turned 22 and want the dough. However, it turns out that dear old (forgetful) Aunt Minnie made no deposits on your fifth and eleventh birthdays. How much is in the account right now?
   A) $31,976
   B) $34,503
   C) $43,888
   D) $47,983
   E) $51,889

8. The monthly mortgage payment on your house is $586.81. It is a 30 year mortgage at a quoted rate of 7.8%. How much did you borrow (To the nearest $10)?
   A) $75,000
   B) $77,500
   C) $80,000
   D) $82,500
   E) $85,000

9. Strapped for cash, your neighbour makes you the following offer. He would like to borrow $10,000 today. He will repay the $10,000 by making equal yearly payments of $1,500, starting at the end of this year. If the appropriate discount rate is 12%, how long will it take your neighbour to repay the loan?
   A) 10.0 years
   B) 12.5 years
   C) 14.2 years
   D) 15.8 years
   E) 17.3 years

10. All else the same, if interest rates fall, then _____.
   I. bond prices will rise
   II. coupon payments on floating rate bonds will fall
   III. the percentage price change for long-term bonds will be greater than for short-term bonds
   IV. the percentage price change for low coupon bonds will be greater than for high coupon bonds

   A) I and III only
   B) I and IV only
   C) II and IV only
   D) I, II, and III only
   E) I, II, III, and IV

11. The newly issued bonds of the Wynslow Corp. offer a 6 percent coupon with semi-annual interest payments. The bonds are currently priced at par value. The effective annual rate provided by these bonds must be:
   A) equal to 3 percent.
   B) greater than 3 percent but less than 4 percent.
   C) equal to 6 percent.
   D) greater than 6 percent but less than 7 percent.
   E) equal to 12 percent.

12. If investors require a 7% nominal return and the expected inflation rate is 3%, what is the expected real return?
    A) 1.04%
    B) 3.00%
    C) 3.88%
    D) 4.00%
    E) 6.80%

13. Boomer Products, Inc. manufactures "no-inhale" cigarettes. As its target customers age and pass on, sales of the product are expected to decline. Thus, demographics suggest that earnings and dividends will decline at a rate of 4% annually forever. The firm just paid a dividend of $2.50; given a required return is 12%, the price of the stock in two years will be:
    A) $9.45
    B) $11.52
    C) $13.82
    D) $14.98
    E) $29.95

14. ABC Corporation's common stock dividend yield is 2.1%, it just paid a dividend of $1, and is expected to pay a dividend of $1.07 one year from now. Dividends are expected to grow at a constant rate indefinitely. What is the required rate of return on ABC stock?
    A) 9.0%
    B) 9.1%
    C) 9.3%
    D) 10.6%
    E) 11.2%

15. The hypothesis that market prices reflect all publicly-available information is called efficiency in the:
    A) Open form.
    B) Strong form.
    C) Semi-strong form.
    D) Weak form.
    E) Stable form.

16. You are considering two perpetuities which are identical in every way, except that perpetuity A will begin making annual payments of $P to you two years from today while the first $P payment for perpetuity B will occur one year from today. It must be true that the present value of perpetuity:
    A) A is greater than that of B by $P.
    B) B is greater than that of A by $P.
    C) B is equal to that of perpetuity A.
    D) A exceeds that of B by the PV of $P for one year.
    E) B exceeds that of A by the PV of $P for one year.

17. Shares of common stock of the Timken Co. offer an expected total return of 16 percent. The dividend is increasing at a constant 6 percent per year. What is the dividend yield?
A) 6.0 percent
B) 6.6 percent
C) 10.0 percent
D) 10.6 percent
E) 16.0 percent

18. AnnMarie is considering a project which will produce cash inflows of $1,200 a year for 6 years. The project has a 15 percent required rate of return and an initial cost of $3,400. What is the discounted payback period?
A) 2.83 years
B) 2.92 years
C) 3.96 years
D) 3.99 years
E) 4.13 years

19. You are analyzing the following two mutually exclusive projects and have developed the following information. What is the crossover rate?

Year	Project A Cash Flow	Project B Cash Flow
0	-$84,500	-$76,900
1	$29,000	$25,000
2	$40,000	$35,000
3	$27,000	$26,000

A) 11.113 percent
B) 13.008 percent
C) 14.901 percent
D) 16.750 percent
E) 17.899 percent

20. Based on the profitability index (PI) rule, should a project with the following cash flows be accepted if the discount rate is 8 percent? Why or why not?

Year	Cash Flow
0	-$18,600
1	$10,000
2	$ 7,300
3	$ 3,700

A) yes; because the PI is 1.008
B) yes; because the PI is .992
C) yes; because the PI is .999
D) no; because the PI is 1.008
E) no; because the PI is .992

21. You are considering an investment with the following cash flows. If the required rate of return for this investment is 13.5 percent, should you accept it based solely on the internal rate of return rule? Why or why not?

