Before you start read the following carefully:

➢ The exam has a maximum duration of two hours and thirty minutes.

➢ The exam has of two parts: Part A consists of 12 multiple-choice questions, Part B, of four open questions.

➢ Write your answers to Part A in the table below in this page. At the end of the exam separate this sheet from the rest of the exam and hand it in together with your answers to Part B. Make sure you have written your identification in this page below.

➢ You cannot look up any book or any other learning material.

➢ You may use non-graphic calculators but you cannot use graphic calculators**.**

➢ Keep any mobile phone, tablets and pcs switched off**.**

Full name: (as it appears on your student record)		
Student number:	**Class:**	**Degree:**

Part A (6 marks)

Indicate with an 'O' in the table below the correct answer to the questions 1 to 12. You get 0.5 marks for each correct answer and will have a 0.15 deduction for each wrong answer.

At the end of your exam separate this sheet from the rest of the exam paper and hand it in together with your answers to Parts B.
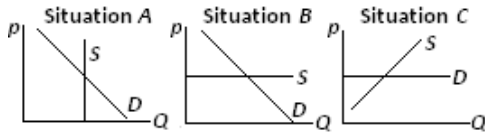
	1	2	3	4	5	6	7	8	9	10	11	12
a)	a)	a)	a)	a)	a)	a)	a)	a)	a)	a)	a)	a)
b)	b)	b)	b)	b)	b)	b)	b)	b)	b)	b)	b)	b)
c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)
d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)

1. **When the price of an input falls:**

   a) The demand curve shifts to the left.
   b) The supply curve shifts to the right.
   c) The supply curve shifts to the left.
   d) The demand curve shifts to the right.

2. **Producers are unable to pass any fraction of a new excise tax onto higher consumer prices:**

   a) In situations *A* and *C* only.
   b) In situations *B* and *C* only.
   c) In situation *A* only.
   d) In situation *C* only.

3. **In which of the following indicates a case of two complementary goods?**

   a) Cross-price elasticity of demand between the two goods is positive.
   b) Income-elasticity of demand is negative for both goods.
   c) Cross-price elasticity of demand between the two goods is negative.
   d) Income-elasticity of demand is negative for one good and positive for the other.

4. **Consider the payoff matrix below. It represents the interaction between two duopolists, and the payoffs are the profits, which they wish to maximise. The first number in each cell is the payoff (or profit) of Player 1. Is there an equilibrium in dominant strategies in this game?**

Player 1		Player 2	
		Strategy *J*	Strategy *K*
	Strategy *A*	17, 10	6, 9
	Strategy *B*	6, 5	2, 4

   a) Yes, (*A, J*)
   b) Yes, (*A, K*)
   c) Yes, (*B, K*).
   d) No.

5. **Countries *A* and *B* use labour only to produce goods *X* and *Y*. Both countries are endowed with the same amount of labour. Their production possibility frontiers (*PPF*) are expressed by $Y_A = 300 - 2.5X_A$ and $Y_B = 400 - 5X_A$. Then:**

   a) Country *A* has absolute advantages in both goods.
   b) Country *A* has a comparative advantage in the production of good *Y*.
   c) Country *B* has absolute advantages in both goods.
   d) Country *B* has a comparative advantage in the production of good *Y*.

6. **The supply curve of good *X* is positively sloped. What happens to the producer surplus in the *X* market when the price of substitute of good *X* increases?**

   a) It increases.
   b) It falls.
   c) The information is not enough to answer.
   d) It stays the same.

7. **When output increases, average total cost (*ATC*):**

   a) Falls if marginal cost (*MC*) falls.
   b) Falls if *MC* < *ATC* and increases if *MC* > *ATC*.
   c) None of the other options is correct.
   d) Increases if marginal cost (*MC*) increases.

8. **In a long-run perfectly competitive equilibrium, price adjusts until it equals:**

   a) The average total cost corresponding to the minimum marginal cost.
   b) The break-even price.
   c) The minimum marginal cost.
   d) None of the other options is correct.

