



Gestão Financeira II / Corporate Finance II

Undergraduate Programs

Mid-Term Test

April 22nd, 2012

15:30-16:30 (+15 MIN tolerance)

IMPORTANT INFORMATION TO READ BEFORE SOLVING THE TEST:

1. The test has 8 questions of multiple choice (each correct answer scores 2 marks, no answer awards you 0, and an incorrect answer penalizes 0.25 marks) and 1 question (worth 4 points) in which you must present all steps of your solution.
2. You must **answer the multiple choice questions (1 to 8) in the grid presented below in this page.**
3. Fill in your name and student number.
4. You can use pens, pencils and a calculator. Nothing else. A set of formulae is provided together with the questions.
5. You cannot un-staple your test.

Name: _____ No. _____

Question	A	B	C	D
1		X		
2	X			
3		X		
4	X			
5		X		
6		X		
7			X	
8		X		

Good luck!



1. Consider the following two quotes for XYZ stock:

April 19th	Apri 22nd
Ask: 15.25	Ask: 16.00
Bid: 15.20	Bid: 15.93

The amount you would have to pay to purchase 150 shares of XYZ stock on April 19th is closest to:

- A) \$2280
- B) \$2290
- C) \$2390
- D) \$2400

$$150 * 15.25 = 2287.5$$

2. Consider the following prices from a McDonald's Restaurant:

Big Mac Sandwich	\$2.99
Large Coke	\$1.39
Large Fry	\$1.09

A McDonald's Big Mac value meal consists of a Big Mac Sandwich, Large Coke, and a Large Fry. Assume that there is a competitive market for McDonald's food items and that McDonalds sells the Big Mac value meal for \$4.79. Does an arbitrage opportunity exist and if so how would you exploit it and how much would you make on one extra value meal?

- A) Yes, buy extra value meal and then sell Big Mac, Coke, and Fries to make arbitrage profit of \$0.68
- B) No, no arbitrage opportunity exists
- C) Yes, buy Big Mac, Coke, and Fries then sell value meal to make arbitrage profit of \$1.09
- D) Yes, buy Big Mac, Coke, and Fries then sell value meal to make arbitrage profit of \$0.68

Buy Menu	-4,79
Sell BigMac,Coke,Fries	5,47
Difference	0,68

3. Hugh Akston took out a 30-year mortgage with an EAR of 5.9%. If Hugh borrowed \$300,000 to buy his home, then his monthly payment will be closest to:

- A) \$835
- B) \$1,750
- C) \$1,780
- D) \$10,240

EAR	5,90%	monthly	0,00478852
Number payments			360
Annuity	1749,99841		



4. The value of currently unused warehouse space that will be used as part of a new capital budgeting project is
 A) an opportunity cost.
 B) irrelevant to the investment decision.
 C) an overhead expense.
 D) a sunk cost.
5. Consider the following four bonds that pay annual coupons:

Bond	Years to maturity	Coupon	YTM
A	1	0%	5%
B	5	6%	7%
C	10	10%	9%
D	20	0%	8%

The percentage change in the price of the bond "C" if its yield to maturity increases from 9% to 10% is closest to:

- A) -17%
 B) -6%
 C) -4%
 D) 4%

y	9%	10%
P(Bond C)	1064,18	1000,00
% Change	-0,060306324	

6. Nielson Motors has a share price of \$25 today. If Nielson Motors is expected to pay a dividend of \$0.75 this year, and its stock price is expected to grow to \$26.75 at the end of the year, then Nielson's dividend yield and equity cost of capital are:
 A) 3.0% and 7.0% respectively
 B) 3.0% and 10.0% respectively
 C) 4.0% and 6.0% respectively
 D) 4.0% and 10.0% respectively

Po	25
Div1	0,75
P1	26,75
DivYield	0,03
Re	0,10

7. Consider the following average annual returns:

Investment	Average Return
Small Stocks	23.2%
S&P 500	13.2%
Corporate Bonds	7.5%
Treasury Bonds	6.2%
Treasury Bills	4.8%

The excess return for the portfolio of small stocks is closest to:

- A) 10.0%
- B) 15.7%
- C) 18.4%
- D) 17.0%

$$23.2\% - 4.8\%$$

8. Consider the following expected returns, volatilities, and correlations:

Stock	Expected Return	Standard Deviation	Correlation with Microsoft	Correlation with Wal-Mart
Microsoft	44%	24%	1.0	0.7
Wal-Mart	23%	14%	0.7	1.0

The volatility of a portfolio that consists of a long position of \$12000 in Wal-Mart and a short position of \$2000 in Microsoft is closest to:

- A) 9%
- B) 14%
- C) 11%
- D) 12%

InvWM	12000	W(WalMart)	1,2
InvMSF	-2000	W(MSFT)	-0,2
Total	10000		
Variance	0,0192384		
SD	0,13870256		

9. (4 points) Consider a new 2-year project presented by the pop music famous group THE SMELLY CAT Corporation:

Year	1	2
Revenues	210	140
EBITDA	90	60

The project involves introducing a new album and tour. In this industry, Net working capital is 8% of next year's revenues. Capital expenditures to be made today are 140, in technical equipment with a life of 2 years (straight-line depreciation). At the end of the project this equipment will be sold for 30.

If this project goes ahead, THE SMELLY CAT Corporation expects to boost annual sales of its older albums by 25. Investors require an annual return of 15%. The corporate tax rate is 30%.

- a. (1.5 points) Compute the free cash flows of the project. What is the discounted payback period? Explain.

t	0	1	2
Revenues New Project	0	210	140
EBITDA New Project	0	90	60
New Sales Old Albums	0	25	25
EBITDA Old Albums	0	10,71	10,71
EBITDA Total	0	100,71	70,71
Depreciation	0	70	70
EBIT	0	30,7142857	0,71428571
EBIT(1-Tc)	0	21,5	0,5
Operating CF	0	91,5	70,5
CapEx	140	0	0
Selling Machine	0	0	21
NWC	18,8	13,2	0
Increase in NWC	18,8	-5,6	-13,2
FCF	-158,8	97,1	104,7
disc	-158,8	84,4347826	79,168242
cum	-158,8	-74,365217	4,80302457
PP		1,93933142	years.

assuming same "margin"
EBITDA/Revenues

- b. (1 point) Should you invest in the project? Explain.

NPV 4,80

Yes, because the NPV is non-negative.

- c. (1.5 points) Read the following statement: "The IRR of this project is lower than the cost of capital of 15%, which makes the project attractive". Do you agree with this statement? Explain.

Disagree. The IRR is higher than the discount rate (15%) because the NPV is positive (at 15%) and we can interpret the IRR rule in the "usual" way (that is, cash flows only change sign once and start negative).





EXTRA SPACE TO COMPLETE QUESTION 9



SCRAP PAPER



SCRAP PAPER