Before you start, read the following carefully:

- The test has a maximum duration of 75 (seventy five) minutes.
- The test has two parts: Part A consists of 20 multiple-choice questions, Part B is one open-answer problem. You must write your identification in BOTH parts.
- 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.
- You cannot look up any books, notes or any other learning material. Keep any mobile phones, tablets and pcs switched off**.**
- You may use only NON-GRAPHING calculators.

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

Part A (15 marks)

Indicate the correct answer to questions 1 to 20 with an 'O', in the table below. You get 0.75 marks for each correct answer and a deduction of 0.2 for each wrong answer.

At the end of your test, separate this sheet from the rest of the test and hand it in together with your answers to Part B.

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

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1. The table shows the maximum number of poems and movie scripts Anne and Cathy can write in a month if they fully specialise. Cathy's opportunity cost of writing two movie scripts is _____ poems.

	Anne	Cathy
Poems	8	12
Movie scrips	2	4

a) 2.
b) 6.
c) 12.
d) The information is not enough to answer.

2. Countries *A* and *B* have the same amount of resources. The maximum quantities they can produce are as follows: country *A*, 500 sandals or 50 stoves; country *B* 400 sandals or 20 stoves. Then:

a) Country *A* has comparative advantages in sandals and stoves.
b) Country *A* has comparative advantages in sandals and should specialise in it.
c) Country *B* has comparative advantages in sandals.
d) None of the other options is correct.

3. The table shows the number of hours countries *A* and *B* need to produce one unit of goods *X* or *Y*. Then:

	Country *A*	Country *B*
Good *X*	3	2
Good *Y*	2	4

a) In country *A* the opportunity cost of *X* is 3 units of *Y*.
b) In country *B* the opportunity cost of *X* is 2 units of *Y*.
c) Country *A* has absolute advantages in both goods.
d) In country *A* the opportunity cost of *X* is 1.5 units of *Y*.

4. Demand for good *X* is given by $X^d = 80 - 3p_X + 2p_Y + 10M$ where p_X is the price of *X*, p_Y the price of *Y*, and *M* the consumers' income. Then:

a) When the price of *Y* increases demand for *X* falls.
b) Goods *X* and *Y* are complementary.
c) *X* is an inferior good.
d) Goods *X* and *Y* are substitutes.

5. Good *X* is an inferior good, and consumers' income rises. Then:

a) There is a movement down along the demand curve.
b) There is a movement up the demand curve.
c) The demand curve shifts to the right.
d) The demand curve shifts to the left.

6. What happens to equilibrium price and quantity when both demand and supply increase?

a) Price and quantity rise.
b) We cannot tell what happens to price or quantity.
c) Quantity rises; we cannot tell what happens to price.
d) Price falls; we cannot tell what happens to quantity.

7. Demand for good *X* is given by $X^d = 10 - 2p$. When $p = 2$ the consumer surplus is:

a) 2.
b) 9.
c) 6.
d) 3.

8. Coffee and tea are substitute goods. When the price of coffee rises the producer surplus in the tea market:

a) Falls.
b) Remains unchanged.
c) May fall or rise.
d) Rises.

9. The table shows some students willingness to pay for a Maths tuition package. If the package costs €110 then:

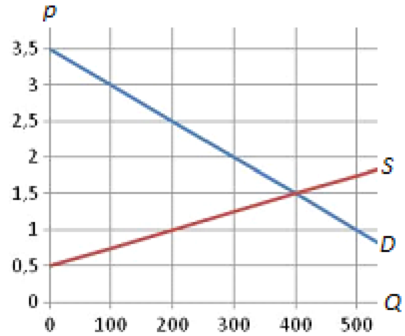
Student	Willingness to pay, €
Carol	120
Rita	115
Joana	110
Mike	105
Jon	100

a) Every student will buy the package.
b) Joana will not buy the package.
c) Only Carol, Rita, and Joana buy the package. Carol will have a consumer surplus of €10, and Rita one of €5.
d) Mike will buy the package and have a consumer surplus of €5.

10. A price ceiling above the equilibrium price will:

a) Reduce quantity traded.
b) Stimulate a black market.
c) Give rise to a shortage.
d) All other options are false.

11. The government sets a 200-unit quota in the market in the figure. How much is the resulting deadweight loss?



a) 300
b) 150
c) The information is not enough to answer.
d) 500.

12. Market demand and supply are given by $Q^d = 80 - 2p$ and $Q^s = 2p$. If there is a price floor of 25 what are the quantity traded and surplus (or excess supply)?

a) Quantity traded is 30, and the surplus is 20.
b) Quantity traded is 40, and the surplus is 10.
c) Quantity traded is 20, and the surplus is 30.
d) Quantity traded is 50, and the surplus is 10.

