| Name:	Number:

Remarks:

- You have 2 hours (2h) to complete this exam.
- The exam contains two parts: Part A composed of 3 problems and Part B with 10 multiple-choice questions.
- The multiple-choice questions in **Part B** should be answered using the **table on page 4**.

Part A [14 points]

1. Consider the markets for goods A and B represented in the following diagrams and answer the following questions.
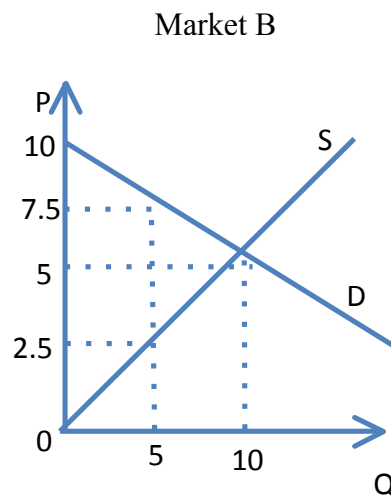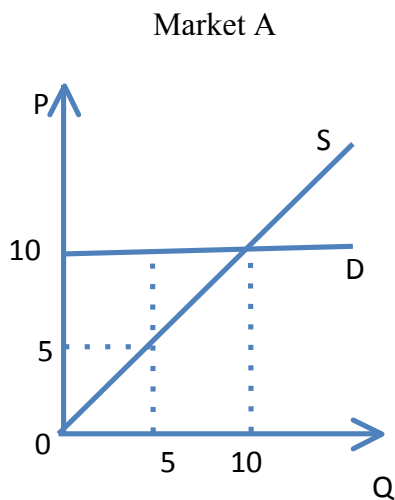
Market A   Market B


a) Find market equilibria in markets A and B and compute the corresponding consumer and producer surplus. [1,5 p]

b) Assume that, in each market, an excise tax of 5 € is imposed. In each situation, compute the new market equilibrium and the new values for the consumer and the producer surplus. [1,5 p]

c) Using the concepts of elasticity and surplus, comment on the following sentence: "Excise taxes that generate the same tax revenue always have the same consequences on the welfare of consumers and producers." [1,5 p]

2. Goods x and y are traded in perfectly competitive markets and cost $p_x = 20€$ and $p_y = 10€$, respectively. Paul has a budget of 200€ to spend on both goods and marginal utility (MU) levels as given in the following table:

Quantity of good x	1	2	3	4	5	6	7	8	9	10
MU_x	260	200	150	110	80	60	45	30	15	5
Quantity of good y	1	2	3	4	5	6	7	8	9	10
MU_y	200	160	120	100	85	70	60	50	45	40

a) Explain why the bundle $(x, y) = (6, 8)$, being affordable, is not Paul's optimal consumption bundle. [1,5 p]

b) Starting from the bundle $(x, y) = (6, 8)$, quantify the changes in the consumption of each good that are needed to achieve the optimal consumption bundle. Justify your answer. [1,5 p]

c) Comment on the following sentence: "If, in a perfectly competitive market, a consumer is not consuming the optimal consumption bundle, there are two ways to achieve it: either changing the consumption of the goods or changing the prices of the goods themselves." [1,5 p]

3. Consider the following diagram:
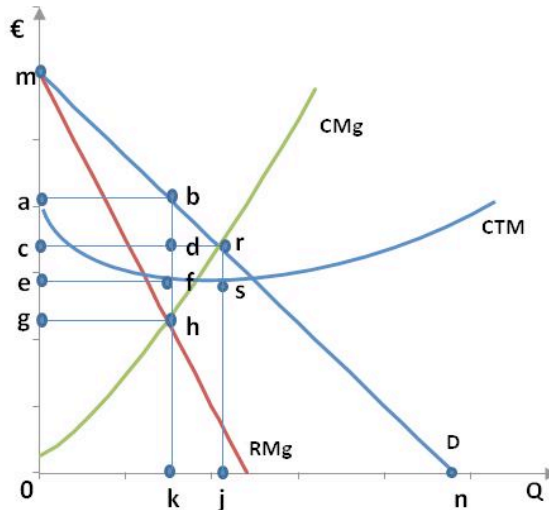
where CMg stands for marginal cost (MC), CTM stands for average total cost (ATC), and RMg for marginal revenue (MR). The diagram represents an industry that was initially controled by a monopolist, the firm I-Do-What-I-Want. The government, aiming at fighting monopoly powers, breaks the firm I-Do-What-I-Want into a huge number of small firms, so that the market becomes perfectly competitive. Assume that the cost structure of each firm is basically identical to the cost structure of I-Do-What-I-Want, which is represented in the above diagram.

a)   Compare and identify in the graph the equilibria before and after government intervention, i.e., the monopoly equilibrium and the perfectly competitive equilibrium. [1,5 p]

b)   In case the monopoly of I-Do-What-I-Want corresponded to a natural monopoly situation and, still, the government broke it into a perfectly competitive industry, what would the predicted market evolution be like? [1,5 p]

c)   Assume that, before government intervention, the firm I-Do-What-I-Want manages to reduce variable costs due to technological improvement. Can you guarantee that it will lower the market selling price? Illutrate your answer graphically. [1,5 p]

A

Name:	Number:

Part B [6 points]

Mark with an **X** the correct answer using the table below. Each correct answer is worth 0,6 points

and we discount 0,2 points for each wrong answer.

