

ECN 201, Winter 1999  
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SS#: \_\_\_\_\_

## MIDTERM 2 - Version A

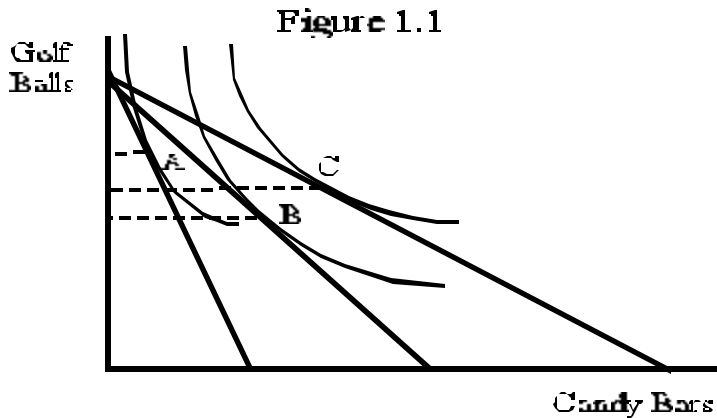
Tuesday, February 23

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**Directions:** This test is comprised of 2 parts for a total of 100 points. The first part is 30 multiple choice questions, with each question worth 2.5 points for a total of 75 points. The second part is short answer problems worth a total of 25 points. Mark your multiple choice answers on a Scantron with a #2 pencil. Put your name and student ID number on **both** the Scantron and this test. Then hand in **both** the Scantron and the test when you are finished.

### PART 1: MULTIPLE CHOICE

1. Which two assumptions imply that a firm is a price taker.
  - a) Free entry/exit and homogeneous goods.
  - b) Infinite number of firms and homogeneous goods.
  - c) Diminishing marginal returns in the short-run and homogeneous goods.
  - d) Infinite number of firms and differentiated goods.
  
2. Under perfect competition, which of the following is NOT true?
  - a) Firms earn a positive economic profit in the long run.
  - b) Resources are allocated among firms efficiently.
  - c) Final products are distributed among households efficiently.
  - d) The system produces the things that people want.
  
3. A pure monopoly is an industry with a single firm that produces a product that has \_\_\_\_\_ close substitutes and in which there are \_\_\_\_\_ barriers to entry.
  - a) many; significant.
  - b) many; no.
  - c) no; significant.
  - d) no; no.
  
4. The condition in which the economy is producing what people want at the least possible cost is
  - a) equity.
  - b) partial equilibrium.
  - c) efficiency.
  - d) positive analysis.



**Figure 1.1 diagrams budget constraints and an indifference curve mapping for a consumer. A, B, and C are equilibrium points for various budget constraints.**

5. Refer to figure 1.1. Which of the following causes the budget line intercept along the horizontal axis to move to the right in figure 1.1?

- a) An increase in income.
- b) A decrease in the price of candy bars.
- c) An increase in the price of candy bars.

d) A decline in income.

6. Refer to figure 1.1. As the budget line swivels out from equilibrium points A, B, and C, the quantity of candy bars consumed increases. This is verification of

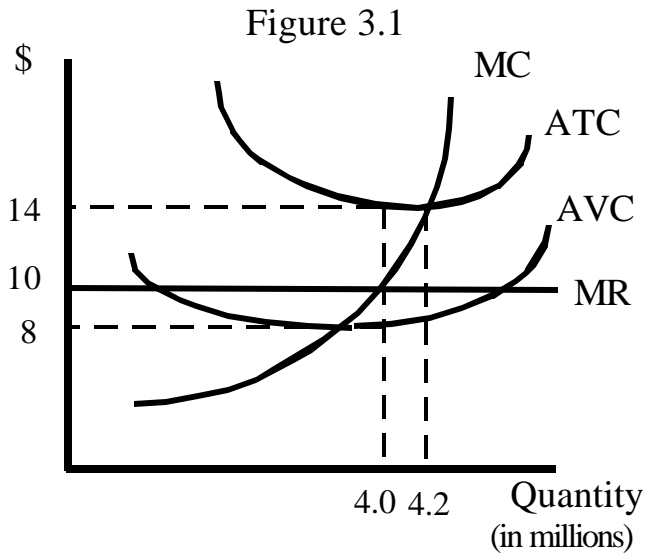
- a) the law of demand for candy bars.
- b) the law of supply for candy bars.
- c) the law of diminishing marginal returns.
- d) that candy bars are a normal good.

7. Refer to figure 1.1. When the budget line swivels out so that the consumer moves from point A to point B, the change in the quantity demanded of golf balls suggests that

- a) the law of demand does not hold for golf balls.
- b) only the substitution effect has any impact on the quantity demanded of golf balls.
- c) the substitution effect is larger than the income effect for this change in the budget constraint.
- d) the substitution effect is smaller than the income effect for this change in the budget constraint.

