Corporate Finance

Mid-Term Exam – Fall 2010/2011

VERSION 1

1 hour and 30 minutes

This exam consists of 20 questions. Each question is worth 1 point. Work out the problems on scratch paper and only write down the correct answer on the line provided. No explanation is required. **No partial credit will be given even if the mistake that is made is obvious.**

This is a closed book exam. You are allowed one double-sided A4 sheet of notes. Calculators are permitted. Good luck!

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Print Name

____

Print Number

Name: Number:

Use the following information to answer Problems 1-3:

Your bank account manager has suggested you to invest €1,500 in a savings account with interest rate of 4% (stated annual) with quarterly compounding.

Problem 1
How much will you have 5 years later?

Answer: ____

Problem 2
What is the effective annual rate (EAR)?

Answer: ____

Problem 3
How much do you need to deposit every year, if you make five annual deposits of equal amount starting today, to have €5,000 in 5 years?

Answer: ____

Use the following information to answer Problems 4-6:

You have borrowed €22,500 today to buy a new car. The loan will be paid back through monthly installments during 3 years starting next month. The loan interest rate is 8% (stated annual).

Problem 4
What is the value of the installment?

Answer: ____

Problem 5
How much interest will you pay two months later?

Answer: ____

Problem 6
What is the value of the monthly installment if the first installment will be paid one year from now?

Answer: ____

Name: Number:

Use the following information to answer Problems 7-12:

Maturity (in years)	Coupon	Quoted Price
0.75	10%	100
1	0%	95
2	8%	100

Assume that coupons are paid annually and that the face value is 100 Euros.

Problem 7
What is the 1-year spot rate?

Answer: ___________________________________

Problem 8
What is the 2-year spot rate?

Answer: ___________________________________

Problem 9
What is the forward rate between year 1 and year 2?

Answer: ___________________________________

Problem 10
What is the price today of 5% coupon (paid annually) bond with 2 years to maturity?

Answer: ___________________________________

Problem 11
What is the invoice (dirty) price of 0.75-year maturity bond?

Answer: ___________________________________

Problem 12
What is the yield to maturity of the 0.75-year maturity bond?

Answer: ___________________________________

Name: Number:

Use the following information to answer Problems 13-17:

Dub Inc generates earnings of $850,000 per year and has 100,000 of shares outstanding. Dub Inc has been following a policy to distribute all its earnings to shareholders. The discount rate is 11.5%.

Problem 13
What is the price per share today?

Answer: ________________________________

Problem 14
What is the Price-Earnings ratio today?

Answer: ________________________________

Problem 15
What would be the required rate by investors if Dub Inc stocks were traded at $80?

Answer: ________________________________

Problem 16
What is NPVGO considering that Dub Inc will retain 40% of its earnings starting next year and investment opportunities will allow earnings to grow at a rate of 5% per year forever?

Answer: ________________________________

Problem 17
What is NPVGO considering that Dub Inc will retain 40% of its earnings starting today and investment opportunities will allow earnings to grow at a rate of 5% per year forever?

Answer: ________________________________

Name: Number:

Use the following information to answer Problems 18-20:

Dub Inc is considering opening a new factory in Brazil. The company expects to operate the factory for 2 years, and in the end of the second year it expects to be able to sell the factory at BRL 1,000,000 in two years. The factory requires an initial investment of BRL 800,000 that will be depreciated over ten years (straight-line method). The forecasts are presented below:

Year	1	2
Sales	BRL 200,000	BRL 400,000
Gross Margin (% of Sales)	40%	30%

Net working capital is 15% of the next year sales. Corporate tax rate in Brazil is 40%. Dub Inc's CFO believes that in alternative to this investment, the company could invest in the stock market and earn 12% per year with the same risk as in the project.

Problem 18
What is the Free Cash Flow in year 0?

Answer: ________________________________

Problem 19
What is the Free Cash Flow in year 1 and 2?

Answer: ________________________________

Problem 20
What is the Net Present Value (NPV)?

Answer: ________________________________