

Matr. N°: \_\_\_\_\_

Name: \_\_\_\_\_

Examination

Principles of Economics (N° 11049)

Semester:

Summer Semester 2008

Examiners:

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The following aids may be used:

Non-programmable pocket calculators;  
English language dictionaries without  
any marking.

Time:

120 minutes

*This exam comprises 24 problems plus 6 “bonus” problems.*

*For each problem exactly one of the three optional answers is correct. Do not mark more than one answer to any of the questions, otherwise the solution will be considered false.*

*For every correct answer you obtain 2 points, for every false answer 1 point is subtracted. If no answer is marked you neither obtain nor lose a point.*

*In order to pass this exam at least 12 points are needed. 48 and more points are graded 1.0.*

*Make sure that this copy of the test paper bears your matriculation number and name in the appropriate fields at the top of this page.*

**Examination Questions:**

1. Raw steel is

- a) a good of first, not of higher order.
- b) just a good of higher order.
- c) both a good of first and of higher order.

2. Which of the following propositions is wrong?

A “public good” possesses the property that ...

- a) it can costlessly be provided by the government.
- b) its consumption by some individual does not rival with its consumption by another individual.
- c) it is impossible or extremely costly to exclude anybody from its use.

3. Which statement is correct?

- a) The services provided by universities are public goods.
- b) Maintaining law and order is a public good.
- c) The professional training provided by universities is a public good.

4. Which proposition is wrong?  
Ordinal consumer utility functions can tell us that an individual ...
- a) prefers a commodity bundle  $a$  to some other commodity bundle  $b$ , and  $b$  still to another bundle  $c$ .
  - b) prefers commodity bundle  $a$  more intensely to  $b$  than he prefers  $b$  to  $c$ .
  - c) is indifferent between commodity bundles  $a$  and  $b$ , but prefers a mixture of both to either of them.
5. The concept of “marginal utility” was introduced by
- a) Carl Menger.
  - b) David Ricardo.
  - c) Antoine A. Cournot.
6. The marginal rate of substitution (of good 1 for good 2) equals
- a) the product of the marginal utilities of the two goods.
  - b) the difference between the marginal utility of good 1 and the marginal utility of good 2.
  - c) the ratio of the marginal utility of good 1 to the marginal utility of good 2.
7. Gossen’s Second Law states that
- a) continued increase in the consumption of a particular good, for constant quantities of other goods, results in satiation and falling utility if the intake is increased further.
  - b) the marginal utility of a particular good is falling with its increased consumption (for constant quantities of the other goods).
  - c) a rational consumer will consume two goods in a proportion such that the respective marginal rate of substitution equals the ratio of prices.
8. The principle of diminishing marginal rate of substitution of good 1 for good 2 with increased consumption of good 1 implies
- a) diminishing marginal utilities of both goods.
  - b) a preference of the consumer for combinations of the two goods over bundles which contain either the one or the other good.
  - c) the absence of local satiation points.
9. Assume that a producer can produce commodity 1 with 2 units and commodity 2 with 3 units of some resource, independently of the quantities produced of the two commodities.
- a) The marginal rate of transformation of good 2 into good 1 is equal to  $3/2$ .
  - b) The marginal rate of transformation is equal to 1.
  - c) The opportunity cost of good 1 in terms of good 2 is equal to  $2/3$ .

10. The marginal productivity of a factor of production is

- a) the quantity of output divided by the quantity of input of this factor.
- b) the additional quantity of output obtained from an additional unit of input of this factor (keeping the other inputs constant).
- c) the ratio of the additional quantity of output to the additional unit of input (keeping the other inputs constant).

11. The “law of diminishing returns” states that

- a) the additional output producible by an increase of all productive inputs in unchanged proportion declines beyond some threshold.
- b) the marginal productivity of every factor of production declines beyond some threshold.
- c) the opportunity cost of producing some good with given resources increases (in terms of other goods producible).

12. Consider a standard market demand curve of some particular good. If the price of some close substitute for this good rises,

- a) the demand curve shifts downwards.
- b) the demand curve shifts upwards.
- c) the demand curve does not change.

13. Consider the (inverse) demand curve  $p = 40 - 4x$ .

- a) The price elasticity of demand is 1.
- b) At a price  $p = 20$  the price elasticity of demand is equal to 1.
- c) At a price  $p = 8$  the price elasticity of demand is bigger than 1.

14. Consider the (inverse) supply curve  $p = 16x$ , where  $x$  is the quantity brought to the market.

- a) The price elasticity of supply is 1.
- b) The price elasticity of supply is bigger than 1 and falling in  $p$ .
- c) The price elasticity of supply is smaller than 1 and rising in  $p$ .

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15. In a market equilibrium generated by the demand and supply curves from problems 13 and 14, the equilibrium price is ...

- a) 32.
- b) 28.
- c) 24.

16. The short-run profit maximisation rule for a price taking firm is to supply that quantity of its output for which

- a) marginal costs are falling and are equal to the market price.
- b) marginal costs are rising, are equal to the market price and above average costs (for a price = MC below average costs, supply should be zero).
- c) marginal costs are rising, are equal to the market price and above average variable costs (for a price = MC below average variable costs, supply should be zero).

