

**Before you start read the following carefully:**

- The test has a maximum duration of one hour and fifteen minutes.
- The exam has two parts: Part A consists of 20 multiple-choice questions, Part B, of open questions.
- Before you start, write your name and student in the space provided below.
- Your answers should be in ink.
- Write your answers to Part A in the table below, on 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 on this page below.
- You cannot look up any book or any other learning material.
- You may use non-graphical calculators but you cannot use graphical calculators.
- Keep any mobile phone, tablets and pcs switched off.

<b>Full name:</b>		
<b>Student number:</b>	<b>Class:</b>	<b>Degree:</b>

**Part A (6 marks)**

Indicate with an 'O' in the table below the correct answer to the questions 1 to 20. You get 0.75 marks for each correct answer and will have a 0.2 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.**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	
<b>a)</b>	a)	a)	a)	a)	a)	a)	a)	a)	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)	b)	b)	b)	b)	b)	b)	b)	b)	b)	b)	b)
<b>c)</b>	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)
<b>d)</b>	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)

## Part B – Answer Sheet

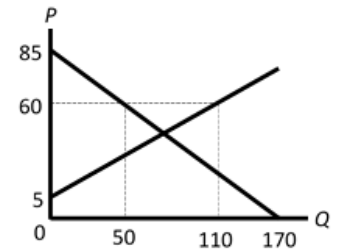


1. The table below shows the number of hours of work required to produce one pair of shoes and a bottle of wine:

	Shoes	Wine
Portugal	8	3
Italy	6	2

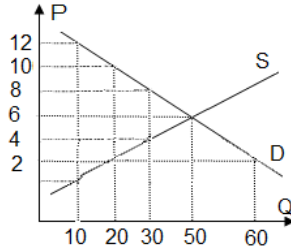
- a) Italy has absolute advantages in shoe production, but not in wine.  
 b) Italy has absolute advantages in wine production, but not in shoes.  
 c) Portugal has absolute advantages in wine production: it need less time to produce a bottle of wine than Italy.  
 d) Italy has absolute advantages in shoe production: it needs less time to produce a pair of shoes than Portugal.
2. Countries A and B have the same resources; country A can produce at most 250 hats or 25 lamps; country B can produce at most 200 hats or 10 lamps. Then:
- a) Country A has comparative advantages in both goods.  
 b) Country A has comparative advantages in hat production.  
 c) Country B has absolute advantages in hat production.  
 d) None of the other options is correct.
3. Maria and Pedro produce two goods, X and Y. Maria has a linear production possibilities frontier (PPF) and Pedro has a concave PPF. Which of the following statements concerning the opportunity cost of good X in terms of good Y ( $OC_{X,Y}$ ) is correct?
- a) The  $OC_{X,Y}$  of Maria is constant and the  $OC_{X,Y}$  of Pedro is decreasing with the increase in the production of X.  
 b) The  $OC_{X,Y}$  of Maria is equal to the symmetric of the slope of her PPF and the  $OC_{X,Y}$  of Pedro is increasing with the increase in the production of X.  
 c) The  $OC_{X,Y}$  of Maria is decreasing and the  $OC_{X,Y}$  of Pedro is increasing with the increase in the production of X.  
 d) The  $OC_{X,Y}$  of Maria is equal to the symmetric of the slope of her PPF and the  $OC_{X,Y}$  of Pedro is decreasing with the increase in the production of X.
4. When there is a surplus in a market:
- a) There is downward pressure on price.  
 b) None of the other options is correct.  
 c) The market could still be in equilibrium  
 d) There are too many buyers chasing too few goods.
5. Goods A and B are complementary goods. The if the price of good B falls:
- a) Demand for good A increases.  
 b) Demand for good B falls.  
 c) Demand for good A falls, and that for good B remains unchanged.  
 d) Demand for good B falls, and that for good A remains unchanged.

6. The figure below shows the demand and supply curves for a good. Which of the following is correct?



- a) No producers will sell at a price of €4.  
 b) At a price of zero there is a shortage of 170 units.  
 c) At a price of €60 there is a surplus of 60 units.  
 d) All other options are correct.
7. Demand for a good is given by  $Q^D = 9 - p$ . The equilibrium price is €5. At this price consumer surplus and total expenditure are respectively:
- a) €4 and €20.  
 b) €8 and €15.  
 c) €8 and €20.  
 d) None of the other options is correct.
8. A market is in equilibrium. Then the government sets a price ceiling below the equilibrium price. Then it is certain that:
- a) Consumer surplus falls.  
 b) Producer surplus falls.  
 c) There is excess supply.  
 d) All other options are correct.
9. The table shows five consumers' willingness to pay (the maximum price each is willing to pay) for some good. Each consumer is willing to buy at most one unit. What is the change in total consumers' surplus when the equilibrium price falls from €60 to €45?
- | Consumer | willingness to pay, € |
|----------|-----------------------|
| A        | 150                   |
| B        | 125                   |
| C        | 105                   |
| D        | 60                    |
| E        | 25                    |
- a) - €60.  
 b) + €60.  
 c) + €200.  
 d) - €45.
10. The government sets an annual quota of 700 000 tons of potatoes, 25 000 tons less than the equilibrium quantity. Then:
- a) The price will rise.  
 b) Consumer surplus will rise.  
 c) No inefficiency will arise.  
 d) All other options are correct.

