Written Exam for the B.Sc. in Economics autumn 2012-2013

Microeconomics B

Final Exam

25 January 2013

(3-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

If you are in doubt about which title you registered for, please see the print of your exam registration from the students' self-service system.

Question 1
You are looking for a new pair of shoes in a shop. You know that there are shoes of two different qualities, but you cannot distinguish them from each other and you do not know which type(s) the shop is offering. We assume that your preferences over different qualities of shoes can be expressed by the function $u(q)=q$ where q is the price you have to pay for a pair of shoes (i.e. we assume that you are risk neutral).
Assume that your willingness to pay for the two different qualities are 1400 kr. and 800 kr. respectively.

a) Assume also that the marginal costs for the shop of both types of shoes are 1150 kr. Explain which problem that can arise here. What are the different cases we can consider and explain the possibilities of trade and the circumstances for the trade to happen.
b) Now assume that the marginal costs of producing good and bad quality shoes differ. The marginal costs of good shoes are 1150 kr. and for bad quality shoes they are 1100 kr. How does this influence the situation?
c) Can anything be done to remedy the situation happening? And why may this not always be a good idea?

Question 2
Explain why we with insurance contracts may encounter cases, where an insurance taker does not fully insure (have the same consumption in good and bad state).

Question 3
Consider a model of two consumers where an agent's activity (or consumption) causes an externality for the other agent. Comment on the statement: *if we can establish property rights over the externality causing activity, then we will end up in the same equilibrium (level of externality) independent of who is allocated the property rights.*

Question 4
We are considering a case of a public good. The public good is a cleaning lady (or man!) to clean the common rooms in a dormitory. The dormitory consists of 20 students. The costs of the cleaning lady is 30000 kr. per year and the costs must be shared equally among the students if they decide to hire the cleaner.
The students do not have the same value of the cleaner. 12 studens (the immature type of students - denoted A) has individual value of 750 kr. each, and 8 students (the mature students - denoted B) have an individual value of 2700 kr. each. These individual values are private information.

a) If the dormitory holds a referendum where the decision of hiring the cleaner or not is based on a simple majority vote, what will the decision be? (The votes are cast in a written anonymous way). Is this efficient? Why/why not?
b) Assume that one of the studens (you?) can persuade the rest of the students that a Clarke-Groves mechanism should be the decision mechanism and should also determine the individual payments. Will the cleaner be hired? What are the payments for each of the two types of students?
c) What may be the problems of applying the Clarke-Groves mechanism? Can you suggest another (theoretical) solution to the problem oftimal provision/demand for public good?

Question 5

Consider a monopolist who has the possibility to charge a two-part tariff from its product: $P(x)=F+px$. The fixed (F) and the variable (p) unit part of the tarif fare are for now assumed to be equal across the two different types of consumers.

The consumers are assumed to have a preferences over the good that can be represented by utility functions: $U_1 = \frac{3}{2} - \frac{3}{2}(1-x)^2 - P(x)$, and $U_2 = 1 - (1-x)^2 - P(x)$.

The marginal costs for the monopolist are constant and equal to c.

Finally assume that a fraction q of the customers that the monopolist is facing are type 1.

a) Write up the constraint the monopolist must consider if she wants both the customer types to consume of the good.

b) If the monopolist can only charge one single two-part tariff, what is the optimal per-unit charge then?

c) Explain what the incentive compatibility constraint that the monopolist would have to consider if the monopolist could charge two different two-part tariffs, is. You do not have to find it, but you may argue using diagrams etc. Morover, should the monopolist always choose to differentiate the tariffs this way?

Question 6

The financial situation right now is very difficult and many firms find it difficult to get a loan in the financial institutions. Explain why this is the case using your knowledge from the course curriculum. You should especially include an explanation of the apparent paradox that banks will not lend out money even though they could simply charge a higher interest rate.