ISCTE Business School Instituto Universitário de Lisboa	**FUNDAMENTALS OF FINANCE**

Evaluation: Mini-Test I

Date: 15th March 2014

Duration: 75 minutes

Name: _____

School ID Number: _____ **GAi**

GRADE

GROUP 1	
GROUP 2	
TOTAL	

Please pay attention to the following information:

The test may be done with pen or pencil;

For supporting additional calculations you should use the existing sheet for that purpose;

We do not clarify any doubts during the test, so if you need to take some assumption, please do so (in writing) and respond accordingly;

It is possible to use calculators;

With the exception of the formulas sheet, the rest of the test cannot be unstapled;

The rounding should be carried out to 4 decimal places to interest rates, foreign exchange rates and intermediate calculations (ex: 0.1234) and 2 decimal places for values (ex: 1, 234.12 Euros).

In multiple-choice questions the answer will only be considered if written on the square on the right, given for that purpose. Each wrong answer corresponds to a loss of 0.25 points on the final grade of the test.

GROUP 1

1. (1.5 points) An investor sold, from his portfolio, the asset A before it reaches maturity. The asset A is a Share or a Bond?

a) A Share, because Bonds do not have Maturity

b) A Bond, because only these can be sold before reaching maturity, and after Maturity must remain in the portfolio

c) A Bond, because there are no Shares with Maturity

d) A Share, because Bonds cannot be sold, since there is an obligation to keep them in the portfolio

2. (1.5 points) Consider that on February 23 (assume that February has 28 days) will start a term deposit in the amount of 1,000 euros with a stated annual interest rate of 1%. At the end of the deposit the interest received will amount to 2 EUR. The operation will end on:

a) May 9

b) May 6

c) May 8

d) a holiday

e) I lack data to determine the date

3. (1.5 points) Choose the correct answer:

a) If company A has a rating higher than of company B its profits are higher than B's profits

b) The downgrade of a country's rating implies automatically the downgrade of the rating of all businesses in this country

c) In the S&P rankings there are only 2 countries with AAA + notation

d) The statements a) and c) are correct

e) None statement is right

4. (1.5 points) In a funding in USD for six months, at an interest rate of 2%, a Portuguese company found that, when in the end paid the loan, the EUR needed to get the USD required to liquidate the capital and interest were an amount lower than the obtained at the beginning of the funding:

a) The CFO made a mistake on the calculations

b) The USD has appreciated against the EUR

c) The USD has appreciated more than 1% against the EUR

d) The EUR has appreciated against the USD

5. (1.5 points) Choose the correct answer:

a) The EURIBOR is the monthly rate for the offer of funds formed daily at the interbank money market by leading banks of Euro countries

b) The EURIBOR is the rate at which the European Central Bank accepts daily deposits of other banks in the Euro system

c) Bond issues are a good example of an instrument of direct funding of the economy

d) The recent purchase of Whatsapp by Facebook is an example of a large IPO

e) All the previous answers are right

f) None of the previous answers are right

6. (3 point) An exporter uses part of the 50,000 CHF received from a Swiss client to amortize a loan in JPY. He kept 12,000 CHF. Knowing that the interest rate of the funding was 2% with a one year term, and knowing that the exchange rates

USD/JPY and USD/CHF are respectively of 110.20 and 0.9000, determine the amount (principal/initial) of the funding in JPY.

GROUP 2

7. (1.5 points) A perpetuity of an annual cash flow of 100 EUR generates a present value less than 10,000 euros.

a) The discount rate used is greater than 1%

b) The discount rate used is less than 1%

c) If the cash flow is 200 euros, the present value is less than 20, 000 euros

d) None of the previous answers are right

8. (1.5) The company MJT contracted a loan for 9 months, with quarterly interest at an annual stated rate of 8%, rejecting another loan with the same maturity but with monthly interest. The stated annual rate of this loan must have been higher than (result rounded to the second decimal place):

a) 8.08%

b) 8.16%

c) 7.85%

d) 7.95%

e) None of the above is correct

9. (1.5) Only one of the following statements is WRONG. Identify it:

a) In a one year funding, I'd rather have a stated annual interest rate of 2% with interest at the end, than a stated annual interest rate of 1.9% with quarterly interest payment

b) In a 90-day deposit the interest rate is 1% if the amount of capital is of 1,000 euros and interest is of 2.50 euros

c) In funding the EGAR can never be lower than the AER (EAR)

d) In a one year transaction with interest paid at the end of the year, the stated annual rate and the effective annual rate are equal

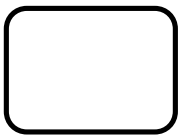
10. (1.5 points) A company will make an investment of EUR 100,000 within 1 year in new headquarters. Knowing that the Stated Annual Rate it can get for its term deposits is 2%, what value should the company deposit today to ensure 100,000 euros in 1 year (rounded)?

a) 97,533€

b) 98,039€

c) 98,054€

d) 99,073€



11. (1+1+1.5 points) A company has the obligation of making 5 constant annual payments of 100,000 euros each.

A. In case it intends to liquidate today in advance all values and considering an annual interest rate of 5%, how much should it pay?

B. If alternatively it wishes to pay a constant value but during 10 years, how much must it pay annually?

C. And if it wants to pay for 5 years, in each semester with antecipated payments, what should be the value of each installment?

Supporting Additional Calculations

Supporting Additional Calculations

FORMULAS

Simple Interest	Compound Interest
$M = C + C \times n \times r$	$M = C \times (1 + r)^n$
$C = \frac{M}{1 + n \times r}$	$C = \frac{M}{(1 + r)^n}$ or $C = M \times (1 + r)^{-n}$
$r = m \times r_m$	$1 + r = (1 + r_m)^m$
	$1 + r = (1 + \frac{r_{(m)}}{m})^m$, where $r_m = \frac{r_{(m)}}{m}$
	$A_{\overline{n}\vert r} = \frac{1 - (1 + r)^{-n}}{r}$
	PV Perpetuity = $\frac{T}{r}$
	PV Growing Perpetuity = $\frac{T}{r - g}$

C – principal / present value; M – compound value; PV – present value; T – cash flow

r – effective annual rate

$r_{(m)}$ – stated rate with a frequency of m

r_m – effective rate for the sub-period (can be repeated m times per year)

n – number of compounding times (periods) using the given interest rate

g – growth rate