UNIVERSITÉ DE GENÈVE

SECTION DES SCIENCES ÉCONOMIQUES
UNIVERSITÉ DE GENÈVE

Introduction to Microeconomics Exam

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Version A

LAST NAME(S) (capital letters):

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First name(s):

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Student Number:

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All these pages are part of a data folder and ***must be returned*** at the end of the exam.

Total number of pages: 10.

Duration of the exam: 3 h. (30 questions)

Authorized material: none (calculator not authorized).

Instructions to answer multiple choice questions

⋆ Write down your last name(s), first name(s) and student number (8 digit number without scores) on the questionnaire and on the answers sheet for multiple choice questions.

⋆ The answers sheet is stapled at the end of the exam. Please detach properly.

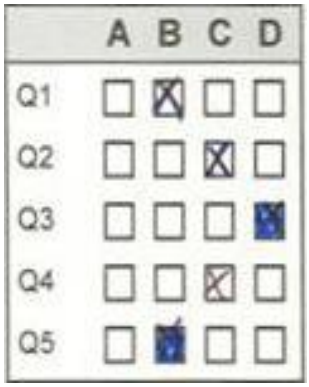
⋆ The answers sheet and the questionnaire must be handed in at the end of the exam.

⋆ On the answers sheet, the box corresponding to the chosen answer (a to d) must be checked or filled properly with a dark blue or black pen.

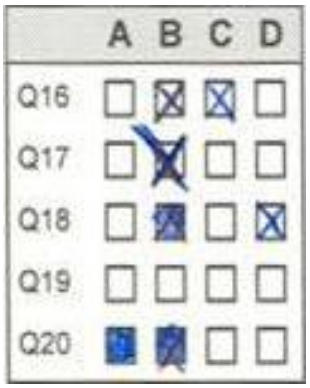
⋆ If necessary, make corrections carefully. The answer must be clearly identifiable and unique. If this is not the case, it will be counted as wrong.

Example:

Fine



Bad



In order not to waste your chances, answer all questions.

There are no negative points.

There is only one correct answer.

ATTENTION:
Unless otherwise specified, supply and demand are represented by curves with the usual slope.

Question 1

Victor decides to go to a bar with friends for one hour rather than working as a lifeguard at the beach for a salary of CHF 19 per hour. Assume that Victor derives no disutility from time spent working. Knowing that during his time out with his friends Victor has the habit of consuming one beer at CHF 4, what can be said with certainty ?

(a) Victor's opportunity cost is equal to the average between CHF 23 and the monetary value he places on the time out with friends.

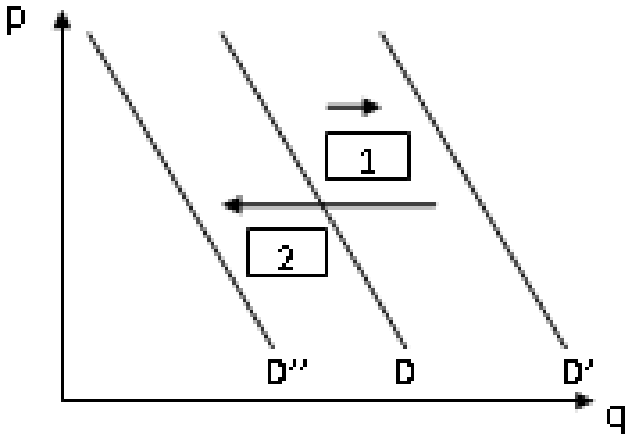
(b) Victor's opportunity cost is greater than CHF 23.

(c) The monetary equivalent of the utility that Victor derives from his time out with friends (his willingness to pay) is greater than CHF 23.

(d) The monetary equivalent of the utility that Victor derives from his time out with friends (his willingness to pay) is smaller than CHF 23.

Question 2

On the market for public transport (inferior good), we record two successive displacements of the demand function that are represented in the chart below :



Among the following propositions, which one could explain these two successive displacements of the demand function ?