11. In the accompanying figure what tax per unit has the same effect on the quantity traded as a 30-unit quota?



- a) €4.
- b) €60.
- c) €8.
- d) None of the other options is correct.

12. Ana argues that raising the coffee price by 5 cents will increase revenue, whereas Ed argues the opposite. Then:

- a) Ana thinks demand for coffee is elastic, whereas Ed thinks it is inelastic.
- b) Ana thinks coffee is a normal good; Ed thinks it is inferior.
- c) Ed thinks demand for coffee is elastic, whereas Ana thinks it is inelastic.
- d) Ed thinks coffee is a normal good; Ana thinks it is inferior.

13. The table shows total revenue for two quantities demanded.

Quantity demanded	Total Revenue
205	€19 475
195	€20 475

Demand between the quantities shown is:

- a) Elastic.
- b) Unit-elastic.
- c) Inelastic.
- d) The information is not enough to answer.

14. After supply of a good increases, the equilibrium price falls, but equilibrium quantity does not change. Then:

- a) Price-elasticity of supply is zero.
- b) Price-elasticity of supply is infinite.
- c) Price-elasticity of demand is zero.
- d) Price-elasticity of demand is infinite.

15. If two goods are neither substitutes nor complementary the cross-price-elasticity of demand:

- a) Is always positive.
- b) Is always zero.
- c) Is always negative.
- d) Can be positive or negative.

16. If an excise tax is imposed on soft drinks and collected from consumers:

- a) The demand curve will shift downward by the amount of the tax.
- b) The equilibrium quantity will increase.
- c) The supply curve will shift downward by the amount of the tax.
- d) The supply curve will shift upward by the amount of the tax.

17. The deadweight loss caused by an excise tax will be largest if:

- a) Demand is elastic and supply inelastic.
- b) Demand is inelastic and supply elastic.
- c) Both supply and demand are elastic.
- d) Both supply and demand are inelastic.

18. Diminishing marginal utility implies that:

- a) If marginal utility is negative, so is total utility.
- b) Increasing the quantity consumed reduces total utility.
- c) The higher the quantity consumed is the higher the additional utility the consumer gets from an additional unit consumed.
- d) None of the other options is correct.

19. Hector spends all his income on pasties and smoothies. If both prices double and Hector's income doubles as well:

- a) Hector's budget line will remain unchanged.
- b) Hector's budget line will shift to the right.
- c) Hector's budget line will shift to the left.
- d) Hector will be able to buy more of both goods.

20. When the price of a good increases, the substitution effect contributes to:

- a) Higher consumption of that good if it is an inferior good, but lower consumption if it is a normal good.
- b) Higher consumption of that good.
- c) Lower consumption of that good.
- d) Higher consumption of that good if it is a normal good, but lower consumption if it is an inferior good.

**Part B (14 marks)**

1. The table below shows the consumers' willingness to pay for a unit of the good (no consumer wants to buy more than one unit) and the producers's cost of producing one unit (minimum price at which they are willing to sell; no producer sells more than one unit):

Consumers	Willingness to Pay, €	Producers	Cost, €
C <sub>1</sub>	27	P <sub>1</sub>	13
C <sub>2</sub>	25	P <sub>2</sub>	13
C <sub>3</sub>	21	P <sub>3</sub>	18
C <sub>4</sub>	20	P <sub>4</sub>	19
C <sub>5</sub>	18	P <sub>5</sub>	22

Assume the government levies a tax per unit traded. After the tax is imposed the equilibrium quantity is 3 units.

- Find the price paid by consumers, the price (net of tax) received by producers, and the amount of the tax per unit.
- Find the consumers' and producers' surpluses after the tax is imposed.
- Before the tax had been introduced 4 units of the good were traded at €20 each, the consumers' surplus was €13, and the producers' was €17. Find the deadweight loss caused by the tax.



## Answers to Part A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
d	d	b	a	a	d	c	b	b	a	a	c	c	c	b	a	c	d	a	c

## Answers to Part B

- a) The tax per unit is €3, consumer price ( $p_D$ ) is €21, and producer price ( $p_S$ ) is €18. So we have  $p_D = p_S + t$ , and the quantities demanded and supplied are both 3.
- b) Individual consumer surplus is  $WTP_i - 21$ ; so €6 (€29 – €21) for  $C_1$ , and €4 (€25 – €21) for  $C_2$ , and zero for  $C_3$ . Total consumer surplus is thus €10. Individual consumer surplus is  $p - Cost_i$ , so €5 (€18 – €13) for both  $P_1$  and  $P_2$ , and zero for  $P_3$ ; total producer surplus is €10.
- c) Consumer surplus falls by €3 (€13 – €10), and producer surplus falls by €7 (€17 – €10). Part of this is the tax revenue—3 unit x €3 per unit = €9—which is a transfer to the government. The deadweight loss is the remaining part of the reduction in consumer and producer surplus, which is not transferred to anyone, and is therefore a pure loss to society as whole: €3 + €7 – €9 = €1.

Alternatively think that there is a deadweight loss only because quantity traded falls, from 4 to 3 units; and the deadweight loss is the surplus that was previously obtained from that 4<sup>th</sup> unit, which after the tax is no longer traded; that surplus was €1 (producer surplus, €20 – €19).