

## **ECONOMICS 1 MIDTERM EXAM # 1**

**DO NOT OPEN THIS EXAM BOOKLET UNTIL  
YOU ARE INSTRUCTED TO DO SO!**

- 1) This is a closed-book, closed-notes, no-calculator exam.**
- 2) CHEATING IS NOT TOLERATED.**
- 3) Write answers in the space provided.**
- 4) DO NOT write on the backs of pages.**
- 5) Be clear, complete and concise in your explanations.**
- 6) If you get stuck on a question, move on & return to it later.**
- 7) STOP writing when instructed to do so.**
- 8) Pass exam to your GSI.**
- 9) No one can leave until all exams are collected. Wait for Instruction!**

<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>5</b>	
<b>6</b>	
<b>TOTAL</b>	

<b>NAME &amp; SID:</b>
<b>GSI's NAME:</b>

**1) Definition (T/F/Uncertain) (15 points, 10 minutes)**

**First**, define the term in bold. **Second**, state whether statement is T/F/Uncertain. **Third**, give a succinct reason for your conclusion.

a) (5 points) It is efficient to have a unit tax on a good with inelastic demand in a perfectly competitive market (with no externalities) because there is no **deadweight loss**.

b) (5 points) All workers are happy with a **minimum wage policy** because it is a policy that ensures that employers pay workers a minimum acceptable wage.

c) (5 points) In the **lemons model**, only low quality goods end up being sold on the market and prices spiral downward.

**2) Long Question (15 points, 10 minutes)**

The A&B Yummy fishery has two fishermen: Alice and Barnaby. The fishery is able to maintain adequate levels of fish for sustainable growth if each uses 1 boat with capacity of 1 ton of Yummy fish. Alice and Barnaby each have a license for using this fishery, for which they were charged a one-time fee. On a given day Barnaby does not even see Alice's boat and vice versa. Each must decide whether to use 1 or 2 boats. Their daily payoffs (profits) under the two possible actions are as follows:

		Alice (A)	
		1 Boat	2 Boats
Barnaby (B)	1 Boat	10 for each	20 for A -5 for B
	2 Boats	- 5 for A 20 for B	1 for each

a) (4 points) What is the equilibrium outcome of this game? Show your work (either separately or in the diagram above) and explain.

b) (4 points) Is this a Prisoner's Dilemma game? Define Prisoner's Dilemma and explain.

c) (6 points) Now, suppose the government imposes an additional fee of 15 per day for use of a second boat. What is the payoff matrix now? What is the equilibrium outcome? Show your work.

d) (1 point) What is the **name** of the famous economic problem that the government has been able to solve by monitoring and enforcement of this additional fee for an extra boat?

**3) Short Answer (7 points, 5 minutes)**

A member of the state legislature, whose state has a high unemployment rate, says that his state's achievement test score average is among the lowest in the nation and that this is the main reason high-tech firms that hire young talent will not locate in the state. The only way to improve scores is for students to get more coaching on these tests. Many private providers offer this instruction.

**The legislator makes the following argument: the socially-optimal amount of instruction is higher than what the free market brings about.**

**He then suggests reforms that he claims will bring about the socially-optimal level.**

- a) (2 points) Briefly explain the idea behind this legislator's argument.
- b) (3 points) Use a graph to show the free market level and the socially optimal level of instruction.
- c) (2 points) What type of policy might the legislator be considering to get the outcome that is socially desirable?

**4) Long Question (15 points, 10 minutes)**

Economic advisors have suggested to Uzbekistan that the reason many suppliers have not entered the Uzbeki water distributor industry is that water distribution is a natural monopoly. There is presently one private supplier.

a) (4 points) What is the key characteristic of cost structure which defines a natural monopoly. Draw a graph of the cost curves only and explain.

b) (2 points) On a graph, show optimal P and Q for the monopoly water distributor in an unregulated market.

c) (7 points) Suppose that the Uzbeki government wants the water supplier to provide the socially optimal amount of water. What condition defines this optimum? Show P and Q at the social optimum. What is profit? How can government get the water supplier to provide the socially optimal amount of water? Draw a graph as part of your answer.

d) (2 points) Suppose the Uzbeki government decides instead to impose cost-plus regulation. What is one advantage of this policy? What is one disadvantage?

**5) Long Question (15 points, 10 minutes)**

The Berkeley City council wants to impose rent control of \$540 for a standard apartment, which is below the market rent of \$600. Opponents claim this will reduce supply of apartments by 15%. Proponents argue that supply will be reduced by only 2%.

a) (9 points) Explain the key assumption being made by each side about the supply curve for apartments. You must include an exact numerical answer and show your work.

b) (3 points) Which side do you think is correct in the short-run? Why?

c) (3 points) What government policy will result in lower rents without reducing economic surplus in the long-run?

**6) Short Answer (8 points, 5 minutes)**

You are an expert on third-party health insurance. **Answer parts a and b separately.**

a) (4 points) Demand for doctors visits is relatively inelastic for employees at a Wall Street brokerage firm and relatively elastic for employees at a chain hardware store. Which firm can expect more waste with a full coverage policy (ie, patient pays nothing for doctors visits)? Assume constant MC of doctors visits. Use a graph and explain.

b) (4 points) Consider just the brokerage firm. Suppose that it has two options: a policy with \$500 deductible (ie, patient pays for the first \$500 in costs for doctors visits) and a full coverage policy. Demand for doctors visits is given by  $P=300-50Q$ . Assume  $MC = \$200$ . Use a graph or algebra to show your answer.

i) What is the optimal number of doctors visits for each employee under the deductible policy? Under the full coverage policy?

ii) What is the additional cost of the doctors visits and the additional benefit to the employee under full coverage compared to the deductible policy?

**Extra Credit News Questions**

- 1) The U.S. poverty rate (percentage of people who have income below the poverty line) rose in 2001 for the first time in 8 years. What is that rate?
- 2) You have heard the dramatic quote: "The richest \_\_\_\_\_% of Americans have combined wealth that exceeds the wealth of the \_\_\_\_\_% of poorest Americans." Fill in the blanks.
- 3) The Federal Funds rate (which we will study in part 2) is at a 41-year low. What is that rate?
- 4) What was the annual growth rate of US GDP for the second quarter 2002?