(a) Displacement 1 : an increase in the price of cars ; displacement 2 : a reduction in consumers' income.

(b) Displacement 1 : an increase in the price of cars ; displacement 2 : an increase in consumers' income.

(c) Displacement 1 : a reduction in consumers' income ; displacement 2 : an increase in the price of cars.

(d) Displacement 1 : an increase in consumers' income ; displacement 2 : an increase in the price of cars.

Question 3

According to the executive committee of a company in the food industry, transforming its production process in order to benefit from an "organic" label could increase demand for its products given the growing consumer interest in environmental issues and health. However, investment would also result in a higher cost per unit produced. If the committee's conjecture on the demand turns out to be correct, what can be predicted with certainty after the change in the production process ?

(a) The firms' profit will increase

(b) Both the price and the quantity exchanged will increase.

(c) The quantity exchanged will increase but we cannot say anything about the price.

(d) The price will increase, but nothing can be said for the quantity.

Question 4

On the market for good X, supply and demand are given by :

$$Q^D = 80 - P_X + 0.6P_Y - 0.2P_Z - 0.1R \qquad \text{and} \qquad Q^S = -10 + 2P_X,$$

where P_X, P_Y et P_Z represent the price of goods X, Y and Z, and R represents consumers' revenues (income). We have that $P_Y = 20$, $P_Z = 10$ and $R = 100$.
Which of the following propositions is correct ?

(a) The income elasticity of good X is equal to -0.1 in equilibrium.

(b) The equilibrium price of good X is equal to the sum of the price of goods Y and Z.

(c) Good Y is complementary to X, while good Z is substitute to X.

(d) The price elasticity of the demand for X is twice the elasticity of supply in absolute value.

Question 5

Knowing that the price elasticity of demand for a good is -0.5, the equilibrium price is 3 and the equilibrium quantity is 10, which of the following propositions is correct ?

(a) Following an increase in price, total revenues for producers fall.

(b) If the equilibrium price falls by one unity, the quantity demanded increases by 0.5 unities.

(c) The good in question is a good of first necessity.

(d) The slope of the demand function is equal to $-\frac{5}{3}$.

Question 6

The market for coffee is perfectly competitive. The supply for coffee is a linear function starting from the origin. Knowing that coffee and tea are substitutes, what can you predict about the coffee market after a rise in the price of tea ?

(a) In the new equilibrium, the price elasticity of demand will have necessarily decreased.

(b) In the new equilibrium, the price elasticity of supply will be lower than in the initial equilibrium.

(c) The price of coffee will increase in the same proportion as the quantity exchanged.

(d) The total revenue of producers will stay constant.

Question 7

A minimum wage on the labor market works as :

(a) A price floor that creates a surplus of labor supply

(b) A price floor that creates a surplus of labor demand.

(c) A price ceiling that creates a surplus of labor supply.

(d) A price ceiling that creates a surplus of labor demand.

Question 8

Consider a market where demand and supply are given by the following functions :

$$Q^D = 10 - P \qquad \text{and} \qquad Q^S = -4 + P$$

In equilibrium, which of the following propositions is correct ?

(a) Consumer surplus is equal to 9.

(b) Producer surplus is equal to 10.5.

(c) Producer and consumer surplus are equal.

(d) Total surplus is equal to 4.5.

Question 9

After the imposition of a tax on production, what can be predicted ?

(a) The price paid by consumers does not change.

(b) The price received by producers increases by the amount of tax.

(c) The tax burden is borne both by consumers and producers.

(d) Because of the increased tax revenue, there is no loss for society.

Question 10

In the presence of a positive externality :

(a) The *laissez-faire* quantity produced by the market is bigger than the social optimum.

(b) The market itself yields the socially optimal level of production.

(c) At the market equilibrium, the marginal social benefit is lower than the marginal cost of production.

(d) The cost of government intervention to attain the social optimum is lower than the gain to the society of this intervention.