9. **In a monopolistically competitive market, each firm:**

   a) Sets price equal to marginal cost.
   b) Sets price below marginal cost.
   c) Is a price-taker.
   d) Has some power to vary its price.

10. **A monopolist has increasing marginal costs. For a certain output level a monopolist's marginal cost (*MC*) exceeds its marginal revenue (*MR*). Then, at that output level, profit:**

    a) Is at its maximum.
    b) Is at its maximum only if price equals marginal revenue.
    c) Will increase if output decreases.
    d) Will increase if output increases.

11. **Bob's marginal utilities of goods *X* and *Y* are $MU_X = 1/X$ and $MU_Y = 2/Y$. At a consumption bundle with equal amounts of goods *X* and *Y* Bob is willing to exchange the two goods at the rate of:**

    a) The information is not enough to answer.
    b) One unit of *X* for two units of *Y*.
    c) One unit of *X* for one unit of *Y*.
    d) Two units of *X* for two units of *Y*.

12. **Owing to legal restrictions, flats that in a free market would rent for €750 cannot be rented for more than €600. This legal restriction causes, in the market for this type of flats:**

    a) A larger consumer surplus for all potential tenants.
    b) A larger producer surplus for all potential landlords.
    c) Excess demand.
    d) Excess supply.

Part B (14 marks)

1. In the late 19ᵗʰ century the maximum production of wool and wine in France and Italy were as shown in the table below. Both countries have the same endowment of labour, which is the only relevant input.

	Wool	Wine
France	1000	500
Italy	900	270

   a) Draw the production possibility frontiers (*PPF*) for France and Italy. Assume they are linear. Place wool on the horizontal axis, and wine on the vertical axis. Explain the meaning of a *PPF*. (1.25 marks)

   b) Find the pattern of absolute and comparative advantages for these two countries. Explain. (1.25 marks)

   c) Will the countries benefit from trading with each other? If so, in which good will they specialise? Explain. (1 mark)

Part B, continued

2. Nuno spends his €200 monthly income on magazines and live music gigs. A magazine costs €4, and going to a music gig costs €10. With this income and these prices Nuno maximises his utility with 10 magazines and 16 gigs a month. Magazines and gigs are ordinary goods for Nuno.

    a) Draw Nuno's indifference map and budget line and show his choice. Place the magazines on the horizontal axis and label indifference curves and budget line clearly. (1 mark)

    b) Now the price of a magazine falls to €2 (the cost of a gig and his income remain unchanged). Show in the graph of part a) the new budget line (make sure to indicate which is the original, and which is the new one). What is the new relative price of a magazine in terms of gigs? (1.25 marks)

    c) Now Nuno's income falls to €180 a month (the prices remain at €2 for a magazine and €10 for a gig) Show the new budget line on the same graph. Is the original consumption bundle, (10, 16), affordable now with his new income and prices? (1 mark)

    d) After the changes in income and price is Nuno better off, worse off, or just the same as in the beginning? Explain. Use the notion of indifference curve in your explanation. (1.25 marks)

Part B, continued

3. A monopolist faces the demand curve $p = 24 - Q$, and its total cost curve is given by $TC(Q) = Q^2$.

    a) Show the monopolist's demand curve, marginal revenue curve, and marginal cost curve in a graph. (1.25 marks)

    b) What quantity will the monopolist produce and what price will it charge? (1 mark)

    c) Suppose now the monopolist is able to practice perfect price discrimination. What quantity will it produce, and how much profit will it earn? Explain. (1.5 marks)

Part B, continued

4. Select the right answer to the question below and fully explain your reasoning. If you do not present your reasoning you will have no marks even if you select the right answer. You may use graphs to aid your answer. (2 marks)

The government levies a new tax of €1 per unit of the good in a perfectly competitive market. Is the effect of this tax on the price (paid by consumers) larger in the short or the long run?

a) In the short run.

b) In the long run.

c) Is the same in both short and long runs.

d) The information is not enough to answer.