8. Refer to figure 1.1. Suppose at point A that the consumer's marginal utility of Golf Balls is 20 utils, the price of Golf Balls is \$5 and the price of Candy Bars is \$2. If the consumer is maximizing utility subject to the budget constraint, then the consumer's marginal utility of Candy Bars at point A is

- a) 2 utils.
- b) 8 utils.
- c) 20 utils.
- d) Cannot determine from the information given.



**Figure 3.1 shows a perfectly competitive firm, which has an ATC of 14 and an AVC of 8 when it produces 4 million units.**

**9.** Refer to figure 3.1. What is the firm's AFC when the firm produces 4.2 million units?

- a) \$6.
- b) More than \$6.
- c) Less than \$6.
- d) Cannot be determined from the information given.

**10.** Refer to figure 3.1. The equilibrium price in the firm's market is

- a) \$14
- b) \$10
- c) \$8
- d) Cannot be determined from figure 3.1, because one needs to know how much is supplied by other firms in the market.

**11.** Refer to figure 3.1. At 4 million units of production, the firm

- a) makes a loss of \$16 million.
- b) makes a loss of \$24 million.
- c) makes a loss of \$8 million
- d) makes an economic profit of \$16 million.

**12.** Refer to figure 3.1. This firm will

- a) shut down in the short-run and the long-run.
- b) continue to operate in the short-run and the long-run.
- c) shut down in the short-run, but operate in the long-run.
- d) operate in the short-run, but shut down in the long-run.

**13.** Refer to figure 3.1. How much money will this firm lose if it shuts down?

- a) \$8 million
- b) \$16 million.
- c) \$24 million.
- d) \$40 million.

14. If the total product of two workers is 100 and the total product of 3 workers is 120, then the average product of the third worker is \_\_\_\_\_ and the marginal product of the third worker is \_\_\_\_\_.

- a) 40; 20
- b) 20; 40
- c) 13.33; 6.67
- d) 120; 100

15. The law of diminishing marginal return implies that

- a) short-run marginal costs will eventually become negative for increases in production.
- b) marginal product must be negative for any input of labor.
- c) short-run marginal costs will eventually increase for increases in production.
- d) none of the above.

16. The result that perfectly competitive firms produce at the lowest per-unit cost follows from the assumption of

- a) homogeneous products.
- b) diminishing marginal returns.
- c) free entry and exit.
- d) numerous sellers.

17. The efficient markets hypothesis is important in understanding

- a) why firms enter a perfectly competitive industry if the current firms are making normal profit.
- b) why firms enter a perfectly competitive industry if the current firms are making economic profit.
- c) why perfectly competitive firms are price takers.
- d) how firms decide the profit-maximizing output.

18. When an increase in scale of production leads to higher average costs, the industry is characterized by

- a) diminishing marginal returns.
- b) economies of scale.
- c) diseconomies of scale.
- d) constant returns to scale.

**SITUATION 1: Downhill skis and snowboards are substitute goods. Suppose markets for both goods are perfectly competitive and all firms are making zero economic profit in each market.**

**19.** Refer to situation 1. Are these two markets in long-run equilibrium?

- a) No. There will be entry until firms make zero normal profits.
- b) No. There will be exit until firms make zero normal profits.
- c) Yes, provided all firms are at optimal scale as well.
- d) Yes, provided no firm is experiencing diminishing marginal returns in the short-run.

**20.** Refer to situation 1. Suppose consumers' tastes increase for snowboards and decrease for downhill skis, increasing market demand for snowboards and decreasing market demand for downhill skis. In the **long-run**, we would expect

- a) Entry of firms and increased supply in the downhill ski market, and exit of firms and decreased supply in the snow board market.
- b) Entry of firms and increased supply in the snowboard market, and exit of firms and decreased supply in the downhill ski market.
- c) Entry of firms into both markets.
- d) Exit of firms from both markets.

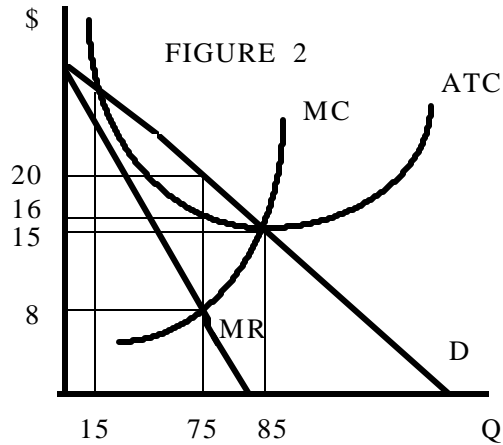
**21.** Refer to situation 1. Suppose consumers' tastes increase for snowboards and decrease for downhill skis, increasing market demand for snowboards and decreasing market demand for downhill skis. In the **long-run**, we would expect

- a) equilibrium prices to increase in the snow board market and decrease in downhill skis.
- b) equilibrium prices to decrease in the snow board market and increase in downhill skis.
- c) equilibrium prices to increase in both markets.
- d) equilibrium prices to remain the same, provided costs have not changed.

