ISCTE-Instituto Universitário de Lisboa

MICROECONOMICS

Exame 1ª Época, 1º semestre 2012-2013
Duration:
2h (continuous evaluation)
2h30 (final exam evaluation)

Additional questions "EXAM": Part II-3; Part III-4; Part IV - 4

PART I: Foundations of economic analysis (2.5 val)

1. (1,0 val) Since yesterday morning, until now, when you are writing the exam in Microeconomics, you have taken several decisions. Describe one to which you could apply the concept of opportunity costs. Justify your answer.

2. (1,5 val) At the end of December 2012, press reported that some hotels in the Algarve decided not to organize New Year's Eve dinners, because they expect a lower demand for this service than in previous years. Represent graphically the market for New Year's Eve dinners in December 2011 and 2012, ceteris paribus. Explain your solution. How did the equilibrium price and quantity change?

PART II: Consumer Theory (5 val)

1. Joaquim is organizing a New Year's Eve party, for which he decided to buy Cakes (C) and Snacks (S). One cake costs 1.5 Euro and one Snack costs 1 Euro. Joaquim's utility function is given by

$$U = 2C^{0.6}S^{0.4}$$

Joaqium's budget for this event is 150 Euro.

a) (1,5 val) Find the slope of the budget line. Give an example of a change in prices that could lead to an increase in the slope of the budget line.

b) (2,0 val) If Joaquim is rational, what is the combination of cakes and snacks that he will decide to buy? What utility level will he obtain?

2. Demand for mobile phone sleeves is given by P=100-0.001Q

a) (1,0 val) Identify the price interval for which demand is elastic, for which demand is inelastic and for which it is unit elastic. Present your answer, both in writing and graphically.

b) (0,5 val) At what price are the consumers' expenses in this market highest? Justify your answer.

3. (FINAL EXAM QUESTION) Comment on the following statement: "In an economy, in which the prices of cakes and snacks are the same in different points of sale, the marginal rate of substitution between these two goods must be the same. "

PART III: Producer Theory (4.5 val)

1. Suppose that the production of mobile phones requires two factors of production: skilled labor (L) and capital (K). This process of production is described by the following production function:

$$Y = K^2 L^2 = 10KL^3$$

In a short run, the level of capital is fixed at 500 units.

a) (0,5 val) Find the marginal product of labor.

b) (1,0 val) Identify the region of production for which the marginal product of labor is increasing and for which it is decreasing.

2. (1,5 val) Production of Bolos-Reis (a typical Portuguese Christmas cake) in a coffee house in Lisbon requires two factors of production: labor (L) and capital (K) and is given by:

$$Y = K^2 L$$

The price of each unit of labor is 500 euro and the price of a unit of capital is 1500 euro. A coffee house received an order for producing 1200 Bolos-reis. Suppose the manager of the coffee house asked for your help in determining the amount of K and L required to produce Bolos-reis at a minimal possible cost. What is your advice? What is the cost of production of one Bolo-Rei?

3. (1,5 val) At the moment of founding a new firm, the decisions made about the factors of production are decisions in a short or long run? Justify.

4. (FINAL EXAM QUESTION) Identify two questions faced by firms, which the producer theory allows to answer. Justify your answer.

PART IV: Market structures (8 val)

1. A market of dry cleaning services has recently grown a lot and is served by many small entities. A representative firm in this sector has a total cost function given by:

$$TC = 2Q + Q^2$$

a) (2,0 val) Find the supply curve of a typical firm and present it graphically.

b) (1,5 val) Knowing that the market demand is given by P=50-0.01Q and that the equilibrium price is 22 Euro, find the number of firms active in the market.

c) (1,0 val) Find the producer surplus. What is the economic meaning of the value that you have found?

d) (1,0 val) Suppose now that the same market is served by a monopoly. The cost function of the monopoly is the same as before. Find the equilibrium price and quantity in this market.

2. (1,0 val) Do you think that price discrimination is a reasonable policy for a firm that has market power? Why (not)?

3. (1,5 val) Many firms decide to increase their scale of operations, but this strategy is not always the optimal one. What are the factors that a firm has to take into consideration, when deciding whether to expand or not?

4. (FINAL EXAM QUESTION) Consider a market operated by two firms. Demand in this market is given by P=36-3Q. Each firm's average and marginal cost are equal 18 euro. Find the equilibrium price, quantities and profits of both firms, assuming that Firm 1 is a Stackelberg leader.