Question 11

Heinz is a football fan and his greatest pleasure is to invite all his friends to each game broadcasted on television in order to reproduce in his apartment the atmosphere of a stadium full of fans. Sepp, his next-door neighbor who owns the building, is a follower of transcendental meditation and cannot stand the noise. This summer, during the football World Cup :

(a) The two neighbors will be able to agree on the optimal noise level if the transaction costs are not too high.

(b) Only the government as agent of collective action can address this problem.

(c) No agreement can be found because Sepp is the owner of the building.

(d) An agreement can be found because noise is a non-rival good.

Question 12

A government decides to reduce pollution generated by the production of a certain good. Which of the following statements is correct ?

(a) The establishment of pollution permits can never reduce pollution.

(b) For a given level of pollution, pollution permits are always cheaper than a tax because they limit the costs of abatement.

(c) With a tax on pollution, investment incentives are stronger than in a system of non-exchangeable pollution permits.

(d) From the perspective of an economist, it is never efficient to tax the production of a good.

Question 13

Some goods are not voluntary introduced on the market by private firms. They are :

(a) Goods for which there is a strong rivalry in consumption resulting in conflict that does not allow private supply to settle normally.

(b) Goods for which it is not possible to obtain compensation for their production.

(c) Goods which require an extremely important initial investment before producing the first unit.

(d) Goods whose consumption by one individual does not reduce the welfare of another individual who consumes the same good.

Question 14

A firm faces fixed costs of 16, a function of average variable cost equal to $AVC(Q) = Q$, and a marginal cost equal to $MC(Q) = 2Q$. Which of the following statements is correct ?

(a) The firm's total cost is equal to 20 when $Q = 4$.

(b) The total cost function crosses the average cost function at its minimum.

(c) The firm's average cost is equal to the marginal cost when $Q = 16$.

(d) The firm makes zero profits when price is equal to 8.

Question 15

Some restaurant owners discuss about their business. Which of the following refers to the law of diminishing returns ?

(a) The better the quality of our ingredients, the higher the costs of production of food.

(b) We can serve the same number of meals with fewer cooks, but we have to buy more kitchen equipment.

(c) The number of meals increases with the number of cooks, but each cook brings a smaller and smaller additional production.

(d) If we hire additional cooks, we can increase the amount of meals served, but our production costs increase.

Question 16

If a firm's average cost is increasing, this means that :

(a) Marginal cost is higher than average cost.

(b) The firm produces with increasing returns to scale.

(c) The firm should increase its production.

(d) The firm should decrease its production.

Question 17

Let the cost function be : $TC(Q) = 40 + 5Q^2$ where Q is the number of bungalows built by a developer on land. Knowing that the selling price of each bungalow is 100, how many bungalows will the developer build ?

(a) 0

(b) 10

(c) 40

(d) 100

Question 18

A producer in perfect competition :

(a) Can sell any quantity at any price.

(b) Can increase the quantity sold, but only by charging a price lower than the market price.

(c) Can sell any quantity at the market price.

(d) Can increase profits by lowering price.

Question 19

The recent economic crisis has apparently "boosted sales of vodka in Russia" (cf. la Tribune de Geneve of October 19, 2009). Assuming that the Russian market of vodka is perfectly competitive and that the increase in sales was due to a shift in demand, what can you foresee ?

(a) New producers of vodka will enter the market.

(b) The profits of vodka producers will increase permanently.

(c) The quantity produced by each vodka producer will decrease.

(d) The average cost of vodka producers will decrease.

Question 20

If a monopolist's marginal cost is equal to zero, it will maximize its profits :

(a) In the inelastic part of the demand.

(b) In the elastic part of the demand.

(c) At the point where the price elasticity is equal to 0.

(d) At the point where the price elasticity is equal to -1.

Question 21

In order to increase sales from 4 to 5 units, a monopolist must decrease price from 60 to 50. Which of the following statements is correct ?

(a) If the marginal cost of production of the 5^{th} unit is equal to 50, the monopolist will increase its profits by producing it.

(b) The marginal revenue of the 5^{th} unit is equal to 50.

(c) The marginal revenue of the 5^{th} unit is larger than the marginal revenue of the 4^{th} unit.