**22.** Refer to situation 1. Which of the following changes would NOT imply that the supply of downhill skis is no longer perfectly-competitive.

- a) Some firms realize they can make more money by differentiating their product - that is, by offering different color skis, different lengths and shapes, et cetera.
- b) New regulation of the ski industry means new entrants have to pay a \$50,000 fee to start production.
- c) A new technology becomes available to all firms that lowers marginal costs.
- d) New regulation of the ski industry that limits the number of suppliers to twenty.

Question 23-26 refer to figure 2, which depicts a monopoly firm.



23. What's the level of output at which ATC is minimized?

- a) 15
- b) 75
- c) 85
- d) Would need more information to determine this.

24. If the firm operates, what is the best it can do?

- a) A loss of \$300.
- b) Economic profit of \$0.
- c) Economic profit of \$300.
- d) Economic profit of \$900.

25. What is marginal cost at the profit maximizing level of output?

- a) \$8.
- b) \$15.
- c) \$16.
- d) Cannot be determined from figure 1.

26. Which statement is TRUE about profit at output of 75 as compared to profit at output of 85?

- a) Economic profit is less at output level of 75.
- b) Economic profit is less at output level of 85.
- c) Economic profit is the same at both levels of output.
- d) Cannot determine from the information given.

27. The short-run supply curve of a competitive firm is

- a) the portion of the average variable cost curve that lies above its marginal cost curve.
- b) the portion of its marginal cost curve that lies above its average variable cost curve.
- c) the portion of its marginal cost curve that lies above its average total cost curve.
- d) the portion of its average total cost curve that lies above its marginal cost curve.

28. When average cost is greater than marginal cost

- a) average cost is rising.
- b) average cost is falling.
- c) average cost is constant.
- d) Cannot determine from information given.

29. Which of the following is NOT necessarily true about a pure monopoly.

- a) A pure monopoly firm produces at an inefficient level of output.
- b) A pure monopoly firm makes economic profit.
- c) A pure monopoly firm faces diminishing marginal returns in the short-run.
- d) A pure monopoly firm produces until marginal costs exceed marginal revenues.

30. If the substitution effect of a wage change outweighs the income effect of a wage change, the labor-supply curve is

- a) upward sloping.
- b) horizontal.
- c) vertical.
- d) backward bending.

**Please go to next page for short-answer problems**

**PART 2: SHORT-ANSWER PROBLEM**

Suppose you have a firm that makes 2-foot statues of Elvis Presley from rhinestones. Your firm faces the following cost and market demand conditions:

**Firm's Cost Information:**

Quantity	Marginal Cost	Average Total Cost
1	\$10	\$30.00
2	6	18.00
3	8	14.67
4	12	14.00
5	20	15.20
6	30	17.67
7	50	22.28

**Market Demand Information:**

Quantity	Price
1	\$36
2	32
3	28
4	24
5	20
6	16
7	12

1) Suppose your firm is a **perfect competitor** and the equilibrium price in the market is \$20. List the marginal revenue for the perfect competitor below. For example, for quantity 1, put down the marginal revenue from selling the first unit. Also, list the total fixed cost for this firm.

Quantity	Marginal Revenue	TOTAL FIXED COST: _____
1		
2		
3		
4		
5		
6		
7		

2) Explain how much the **perfectly-competitive** firm would produce to maximize profits and calculate the economic profits for the firm. **Show your work.**

3) Explain what will happen to your **perfectly-competitive** firm's profits in the long-run and why?

4) Now suppose your firm is a **monopolist**. Calculate the marginal revenue for the monopolist given the market demand information given on the previous page. Also, calculate total variable cost and average variable cost when quantity is 6. **Show your calculations.**

Quantity	Marginal Revenue	TVC at Q=6:
1		
2		
3		
4		AVC at Q=6:
5		
6		
7		

5) Explain how much the **monopoly** firm would produce to maximize profits and calculate the economic profits for the firm. **Show your work.**

6) Suppose you talk to Frog (a local friendly homeless person) and he gives you an idea to employ a new technology so that your marginal costs are \$12 no matter how much you produce. Explain how much the **monopoly** firm would produce to maximize profits and calculate the economic profits for the firm. (HINT: The marginal revenue is not affected, but the marginal cost and average total cost schedule have been affected.) **Show your work.** Would you use Frog's new technology?

7) Explain how much the **perfectly-competitive** firm would produce to maximize profits with Frog's new technology and an equilibrium market price of \$20.