Year	Cash Flow
0	-$12,000
1	$ 5,500
2	$ 8,000
3	-$ 1,500

A) yes; because the IRR exceeds the required return
B) yes; because the IRR is a positive rate of return
C) no; because the IRR is less than the required return
D) no; because the IRR is a negative rate of return
E) You can not apply the IRR rule in this case because there are multiple IRRs.

22. Assume you are looking at a graph depicting the security market line. A stock which is undervalued will plot on that graph:
A) to the right of the overall market.
B) to the left of the overall market.
C) above the security market line.
D) on the security market line.
E) below the security market line.

23. Which one of the following statements is correct?
A) A beta of 1.2 indicates that a security has less risk than the overall market.
B) Treasury bills have a beta of zero.
C) A stock with a beta of 1.4 has less systematic risk than a stock with a beta of .9.
D) The risk premium associated with a stock will decrease as the beta of the stock increases.
E) The beta of a diversified portfolio will approach zero as the number of stocks in the portfolio is increased.

24. Standard deviation measures the _____ risk of a security.
A) unique
B) asset-specific
C) systematic
D) total
E) diversifiable

25. The primary purpose of portfolio diversification is to:
A) increase returns and risks.
B) eliminate all risks.
C) eliminate firm-specific risk.
D) eliminate systematic risk.
E) lower both returns and risks.

Do ALL FOUR problems.
Show how you arrived at your answer including (1) the general form of equation, (2) the equation with the correct numbers substituted in, and (3) the solution!

1. Amber wants to buy a bright, red Corvette. The car costs is $60,000 (taxes included). Amber has no savings for a down payment, and she is worried about being able to afford the car payments. Her friendly Chevy dealer is offering a plan in which she will make payments of $440 every two weeks for 4 years (the first payment occurs in two weeks). At the end of 4 years, Amber must make her last payment, **plus** a lump sum payment of the balance remaining on the loan. The loan APR is 6.48% compounded monthly. (13 marks)

a) What is the value today of all Amber's bi-weekly payments? (i.e. the value of all payments, **except** the final lump sum) (7 marks)

b) What lump sum amount will Amber need to pay in 4 years? (6 marks)

2. Use the following to answer the questions (12 marks):

Odesa, Inc.: **2010 Income Statement**	($ in millions)
Net sales	$9,610
Less: Cost of goods sold	6,310
Less: Depreciation	1,370
Earnings before interest and taxes	1,930
Less: Interest paid	630
Taxable Income	$1,300
Less: Taxes	455
Net income	$ 845

Odesa, Inc. **2009 and 2010 Balance Sheets** ($ in millions)

	2009	**2010**		**2009**	**2010**
Cash	$310	$405	Accounts payable	$ 2,720	$ 2,570
Accounts rec.	2,640	3,055	Notes payable	100	0
Inventory	3,275	3,850	Total	$ 2,820	$ 2,570
Total	$ 6,225	$ 7,310	Long-term debt	7,875	8,100
Net fixed assets	10,960	10,670	Common stock	5,000	5,250
			Retained earnings	1,490	2,060
Total assets	$17,185	$17,980	Total liab.& equity	$17,185	$17,980

a) What is the amount of the net capital spending for 2010? (2 marks)
b) What is the operating cash flow for 2010? (3 marks)
c) What is the cash flow from assets for 2010? (4 marks)
d) What is the cash flow to stockholders for 2010? (3 marks)

3. SickStuff Inc. has just paid a dividend on their preferred shares of $2.00 per share. It is expected that dividends on its preferred shares will grow at 10% indefinitely. The preferred stock

currently is selling at $44 per share. The risk free rate is 3%, the expected return on the market is 10%, and SickStuff's common stock beta is 1.2. SickStuff's bonds pay semi-annual coupons with a 10% coupon rate, have 20 years to maturity, $1000 face value and currently are selling at $900. SickStuff's tax rate is 40% and it intends to raise additional capital as follows: 20% from preferred stock, 40% from new common equity, and the remainder from the debt market. Assume there are no costs to issuing debt or equity. What is SickStuff's weighted average cost of capital (WACC)? (12 marks)

4. The total value of your portfolio is $5,000: $3,000 of it is invested in Stock A and the remainder invested in Stock B. Stock A has a beta of 0.8; Stock B has a beta of 1.1. The risk premium on the market portfolio is 8%; the risk-free rate is 2%. Additional information on Stocks A and B is provided below. (13 marks)

		Return in Each State	
State	Probability of State	Stock A	Stock B
Excellent	20%	15%	5%
Normal	50%	9%	7%
Poor	30%	-15%	10%

a) What are the expected return and the standard deviation of your portfolio? (4 marks)
b) What is the beta of your portfolio? (4 marks)
c) What should be the required returns on Stocks A and B according to CAPM? Which stock is overpriced or underpriced according to the CAPM? That is, which stock is NOT in equilibrium according to the CAPM? (5 marks)