EC101 DD/EE Problem Set 9 For discussion on week of November 30, 2021

Imperfect Competition, Monopoly Price Discrimination

Multiple Choice (MC) questions usually have only one correct answer, although you may be able to defend different answers. Other kinds of questions often have more than one correct answer. Having good reasons for your answers is more important than what your answer is. If you don't understand the meaning of a question, you may write to your own TF, but do not expect him/her to give you answers. The problem set will not be graded, but the way you discuss the problems in your discussion section will affect your discussion-section participation score. You are allowed to work on the problem sets with other students.

1. *[MC]* One of the main differences between the models of perfect competition and monopolistic competition is that
   a. There are a small number of sellers in the monopolistic-competition model.
   b. Under monopolistic competition, the marginal revenue is less than the price.
   c. There isn't perfect information under monopolistic competition.
   d. ***NONE*** of the above

2. Which of the following is an example of moral hazard, adverse selection, both or neither? Explain each of your answers.
   i. A person who has dental insurance stops brushing his teeth.
   ii. A student pays too much for a bicycle that has hidden problems.
   iii. A person on unemployment insurance does not try to find a job.
   iv. Consumers with big appetites like all-you-can-eat restaurants, which charge a fixed price and let customers eat as much as they want.

3. *[MC]* A patent creates a monopoly by restricting
   a. entry into the market.
   b. demand for the product.
   c. the amount of advertising that can be undertaken.
   d. the number of complements of the product.

4. Are the following statements true or false? Explain each of your answers.
   i. Since they are price setters, monopolists are motivated to choose the price that maximizes profits.
   ii. Monopolists often worry about the possible entry of other firms that sell close substitutes.
   iii. In the labor market, adverse selection refers to workers that expect high salaries.

5. *[MC]* Which of the following firms is most likely to be a monopoly?
   a. a shoe store
   b. a computer store
   c. a local fast-food restaurant
   d. a local bus company

6. You own a pizza restaurant in the free city of Karalis. You hire a teenager and pay her a fixed wage of $10 per hour to manage the restaurant. Because she is lazy, your shop doesn't produce many pizzas, and you lose money. Explain each of your answers to the following questions.
   i. Does the teenager have an incentive to work hard?
   ii. How does this relate to the concept of moral hazard?
   iii. Based on your answers, is there a different payment system (other than a fixed hourly wage) that would be likely to increase your profits?

7. Are the following statements true or false? Explain each of your answers.
   i. The more elastic that demand is, the higher the producer surplus for a monopolist will be.
   ii. Taxes on a goods produced by a monopoly are paid mainly by consumers.
   iii. In the market for smart phones, Apple and Samsung engage in monopolistic competition.

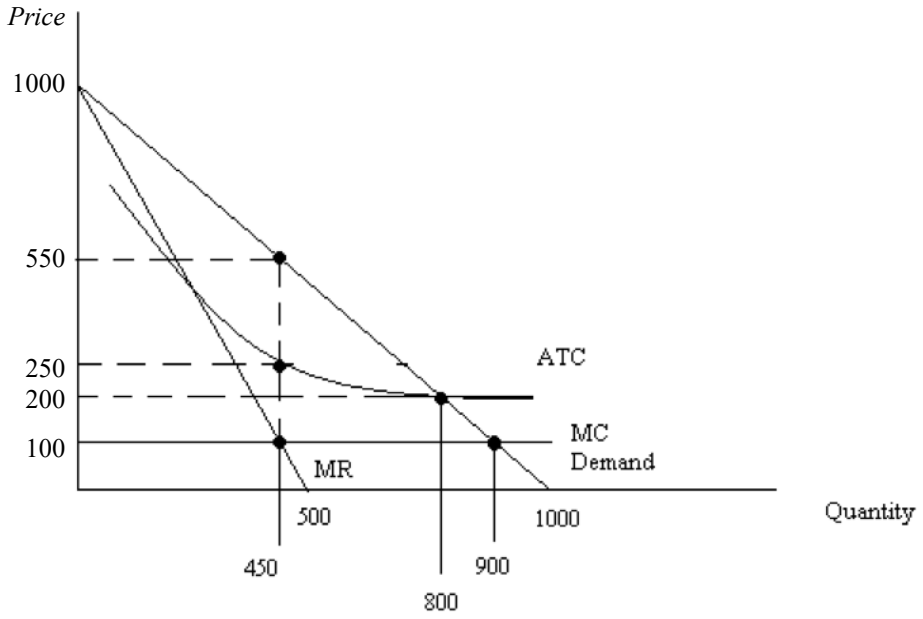
8. Consider the market for bank loans: people ask for money and promise to repay the debt plus interest. Determine whether the following statements are true or false, and explain why:
   i. In this market there is room for moral hazard.
   ii. Adverse selection plays a role in this market.