17. Suppose a firm produces some good with two factors of production. Its technology is characterised by decreasing returns to scale and diminishing marginal productivities. If for constant prices of output and of factor 2 the price of factor 1 increases, ...

- a) the then relatively cheaper factor 2 is substituted for factor 1 so that profit-maximising production is not reduced.
- b) factor 2 is substituted for factor 1; in order to maintain the previous level of profits, however, production has to be reduced.
- c) in spite of the substitution of factor 2 for factor 1, both the profit-maximising output level and the level of profits are reduced.

18. Two goods can be produced by two producer-households which can also trade their outputs. They cannot trade, however, their factors of production. For producer A the necessary factor inputs for good 1 and good 2 are, respectively, 5 and 10. For producer B the input coefficients are, respectively, 4 and 2. A possible trade equilibrium for price-taking producer-households is supported by a relative price  $p_1/p_2$  with

- a)  $p_1/p_2 \geq 2$  and producer-household B buying good 2 from producer-household A while selling good 1 to A.
- b)  $\frac{1}{2} < p_1/p_2 < 2$  and B selling good 2 to A while buying good 1 from A.
- c)  $p_1/p_2 \leq \frac{1}{2}$  and A selling good 2 to B while buying good 1 from B.

19. If for some household both leisure and material consumption are normal goods, the household's labor supply curve.

- a) is unambiguously rising in the real wage.
- b) is unambiguously falling in the real wage.
- c) will at low real wage rates rise in the real wage but may at high real wage rates fall.

20. Suppose a consumer may in period 1 borrow or lend at some market interest rate. If the interest rate goes up

- a) the household's planned saving increases (in case the saving was positive at the previous interest rate).
- b) the household's planned borrowing is reduced (in case the saving was negative at the previous interest rate).
- c) the household's planned borrowing may rise (in case the volume of borrowing at the previous interest rate was small).

(Assume that both present and future consumption are normal goods.)

21. The potential higher productivity of "roundabout", more time-consuming production processes made possible by a reduction in present consumption was offered as an explanation for positive real interest rates by

- a) Alfred Marshall.
- b) Eugen v. Böhm-Bawerk.
- c) William S. Jevons.

22. If the shareholders in a firm have access to a "perfect capital market",

- a) they will favour a higher investment volume if their personal time preference rates are low.
- b) they will require the firm's management to maximise the present value of income independent of their personal time preference.
- c) they will instruct the management to choose the investment level which maximises the utility of the shareholder with the highest time preference rate.

23. The inverse demand function for labor of a price-taking profit-maximising firm is

- a) the steeper the faster the marginal productivity of labor falls when employment is extended.
- b) the flatter the faster the marginal productivity of labor falls.
- c) not dependent upon the behavior of the marginal productivity of labor.

24. The introduction of a minimum wage rate above the market equilibrium wage

- a) increases unemployment the less the more wage-elastic the labor supply curve is.
- b) decreases employment the less the less wage-elastic the labor demand curve is.
- c) decreases employment the less the more wage-elastic the labor supply curve is.

25. \* If the production function for some good is given by

$$y = \sqrt{x_1} \cdot \sqrt{x_2}$$

the technology is characterised by

- a) constant returns to scale.
- b) decreasing returns to scale.
- c) increasing returns to scale.

26. \* Consider a market equilibrium generated by the demand and supply curves from problems 13 and 14. If the government introduces a tax of 1 € per unit of the commodity sold,

...

- a) the quantity sold will be reduced and buyers bear the tax to the extent of 10c per unit.
- b) the quantity sold will not be reduced and sellers bear the whole tax.
- c) the quantity sold will be reduced and sellers bear the tax to the extent of 80c per unit.

27. \* Assume that there are 100 markets in an economy. Prices have adjusted so that 98 markets are in equilibrium. Then Walras' Law implies that

- a) also the remaining two markets are in equilibrium.
- b) it is impossible that both remaining markets display excess supply.
- c) the market prices in the remaining two markets have to rise.

28. \* Assume that the costs of producing a quantity  $x$  of some good is given by the function

$$C = 20 + 3x + 4x^2.$$

If the firm is a price taker in the output market, its (inverse) supply function is

- a)  $p = 2 + 6x.$
- b)  $p = 3 + 8x.$
- c)  $p = 20 + 8x.$

29. \* An individual has the choice between playing a lottery, which offers 1000 € with probability  $\frac{2}{5}$  and 0 with probability  $\frac{3}{5}$ , and receiving a sure amount of 399 €. If he chooses the sure 399 €, you may conclude that the individual is

- a) risk-seeking.
- b) risk-averse.
- c) risk-neutral.

30. \* Two firms may offer their product for sale either at a low price (L for firm 1,  $l$  for firm 2) or at a high price (H for firm 1,  $h$  for firm 2). The following table displays their respective profits (lower left corners for firm 1, upper right corners for firm 2):

	$h$	$l$
H	6      8	1      7
L	10     2	0      3

- a) There is no Nash-equilibrium.  
 b) There is exactly one Nash-equilibrium.  
 c) There are two Nash-equilibria.

– End of text. Good luck! –