LISBOA SCHOOL OF ECONOMICS & MANAGEMENT

A

**Gestão Financeira II / Corporate Finance II**

**Undergraduate Programs**

**Mid-Term Test**

**November 10th, 2014**

**50 minutes**

**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 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |

Good luck!

**1.** Which of the following statements is FALSE?

A) On Nasdaq, stocks can and do have multiple market makers who compete with each other. Each market maker must post bid and ask prices in the Nasdaq network where they can be viewed by all participants.
**B) Bid prices exceed ask prices.**
C) Because customers always buy at the ask and sell at the bid, the bid-ask spread is a transaction cost investors have to pay in order to trade.
D) On the floor of the NYSE, market makers (known on the NYSE as specialists) match buyers and sellers.

**2.** The effective annual rate (EAR) for a loan with a stated APR of 10% compounded quarterly is closest to:

A) 9.65%
B) 10.00%
**C) 10.38%**
D) 12.50%

| | |
|---|---|
| APR | 10% |
| No. Payments | 4 |
| EAR | 0,103812891 |

**3.** Which of the following statements is FALSE?

A) The payback investment rule is based on the notion that an opportunity that pays back its initial investments quickly is a good idea.
**B) An IRR will always exist for an investment opportunity.**
C) A NPV will always exist for an investment opportunity.
D) In general, there can be as many IRRs as the number of times the project's cash flows change sign over time.

**4.** Consider the following zero-coupon yields on default free securities:

| **Maturity (years)** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Zero-Coupon YTM | 6.70% | 6.50% | 6.10% | 6.00% | 5.90% |

The price today of a two-year default-free security with a face value of $1000 and an annual coupon rate of 5% is closest to:

A) $1002.78
B) $925.74
**C) $972.60**
D) $1000.61

| | | |
|---|---|---|
| Cash flow | 50 | 1050 |
| disc cf | 46,86035614 | 925,7422469 |
| Price | 972,602603 | |

**5.** LoL Industries needs to raise $20 million to fund a new office complex. The company plans on issuing ten-year bonds with a face value of $1000 and a coupon rate of 8.0% (annual payments). The following table summarizes the YTM for similar ten-year corporate bonds of various credit ratings:

| Rating | AAA | AA | A | BBB | BB |
|---|---|---|---|---|---|
| YTM | 6.70% | 6.80% | 7.00% | 7.40% | 8.00% |

What rating must LoL receive on these bonds if they want the bonds to be issued at par?

A) A
**B) BB**
C) BBB
D) AA

**6.** Consider the following zero-coupon yields on default free securities:

| Maturity (years) | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Zero-Coupon YTM | 6.70% | 6.50% | 6.10% | 6.00% | 5.90% |

The forward rate for year 2 (the forward rate quoted today for an investment that begins in 1 year and matures in two years) is closest to:

A) 6.5%
B) 6.6%
**C) 6.3%**
D) 6.0%

f2=(1+0.065)^2/(1+0.067)^1 - 1
f2 0,063003749

**7.** LoL Industries has a dividend yield of 3.5% and a cost of equity capital of 15%. LoL Industries dividends are expected to grow at a constant rate indefinitely. The growth rate of LoL's dividends is closest to:

A) 7.5%
B) 5.5%
C) 16.5%
**D) 11.5%**

| | |
|---|---|
| Div1/P0 | 3,50% |
| Re | 15% |
| g | 11,50% |

**8.** Suppose that Tucson Trucks (TT) has earnings per share of $3.45 and EBITDA of $55 million. TT also has 5 million shares outstanding and debt of $150 million (net of cash). You believe that Arizona Logistics and Transport (ALT) is comparable to TT in terms of its underlying business, but ALT has no debt. ALT has a P/E of 12.5 and an enterprise value to EBITDA multiple of 7. Based upon the enterprise value to EBITDA ratio, the value of a share of Tucson Trucking is closest to:

A) $33.00
B) $82.50
**C) $47.00**
D) $21.25

| TT | | | ALT |
|---|---|---|---|
| EPS | 3,45 | | |
| EBITDA | 55 | million | |
| # shares | 5 | million | |
| D | 150 | million | 0 |
| P/E | | | 12,5 |
| EntValu/EBITDA | | | 7 |
| | | | |
| Enterprise Value | 385 | million | =7*55million |
| Equity Value | 235 | million | =385-150 |
| P | 47,00 | | |

**9.** (4 points) Consider a new 4-year project – Project BANG – for production of a new magazine by the well-known editors FISHYY:

| **Year** | **1** | **2** | **3** | **4** |
|---|---|---|---|---|
| **Revenues** | 100 | 90 | 90 | 90 |

In this industry, the costs of sales (excluding depreciation) are approximately 40% of the revenues. Capital expenditures today are 80, in a machine with a life of 2 years (straight-line depreciation, fully depreciated in 2 years). When this machine is fully depreciated, the company will buy a second machine (at time 2) for the same price of 80. This second machine will again be depreciated straight line, in full. There is no net working capital. Investors require an annual return of 15%. The corporate tax rate is 35%.

a. (1.5 points) Compute the free cash flows of the project.
b. (1.25 point) Should you invest in the project? Explain.
c. (1.25 points) **Without making further computations**, what can you say about the project's IRR? Please explain.

a)

| t | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| Sales | 0 | 100 | 90 | 90 | 90 |
| Costs of Sales | 0 | 40 | 36 | 36 | 36 |
| Depreciation | 0 | 40 | 40 | 40 | 40 |
| EBIT | 0 | 20 | 14 | 14 | 14 |
| EBIT(1-Tc) | 0 | 13 | 9,1 | 9,1 | 9,1 |
| Depreciation | 0 | 40 | 40 | 40 | 40 |
| CapEx | 80 | 0 | 80 | 0 | 0 |
| NWC | 0 | 0 | 0 | 0 | 0 |
| Change in NWC | 0 | 0 | 0 | 0 | 0 |
| FCF | -80 | 53 | -30,9 | 49,1 | 49,1 |

b) NPV 3,08 € >0; Yes, go ahead with project.

c) Cannot use IRR rule given the profile of cash flows (with multiple changes of sign).

EXTRA SPACE TO COMPLETE QUESTION 9

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SCRAP PAPER

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