

Final Exam Econ321 Fall 2001

Part II. Analytical Questions. Answer **only 3** of the 5 questions.

1. Amelia buys coffee for \$1 per cup and tea for \$.50 per cup; every day she drinks 1 cup of coffee and 2 cups of tea. Bernard (who lives elsewhere) buys coffee for \$.50 and tea for \$1 per cup; every day he drinks 2 cups of coffee and one cup of tea. Can you determine whether Amelia and Bernard have identical tastes? Explain.

2. Gus the cab driver rents a cab and pays for gas. Suppose that a huge fire destroys half the cabs in town, but not Gus's. Using diagrams, show the impacts of this event on the market price and quantity of cab rides, Gus's output of cab rides, and Gus's profits in the short-run and the long-run.

3. Use a diagram to illustrate the profit maximizing price and quantity chosen by a monopolist. Your diagram should include the following curves: demand, marginal revenue, marginal cost, and average cost. Briefly explain the nature of the inefficiency of the monopoly outcome.

4. Suppose the U.S. supply and demand curves for automobiles cross at a price of \$15,000 but that any quantity of (identical) automobiles can be purchased from abroad (or sold abroad) for \$10,000. Suppose the government imposes a \$2,000 sales tax on every American who buys a car (regardless of whether the car is produced domestically or abroad).
  - a. What price must Americans pay for cars before the tax is imposed? What price must Americans pay for cars after the tax is imposed? What prices do U.S. producers receive for their cars before and after the tax is imposed?
  - b. Calculate the gains to all relevant groups of Americans before and after the tax is imposed. What is the deadweight loss due to the tax?

5. **True or False**, and Explain: To get from Hereville to Thereville, you must cross two bridges, each of which is owned by a different monopolist. If one monopolist owned both bridges, travelers would be better off.

## Econ321 Final Exam 12/15/01

### Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- \_\_\_\_\_ 1. The term *demand* refers to
- a collection of numbers, listing the quantities demanded at a variety of hypothetical prices.
  - the information on tastes, incomes, and prices needed to determine people's desired purchases of a commodity.
  - the amount of a commodity that is being purchased under current market conditions.
  - the quantity purchased at each and every possible level of income.
- \_\_\_\_\_ 2. Consider the market for restaurant meals. Statistics show that wealthier families spend a greater proportion of their income on restaurant meals than do poorer families. If households' incomes rise substantially during an economic recovery, then we can expect
- an increased demand for restaurant meals.
  - an increased supply of restaurant meals.
  - a lower price for restaurant meals.
  - the demand curve for restaurant meals to shift to the left.
- \_\_\_\_\_ 3. A fear that consumption of beef may be related to a life threatening disease spreads rapidly through France. The market result will be:
- the demand falls, price decreases and therefore French consumers buy more beef.
  - the demand falls, price decreases and the quantity supplied therefore falls.
  - a fall in demand followed by a fall in supply.
  - the equilibrium quantity falls, but the price does not change.
- \_\_\_\_\_ 4. Suppose there are only two goods: milk and honey. If the relative price of milk falls, then the relative price of honey
- must also fall.
  - must rise.
  - is unaffected.
  - could rise, fall, or remain unchanged.
- \_\_\_\_\_ 5. When inflation causes the absolute prices of all commodities to rise, what happens to the relative prices of those commodities?
- The relative prices also rise.
  - When absolute prices rise, the corresponding relative prices fall.
  - The relative prices are unaffected by changes in absolute prices.
  - No prediction can be made about changes in relative prices.
- \_\_\_\_\_ 6. Suppose there are only two goods: food and clothing. What does it mean for the U.S. to have a comparative advantage in food production?
- The U.S. needs fewer resources to grow a given amount of food than do other nations.
  - The U.S. sacrifices less clothing production to grow a given amount of food than do other nations.
  - In the U.S., food production needs fewer resources than does a comparable amount of clothing production.
  - In the U.S., food production costs less than does clothing production.