(d) The monopolist will produce the 5^{th} unit if its marginal cost is less than 10.

Question 22

A monopolist :

(a) Can sell any quantity at any price.

(b) Restricts output in order to increase price.

(c) Will always maximize its total revenue.

(d) Is never profitable, and that is why most monopolists are State-owned.

Question 23

Thierry and Henry are playing a game in which they simultaneously choose strategy A or B without previous communication. The outcomes of the game are represented in the matrix below. In each cell, the first entry represents Thierry's payoff ; the second entry represents Henry's payoff. Which of the following statements is true ?

		Henry	
		Strategy A	Strategy B
Thierry	Strategy A	0 ; 0	-1 ; $+1$
	Strategy B	$+1$; -1	-10 ; -10

(a) The only Nash equilibrium is {Thierry plays B, Henry plays B}.

(b) This game has no Nash equilibrium.

(c) Any pair of strategies is a Nash equilibrium of this game.

(d) There are two Nash equilibria : {Thierry plays B, Henry plays A} and {Thierry plays A, Henry plays B}.

Question 24

Consider a monopolistically competitive firm that faces a downward-sloping demand curve and has constant average cost equal to 2. Which of the following price-quantity combinations is optimal in the long run ?

(a) price = 5, quantity such that marginal cost is equal to average total cost.

(b) price = 3, quantity such that marginal cost is minimized.

(c) price = 6, quantity such that marginal revenue is maximized.

(d) price = 2, quantity such that marginal revenue is equal to marginal cost.

Question 25

An individual consumes two goods, 1 and 2. His budget constraint is defined by $E = p_1 q_1 + p_2 q_2$ where E is disposable income (earnings), p_i is the price of good i, and q_i is the quantity of i ($i = 1, 2$). Which of the following statements is correct ?

(a) In the space of consumed quantities, the slope of the budget constraint is bigger than the price ratio.

(b) An increase in income will shift the budget constraint toward the origin.

(c) An increase in price will rotate the budget constraint outward.

(d) A 10% increase in income and in the price of both goods will leave the budget constraint unchanged.

Question 26

Individual preferences exhibit a decreasing marginal rate of substitution :

(a) with goods that are perfect substitutes.

(b) with goods that are perfect complements.

(c) because the ratio of marginal utilities is decreasing.

(d) in the case of Giffen goods.

Question 27

Consider an individual who consumes two goods, 1 and 2. Following a reduction in the price of good 1, we observe an increase in the quantity consumed of two goods. What can be said with certainty ?

(a) Goods 1 and 2 are substitutes.

(b) Good 1 is a normal good.

(c) Good 1 is an inferior good.

(d) Goods 1 and 2 are complements.

Question 28

Consider an individual who consumes two goods, 1 and 2. If good 1 is a Giffen good, when the price of good 2 increases, the quantity consumed of good 1 :

(a) Will necessarily increase.

(b) Will necessarily decrease.

(c) Will necessarily stay unchanged.

(d) None of the above answers is correct.

Question 29

Consider a market with 100 sellers of good quality cars, 100 sellers of bad quality cars and a multitude of buyers of both cars. The sellers have perfect information on the quality of the cars they sell, but buyers cannot observe the quality of cars they will buy. The sellers are willing to sell good quality cars at a reservation price of 1000 and poor quality cars at a reservation price of 500. Buyers are willing to pay 1500 for good quality cars and 1000 for poor quality cars. In the market equilibrium with asymmetric information :

(a) We will have economic inefficiency.

(b) Good quality cars will not be exchanged.

(c) The price of cars will be 1250 if buyers are risk-neutral.

(d) All of the above answers are correct.

Question 30

An individual must decide how to allocate his income between present consumption and future consumption. Following an interest rate increase, we observe an increase in his present consumption and a decrease in his future consumption. This implies that :

(a) Future consumption is an inferior good.

(b) Future consumption is a Giffen good.

(c) Present consumption is a normal good.

(d) All of the above answers are correct.