	1	2	3	4	5	6	7	8	9	10
a)	a)	a)	a)	a)	a)	a)	a)	a)	a)	a)
b)	b)	b)	b)	b)	b)	b)	b)	b)	b)	b)
c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)
d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)

1.   Which of the following sentences is <u>false</u>?

a) Efficiency is achieved when an economy is able, through an exchange process, to generate the maximum gain possible, given the available resources.
b) When an economy is efficient, it is possible to make some agents better off without hurting the others.
c) Efficiency is reached when all opportunities to improve agents' welfare have been completely explored.
d) Markets usually lead to efficiency.

2. The following table contains the maximum number of units of each good – wine and clothes - that can be produced in two countries: *Alfaland* and *Betaland*.

	Wine	Clothes
Alfaland	50	30
Betaland	20	20

Given the above numbers, *Betaland* has comparative advantage in the production of:

a) Wine.
b) Both goods.
c) Clothes.
d) None of the goods.

3. There is always a reduction in the equilibrium price and an increase in the equilibrium quantity whenever:

a) Both the supply and demand curves shift to the left.
b) The supply curve shifts to the right.
c) The supply curve shifts to the right and the demand curve shifts to the left.
d) The demand curve shifts to the right.

4. Knowing that introducing an excise tax of 3€ per unit in a market that was initially in equilibrium allows to gather a tax revenue of 60€, which of the following sentences is <u>true</u>?

a) The price paid by the consumer does not change, since it is the producer that delivers the tax to the government.
b) The price paid by the consumer after tax introduction is the same that he would pay in case, instead of the tax, a quota of 20 units had been imposed in tis market.
c) Tax revenue is smaller than the revenue the government would have obtained in case, instead of the tax, a quota of 20 units had been imposed in this market.
d) Tax revenue is smaller than the revenue the government would have obtained in case, instead of the tax, a price ceiling of 20€ had been imposed in this market.

5. A 3% increase in the price of a good leads to a 2% reduction in the quantity demanded of another good. We can therefore conclude the two goods are:

    a) Normal goods.
    b) Substitutes.
    c) Complements.
    d) Inferior goods.

6. If cross-price elasticity of demand between goods X and Z is positive, an increase in the price of good X:

    a) Shifts the demand curve of good X to the right.
    b) Shifts the demand curve of good X to the left.
    c) Shifts the demand curve of good Z to the right
    d) Shifts the demand curve of good Z to the left

7. Jasmine spends all her money in gods X and Y and bought the optimal consumption bundle. If MUx/MUy = 3 (MU represents marginal utility) and the price for good X is 12€, the price of good Y is:

    a) 36 €.
    b) 4 €.
    c) 12 €.
    d) 3€.

8.After performing a long run analysis of the cost structure of firm Z, it has been concluded that the firm could reduce the average total cost (ATC) in case it would decrease production by 10%. Which of the following sentences is true?

    a) The firm has increasing returns to scale.
    b) The firm has decreasing returns to scale.
    c) The firm has constant returns to scale.
    d) None of the other alternative sis correct since the firm cannot decrease its ATC.

9. Consider a perfectly competitive firm in the short run. Knowing that the market price of the good it produces is 20€, the firm maximizes profit by:

a) Producing the quantity for which average variable cost (AVC) is 20€.
b) Producing the quantity for which average total cost (ATC) is 20€.
c) Producing the quantity for which marginal cost (MC) is 20€.
d) Producing the quantity for which both average variable cost (AVC) and marginal cost (MC) are 20€.

10. Consider the game between players 1 and 2 represented in the following matrix, where each player has strategies X and Y available. Which of the following sentences is true?

		Player 2	
		X	**Y**
Player 1	**X**	2,3	3,1
	Y	1,4	4,3

Remark: In each cell, the first number corresponds to player 1's payoff and the second number corresponds to player 2's payoff.

a) The strategy profile (X,X) is the non-cooperative solution of the game.
b) The strategy profile (X,X) is the dominant strategy equilibrium.
c) The strategy profile (Y,Y) is the non-cooperative solution of the game.
d) The strategy profile (X,X) corresponds to a situation of efficiency.