### Canada and Thailand

The following questions refer to the following table which shows the abilities of Canada and Thailand to produce food and cloth. Food and cloth are the only two commodities in the world and their production requires only labor. The amounts of labor required to produce one unit of each of these commodities in the two countries are shown in the table below.

	Canada	Thailand
One Bushel of Food	3 hours	9 hours
One Bolt of Cloth	6 hours	12 hours

- \_\_\_ 7. Refer to Canada and Thailand. Which country is the more efficient (lower cost) food producer, and which country is the more efficient cloth producer?
- Canada is the more efficient food producer, and Thailand is the more efficient cloth producer.
  - Thailand is the more efficient food producer, and Canada is the more efficient cloth producer.
  - Canada is the more efficient producer of both goods.
  - Thailand is the more efficient producer of both goods.
- \_\_\_ 8. Under standard assumptions, which of the following is *not* a property of indifference curves?
- They are downward sloping and convex.
  - They fill the plane and never cross.
  - Their slope is equal, in magnitude, to the relative price of the goods.
  - Baskets on indifference curves further away from the origin provide more satisfaction than those which are closer to the origin.
- \_\_\_ 9. If the marginal value of 1 bottle of champagne is 4 chocolate bars, then
- the absolute price of champagne is 4 times the absolute price of a chocolate bar.
  - trading away 1 bottle of champagne for 4 bars of chocolate will not affect the consumer's level of satisfaction.
  - the consumer's optimum contains 4 times as many bars of chocolate as bottles of champagne.
  - champagne provides 4 times as much satisfaction to the consumer as does chocolate.

### Goods X and Y

For the following questions, assume that good X is on the horizontal axis and good Y is on the vertical axis in the consumer-choice diagram.  $P_X$  denotes the price of good X,  $P_Y$  is the price of good Y, and  $I$  is the consumer's income. Unless otherwise stated, the consumer's preferences are assumed to satisfy the standard assumptions.

- \_\_\_ 10. Refer to Goods X and Y. If the marginal rate of good X in terms of good Y is large, then the indifference curve will be
- convex.
  - concave.
  - steep.
  - flat.
- \_\_\_ 11. Refer to Goods X and Y. Which of the following can cause a parallel, outward shift in the budget line?
- A rise in the consumer's income.
  - A rise in the marginal value of X in terms of Y.
  - A fall in the price of good X.
  - A fall in the price of good Y.
- \_\_\_ 12. Refer to Goods X and Y. When the price of good X rises, what happens to the budget line?

- a. The budget line shifts in, with no change in the slope.
- b. The budget line becomes flatter, and the horizontal intercept moves to the right.
- c. The budget line becomes steeper, with no change in the vertical intercept.
- d. The budget line pivots about the horizontal intercept, with the vertical intercept moving up.

- \_\_\_\_\_ 13. The price of wine has risen from \$7 to \$9 per bottle and the price of cheese has fallen from \$6 to \$5 per pound, while Anne's income has stayed fixed at \$46 per week. Since the price changes, Anne has been buying 4 bottles of wine and 2 pounds of cheese per week. We can conclude that
- a. Anne is indifferent about the price changes.
  - b. Anne is worse off after the price changes.
  - c. Anne is better off after the price changes.
  - d. Anne may be worse off, better off, or indifferent after the price changes.

### Budget Lines

The following questions refer to the following diagram, which shows the budget lines faced by a consumer last year and this year.



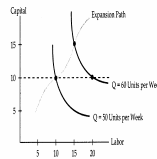
- \_\_\_\_\_ 14. Refer to Budget Lines. The only situation where we can conclude that this consumer's tastes must have changed is when we observe him
- a. buying B last year and buying A this year.
  - b. buying D last year and buying A this year.
  - c. buying B last year and buying C this year.
  - d. buying D last year and buying C this year.
- \_\_\_\_\_ 15. An inferior good is one for which
- a. the compensated demand curve fails to be downward sloping.
  - b. higher prices have relatively little effect on the quantity demanded.
  - c. the income elasticity is positive but less than 1.
  - d. increases in income result in lower quantities demanded.
- \_\_\_\_\_ 16. What types of goods have downward-sloping Engel curves?
- a. Normal goods only.
  - b. Inferior goods only.
  - c. Giffen goods only.
  - d. All types of goods.
- \_\_\_\_\_ 17. When the price of a good rises, the resulting change in relative price causes the consumer to reduce his quantity demanded of that good, even when the consumer is income-compensated so that he remains indifferent about the price change. This observation is known as the
- a. Giffen good phenomenon.
  - b. law of demand.
  - c. substitution effect.
  - d. income effect.
- \_\_\_\_\_ 18. The price elasticity of demand for apples is estimated to be -1.3, and the quantity demanded of apples is 3,000 bushels per week. In this situation, a 4% rise in the price of apples would reduce the quantity demanded by
- a. 92 bushels per week.