9. Markets for healthcare tend to be inefficient. What are the main reasons for the inefficiency? Explain.

10. What do you think about the following statements? Explain each of your answers.
   i. Monopolies are inefficient because they restrict production below the optimal level in order to extract rents.
   ii. We can remove all monopoly inefficiencies by allowing monopolies to perfectly price discriminate.
   iii. With perfect price discrimination we maximize social surplus and both consumers and producers are better off.

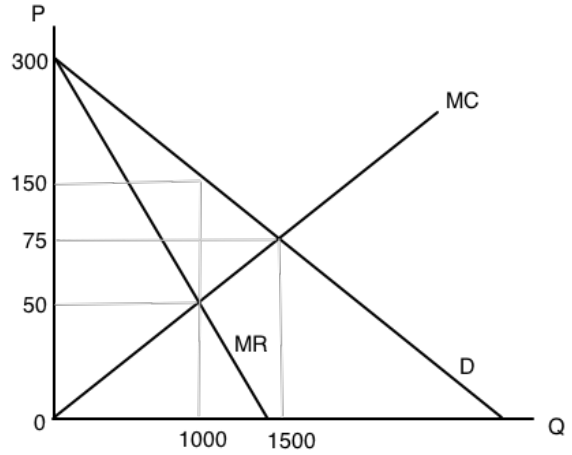
11. From the point of view of consumers, is there anything beneficial about price discrimination? Explain your answer.

12. Suppose the following graph represents a natural monopoly.



   i. Suppose this natural monopoly is not permitted to price-discriminate but is otherwise unregulated. What will be the monopolist's price for the good, its total output, and its profit? Explain carefully.
   ii. Suppose in addition a regulator requires this natural monopoly to produce and sell the socially optimal amount of output if it is open for business. What price would the monopolist have to set for the good? How much output would it have to produce? Would the monopolist close down its business? Explain your answers.
   iii. What price should the regulator set for this natural monopoly to stay in business?

13. The following graph shows the demand and cost curves for Bubba Lobster, the only seafood restaurant in a small town. The restaurant has a fixed cost of $1000.



In each of the following situations, state the quantity of lobsters sold and the price(s) charged by the monopolist, and calculate consumer surplus, producer surplus, and profit. Explain each of your answers.

i. The restaurant has to charge the same price to all customers.
ii. The restaurant can correctly guess each customer's WTP from the way he or she dresses.
iii. The mayor decides to place a price ceiling on lobsters in order to force the restaurant to produce the efficient amount of lobsters.

14. Using what you learned in lecture, discuss:

i. Why do some fast food restaurants provide coupons to customers that they need to print from the website? Why don't they simply lower the price of food on the menus?
ii. Is this an example of perfect price discrimination?

15. Are the following statements true or false? Explain each of your answers.

i. For a perfectly discriminating monopoly, the price is the same as the marginal cost.
ii. For a nondiscriminating monopoly, marginal revenue is less than the price.
iii. All types of monopolies are likely to engage in rent seeking.
iv. All types of monopolies produce lower than the socially efficient quantity.
v. Consumer surplus is higher and total surplus is lower in a market with a nondiscriminating monopoly than in one with a perfectly discriminating monopoly.

16. Suppose you are in charge of regulating a monopoly, and you have perfect information regarding the demand curve and the marginal revenue and marginal cost curves. Explain each of your answers.

i. How would you determine what the socially efficient quantity and price are?
ii. What quantity and price would the monopoly use if you don't regulate it?
iii. What tool could you use to regulate the monopoly (taxes, subsidies, price ceilings or price floors)?
iv. Could your tool lead to an efficient outcome?
v. In practice, what is a problem you might encounter in achieving your goal?