13. A consumer's income-elasticity of demand for food is 0.6. If income falls by 15% quantity of food demanded:

a) Falls by 1.2%.
b) Falls by 9%.
c) Rises by 1.2%.
d) Falls by 3%.

14. If price-elasticity of demand is (in absolute value) less than 1 and the price rises a little then (if the law of demand holds):

a) Consumers' expenditure on the good rises.
b) Consumers' expenditure on the good falls.
c) The demand curves shifts.
d) Quantity demanded rises.

15. The price of margarine rose by 20%, and this led demand for butter to increase by 5%. Then:

a) Cross-price elasticity of demand is 0.25 and the two goods are substitutes.
b) Cross-price elasticity of demand is 4 and the two goods are substitutes.
c) Cross-price elasticity of demand is 0.25 and the two goods are complementary.
d) Cross-price elasticity of demand is 4 and the two goods are complementary.

16. The price elasticity of demand equals:

a) The percentage change in quantity demanded divided by the percentage change in price.
b) The change in quantity demanded divided by the change in price
c) The percentage change in price divided by the percentage change in quantity demanded.
d) The change in price divided by the change in quantity demanded.

17. In a market with negatively-sloped demand curve and positively-sloped supply curve, sellers are now legally required to pay a new tax for each unit sold. Then which of the following is FALSE?

a) Sellers' and buyers' share of the tax burden do not depend on who is legally required to pay the tax.
b) Buyers will bear more of the tax than sellers if supply is more elastic than demand.
c) The tax will not affect society's welfare because it is irrelevant who is legally required to pay the tax.
d) Sellers and buyers will bear equal shares of the tax if demand and supply are equally elastic.

18. In a market 100 units are traded at €3 each. Then the government levies a new tax per unit, and quantity traded falls to 90, the consumer price rises to €3.50, and the tax revenue is €135. The deadweight loss is:

a) €135.
b) €3.
c) €315.
d) €7.5.

19. Pete consumes goods *X* (horizontal axis) and *Y* (vertical axis). If the price of good *X* falls the budget line:

a) Shifts to the right in a parallel fashion.
b) Shifts to the right and becomes steeper.
c) Remains unchanged.
d) Shifts to the right and becomes less steep.

20. If the principle of diminishing marginal utility holds and quantity consumed increases then:

a) Marginal utility falls and total utility increases.
b) Marginal utility falls and total utility may increase.
c) Marginal utility increases and total utility falls.
d) Utilities fall.

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Parte B – Exercise (5 marks)

In a market, demand and supply are respectively $Q_D = 60 – 2p$ and $Q_S = p$ where p is the price in euros, Q_D is the quantity demanded and Q_S is the quantity supplied.

a) (1 mark) Find the equilibrium price and quantity.

b) (2 marks) Now the government sets a tax of €3 per unit sold. Find the new equilibrium quantity, the price paid by consumers, the price net of tax received by producers, the tax revenue, and the deadweight loss.

c) (2 marks) Explain what in general determines how the tax burden is shared between consumers and producers. Use the results from parts a) and b) as an example to illustrate your explanation.

Answers

a) In equilibrium, $Q_S = Q_D \Leftrightarrow p = 60 – 2p \Leftrightarrow p = 20$. Substituting in the supply curve, $Q_S = p = 20$.

b) Now with a tax of 3, $p_D = p_S + 3$. So in equilibrium now:
$Q_S(p_S) = Q_D(p_D) \Leftrightarrow p_S = 60 – 2p_D \Leftrightarrow p_S = 60 – 2(p_S + 3) \Leftrightarrow 3p_S = 54 \Leftrightarrow p_S = 18$.
Then $p_D = p_S + 3 = 18 + 3 = 21$.
$Q = Q_S = p_S = 18$.
Tax revenue is 3 x 18 = 54.
The deadweight loss is $(p_D - p_S)$ x (20 - 18)/2 = (21 - 18) x 2/2 = 3 (check in a graph).

c) The price-elasticities determine who pays how much of the tax. If supply and demand are equally elastic the tax is shared equally by consumers and producers. If demand is more elastic than supply, producers pay a larger share of the tax. If supply is more elastic than supply the opposite happens, and consumers pay most of the tax. In the present case, the producers pay 2 units (20-18) and the consumers pay 1 unit (21-20) of the 3 units of tax. It means that the supply in more rigid than the demand.

Answers to part A of this test.

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