- b. 120 bushels per week.
  - c. 156 bushels per week.
  - d. 975 bushels per week.
- \_\_\_ 19. If an activity is worth pursuing at all, then it should be pursued up to the point where
- a. total cost equals total benefit.
  - b. average cost equals average benefit.
  - c. marginal cost equals marginal benefit.
  - d. sunk costs equal zero.
- \_\_\_ 20. When should a firm increase its production?
- a. When it is earning a positive profit.
  - b. When its revenues are too low to cover the firm's fixed costs.
  - c. When there is a fall in the price of its product.
  - d. When its marginal revenue exceeds its marginal cost.
- \_\_\_ 21. Caterpillar has spent \$5 million to date on a new plant, and another \$2 million is needed to complete the plant. When construction was started, it was projected that production at the new plant would add \$12 million to Cat's profit, but new projections show the additional profit will be only \$6 million. Assuming the incomplete plant is worthless, should Cat complete the new plant or abandon it?
- a. Cat should complete the plant because it would create a net profit of \$4 million.
  - b. Cat should complete the plant because it would create a net profit of \$1 million.
  - c. Cat should abandon the plant because a \$5 million loss is better than a \$6 million loss.
  - d. Cat should abandon the plant because the plant costs \$6 million more than the expected profit.
- \_\_\_ 22. Consider a firm that produces peanut butter. An increase in the price of peanuts will cause the firm to lower its output because
- a. fixed costs will rise.
  - b. marginal cost will rise.
  - c. the price of peanut butter will rise.
  - d. marginal revenue will fall.
- \_\_\_ 23. If a firm can adjust its employment of all inputs, then it is
- a. experiencing economies of scale.
  - b. in the long run.
  - c. off its expansion path.
  - d. limited only by the capacity of its fixed capital.
- \_\_\_ 24. The marginal product of labor is defined to be
- a. the additional output attributable to the last unit of labor employed.
  - b. the amount of output obtained, on average, from each unit of labor employed.
  - c. the percentage increase in output caused by a 1% rise in labor usage.
  - d. the amount of capital that the firm can use to replace one unit of labor.
- \_\_\_ 25. Diminishing marginal returns to labor imply that
- a. fixed costs will remain constant as the firm's output increases.
  - b. the firm's short-run marginal cost curve will be upward sloping.
  - c. the firm enjoys increasing returns to scale in the long run.
  - d. the firm will be unable to earn short-run economic profit.
- \_\_\_ 26. If the average cost curve is downward sloping, then
- a. marginal cost is smaller than average cost.
  - b. the marginal cost curve is also downward sloping.
  - c. there are increasing marginal returns to labor.
  - d. wages and other input prices are falling.

- \_\_\_\_\_ 27. If the marginal rate of technical substitution of labor for capital ( $MRTS_{L,K}$  or  $\Delta K / \Delta L$ ) exceeds the relative price of labor in terms of capital ( $P_L/P_K$ ), then
- the firm's long-run average cost curve is rising.
  - the firm is producing its output at the least possible cost, but the firm should reduce its output level to increase its profits.
  - the firm has increased its output level beyond the point of diminishing marginal returns.
  - the firm needs to use less capital and more labor to reach its expansion path.

### Cost of Production

The following questions refer to the diagram below. The wage rate is assumed to be \$12 per hour, the rental rate is assumed to be \$6 per hour, and capital is assumed to be fixed in the short run at 10 hours.

