MICROECONOMICS
EconomiCS

1ª Época, Fall 2013-2014 Duration: 　　2h (Continuous Evaluation) 　　2h30m (Final Exam Evaluation)	**Name:** Nº　　　　　Turma

READ CAREFULLY AND FOLLOW THE INSTRUCTIONS:

Confirm the type of evaluation: Continuous Evaluation **Final Exam ATTENTION: YOU DO NOT HAVE TO ANSWER II 3a. YOU HAVE TO ANSWER II 4**	Form of answers: Answer the questions in a concise and organized form, within the allowed space. Always justify your answers.	Attention: **Sign all pages and do not separate them!.** Free space can be used for your draft calculations.

Part I: Foundations of Economic Analysis (1 val.)

1. (1,0 val.) In economic analysis, the basic distinction is between "positive" and "normative" analyses. Define the two types of analyses and give an example of each of them.

2. **(FINAL EXAM QUESTION; 0,5 val. and the previous 0.5 val.)**.

Recently, in Scotland a minimum price on alcoholic beverages has been introduced. Represent the effect of this policy on the market equilibrium and explain your findings.

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Part II: Consumer Theory (5 val.)

1. Budget of a consumer is 5000 m.u. (monetary units). She buys Yaps (Y) for her smartphone and Xes (X) on a daily basis. Each Y costs 5 m.u. and each X costs 1 m.u.

a) **(0,75 val.)** Find the budget constraint of the consumer analytically and graphically. Identify and explain what a "feasible set" is.

a) **(0,75 val.)** Suppose a wave of inflation strikes the economy, causing all prices to double. Analyze the impact of this event on the consumer's budget constraint. What other event would result in the same change of the budget constraint?

1. **(1,0 val.)** A Cloud Services company estimates that the demand for its services is given by P=2000-50Q, where Q is the demanded storage space. What is the price elasticity of demand for the price of 500? Interpret the result you obtained.

1. A citizen of Facebookistan disposes of 5000 units of a currency Bitlong (bt). She buys two virtual goods X and Y, prices of which are 30 bt and 60 bt, respectively. Her utility function is given by $U = 2X^{0.5}Y^{0.5}$:

   a) **(1,0 val.) (ONLY FOR CONTINOUS EVALUATION! For Final Exam Evaluation answer question II 4 instead! 1 val.)** Define the Marginal Rate of Substitution. Find the Marginal Rate of Substitution in this case.

   b) **(1,0 val.)** What is the optimal consumption plan?

a) **(0,5 val.)** In the context of consumer theory, the conventional way of describing consumer's choice is widely criticized. Do you think that in the current "digital society" era, the limitations of the theory would become even more severe? Justify.

4. (FINAL EXAM QUESTION; 1 val. REPLACES QUESTION 3a!) A coffeehouse sells two goods: X and Y. Maria does not value good X, thus her utility is given by $U(x,y)=y$. Find her demand function for goods X and Y. Justify.

Part III: Producer Theory (5 val.)

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1. FootSlim is a Portuguese company producing technical boots used in chemical industries for working with dangerous agents. The production function of the company is given by

$Q(K,L)= K^{1/2} L^{1/2}$, where K and L are capital and labor, respectively.

a)   **(0,5 val.)** If the capital is fixed at K=4, is it possible to determine whether the company operates in the short or in the long run? Justify your answer.

b)   **(1 val.)** Given the situation described in point a), find the expressions for the production function, the average product of labor and the marginal product of labor. Present definitions of the three concepts.

c)   **(1,0 val.)** Again, assuming the situation described in a), and assuming that one unit of labor costs 9 m.u. and one unit of capital costs 4 m.u., find the total cost of producing 4 units of the final product.

d)   **(1,0 val.)** Given your result found in c) find the fixed cost, the variable cost, the average total cost, the average fixed cost and the average variable cost.

e) **(1,5 val.)** Now assume that both factors of production are variable. Find the optimal combination of factors for producing output Q.

1. **(FINAL EXAM QUESTION; 1 val. and 1 b) and c) 0,5 val. each)** A recent merger of two Portuguese universities (Classica and Tecnica) was introduced to improve on efficiency of the educational services. Moreover, it has been confirmed that, neither professors nor auxiliary staff will be let go. Can you explain this situation using the concept of returns to scale? Justify. What could be the source of the economies of scale?

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Part IV: Market Structures (9 valores)

1. **(1 val.)** Consider a company operating in a perfectly competitive market. Which of the following statements is **NOT** true? Justify your answer.

MC

ATC

c

€

AVC

a

b

q
q

a) At point **c,** the company would supply the product and there would be positive economic profit.

b) The company's supply curve is given by the curve MC above point **b.**

c) At point **a** the company would decide to cease operations and there would be no economic profit.

d) Points **b** and **c** could not be sustained as long run equilibrium.

2. Rice production sector in Portugal is perfectly competitive. Producers of rice have similar cost structures. A total cost curve of a typical producer is given by $TC=20q+40q^2$.

   a)   **(1,5 val.)** Find the supply curve of a typical producer. Present it graphically.

   b) **(1,0 val.)** Assuming that there are 200 rice producers in this market, find the market supply.

3. Suppose now that the rice produces cooperate and supply rice as a one big monopolist. The total cost of the monopolist is the same as in a). Additionally, the market demand is given by Q=90-0.1P

a) **(1,0 val.)** Find the market equilibrium (price and quantity).

b) **(1,0 val.)** Find the consumers' and producers' surplus in this market. Hint: start by representing the market graphically.

c) **(1,0 val)** Is this monopoly a natural monopoly? Justify your answer.

4. **(1,0 val)** "A highest fine ever imposed by the European Commission, of accumulated valor of 1.7 billion Euro, was imposed today on six major worldwide banks for illegal manipulation of the interbank reference interest rates Euribor, Libor and Tibor" (Publico, December 4th, 2013)

Explain the reasons behind the Commision's decision.

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5. On NeoMegaBetaPlus planet, network communication industry is a new, booming sector. There two basic types of technologies (products) in this sector: focused on static communication (Product 1) and focused on interactive communication (Product 2).

		Youface	
		Product 1.0	**Product 2.0**
Tuitoogle	**Product 1.0**	(250 , 250)	(0 , 1000)
Product 2.0		(1000 , 0)	(500 , 500)

a) **(0,5 val.)** Explain what game theory is. What are the basic assumptions of the theory that allow this type of analysis?

b) **(1,0 val.)** Since technology "2.0" collects data of the users, it could lead to problems related to users' privacy. Will this type of problem arise in this game?

6. **(FINAL EXAM QUESTION; 1 val. and 4 and 5 b) 0,5 val. each)**

Explain in detail the similarities and the differences between the Bertrand oligopoly and perfect competition.