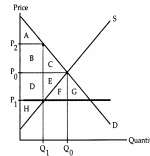


- \_\_\_\_\_ 28. Refer to Cost of Production. The short-run average cost of producing 60 units of output per week is
- \$3 per unit.
  - \$4.50 per unit.
  - \$5 per unit.
  - \$9 per unit.
- \_\_\_\_\_ 29. A competitive firm's supply curve is determined by
- its marginal costs.
  - the market price.
  - the zero-profit condition.
  - its fixed inputs. \strike
- \_\_\_\_\_ 30. A competitive firm's shutdown price is equal to the minimum value of the firm's
- marginal cost.
  - average cost.
  - average variable cost.
  - fixed and sunk costs.
- \_\_\_\_\_ 31. The industry's short-run supply curve is identical to the horizontal sum of the individual firms' short-run supply curves as long as there are no
- entry and exit.
  - fixed costs.
  - differences among firms.
  - factor-price effects.
- \_\_\_\_\_ 32. A competitive firm will exit an industry in the long run when the market price falls below its
- marginal revenue.
  - marginal cost.
  - average cost.
  - average variable cost.
- \_\_\_\_\_ 33. Suppose all firms in an industry are identical. In the long run, entry and exit guarantee that all firms will have zero
- marginal cost.
  - average cost.
  - economic profit.

- d. accounting profit.
- \_\_\_ 34. Suppose calendars are produced by a competitive constant-cost industry. Which of the following *must* cause Camilla's Calendars to exit the industry in the long run?
- Camilla's is notified of a rent increase, but her competitors' rents are unchanged.
  - A fire destroys half of Camilla's inventory.
  - A photographer wins a \$10,000 judgment from a lawsuit charging that Camilla's used his photos without permission.
  - The price of paper used in calendar production rises.
- \_\_\_ 35. The area beneath a consumer's demand curve out to the quantity purchased represents
- consumer's surplus.
  - the region of mutual advantage.
  - the total value of the consumer's purchases.
  - the marginal value placed on the last unit consumed. 2

### Price Ceiling

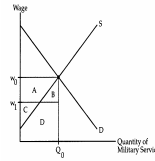
The following questions refer to the accompanying diagram which shows the effects of a price ceiling. The initial price and quantity are  $P_0$  and  $Q_0$ , respectively, and the price ceiling is imposed at the price  $P_1$ . Assume that none of the potential deadweight loss can be avoided.



- \_\_\_ 36. Refer to Price Ceiling. Area B + D represents
- the deadweight loss due to the price ceiling.
  - the fall in consumers' surplus caused by the imposition of the price ceiling.
  - the value of the time and resources spent by consumers to acquire the limited supply.
  - the post-ceiling profits earned by the producers of the good.
- \_\_\_ 37. Refer to Price Ceiling. After the price ceiling is imposed, consumers' surplus is equal to
- area A.
  - area A + B.
  - area A + B + D.
  - area A + B + C + D + E + F + G.
- \_\_\_ 38. Refer to Price Ceiling. The price ceiling creates a deadweight loss equal to
- area A + H.
  - area B + C + D + E.
  - area B + D.
  - area C + E.
- \_\_\_ 39. When will consumers' surplus overstate the actual gains received by consumers?
- When allocation decisions are not made on the basis of price.
  - When the commodity is not equally divided among consumers.
  - When all consumers place the same marginal value on the good.
  - When the distribution of goods is Pareto optimal.

### Supply and Demand

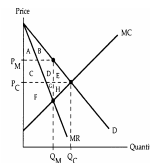
The following questions refer to the accompanying graph, which shows the supply and demand for military service.



- \_\_\_ 40. Refer to Supply and Demand. Suppose the government relies on a volunteer army of size  $Q_0$  and pays soldiers the wage  $w_0$ . What does the area  $A + C$  represent?
- The total wages paid by the government to the soldiers.
  - The rent earned by the soldiers.
  - The opportunity cost of the volunteers' service.
  - The cost of the army to society.
- \_\_\_ 41. Refer to Supply and Demand. Suppose the government drafts  $Q_0$  persons into the army and pays them the wage  $w_1$ . In this situation, the area  $B + D$
- underestimates the cost of the army to society.
  - equals the social gain created by the limited draft.
  - overestimates the amount of rent earned by draftees.
  - shows that this limited draft has the same cost as a volunteer army.
- \_\_\_ 42. The significant difference between adverse selection problems and moral hazard problems is
- that adverse selection refers to bad luck, moral hazard refers to bad behaviors.
  - that adverse selection applies to markets for goods, moral hazard applies to markets for services.
  - only identifiable after an action has been taken.
  - that in adverse selection one group of people starts out at a higher risk, while in moral hazard problems, people incur additional risks.
- \_\_\_ 43. A firm is a monopoly if
- it faces a downward-sloping demand curve for its product.
  - it is a very large firm.
  - it takes its rivals' actions into account when choosing its price and output levels.
  - its production decisions do not affect the price of its product.

### Market Diagram

The following questions refer to the accompanying market diagram.  $P_C$  and  $Q_C$  are the equilibrium price and quantity if the firm behaves competitively, and  $P_M$  and  $Q_M$  are the equilibrium price and quantity if the firm is a simple monopoly.



- \_\_\_ 44. Refer to Market Diagram. What area represents the producer's surplus earned in the monopoly equilibrium?
- Area  $A + C + F$ .
  - Area  $C + F$ .
  - Area  $C + D + F + G$ .

- d. Area C + D + E.
- \_\_\_ 45. Refer to Market Diagram. The difference between producer's surplus as a monopolist and producer's surplus when setting price at what would exist in a competitive market is
- Area C + D + E - G - H.
  - Area C + D - H.
  - Area C + D + E - A - B.
  - Area E + H.
- \_\_\_ 46. Consider a price ceiling imposed on a monopoly. For what quantities will the monopoly's new marginal revenue curve be horizontal at the ceiling price?
- For quantities where the demand curve lies above the ceiling price.
  - For quantities where demand is elastic.
  - For quantities where marginal cost is rising.
  - Marginal revenue will be constant and equal to the ceiling price for all quantities.
- \_\_\_ 47. In third-degree price discrimination, the monopolist will choose quantities so that each market has the same
- price.
  - total revenue.
  - marginal revenue.
  - elasticity.
- \_\_\_ 48. Being a member of a cartel is similar to being in a Prisoner's Dilemma situation because
- each firm is being held hostage by the decisions of the other firms.
  - of anti-trust laws which make price fixing a criminal offense.
  - to obtain the best possible outcome for all, an enforcement mechanism is needed.
  - of the presence of organized crime in industries with cartels.
- \_\_\_ 49. In the Cournot model of oligopoly, firms produce
- the competitive quantity.
  - the monopoly quantity.
  - more than the monopoly quantity, but less than the competitive quantity.
  - less than the monopoly quantity.
- \_\_\_ 50. In the Bertrand model of oligopoly, each firm chooses its output assuming that its rivals
- do not change their price.
  - do not change their output.
  - can enter and exit the industry costlessly.
  - use the tit-for-tat strategy.
- \_\_\_ 51. Which oligopoly model results in firms successively undercutting their rivals' prices until the competitive outcome is reached?
- The contestable market model.
  - The Cournot model of oligopoly.
  - The Bertrand model of oligopoly.
  - The monopolistic competition model.

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**Answer Section**

**MULTIPLE CHOICE**

1. A
2. A
3. B
4. B
5. D
6. B
7. A
8. C
9. B
10. C
11. A
12. C
13. B
14. C
15. D
16. B
17. C
18. C
19. C
20. D
21. A
22. B
23. B
24. A
25. B
26. A
27. D
28. C
29. A
30. C
31. D
32. C
33. C
34. A
35. C
36. C
37. A
38. B
39. A
40. B
41. A

- 42. D
- 43. A
- 44. C
- 45. B
- 46. A
- 47. C
- 48. C
- 49. C
- 50. A
- 51. C