



**AP<sup>®</sup> Microeconomics  
2006 Free-Response Questions  
Form B**

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# 2006 AP<sup>®</sup> MICROECONOMICS FREE-RESPONSE QUESTIONS (Form B)

## MICROECONOMICS

### Section II

Planning time—10 minutes

Writing time—50 minutes

**Directions:** You have 50 minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume that Clark Electronics has a monopoly in the production and sale of a new device for detecting and destroying a computer virus. Clark Electronics currently incurs short-run losses, but it continues to operate.
  - (a) What must be true for Clark to continue to operate in the short run?
  - (b) Draw a correctly labeled graph, and show each of the following for Clark.
    - (i) The profit-maximizing price and output
    - (ii) Area of loss
  - (c) Assume Clark is maximizing profit. What will happen to its total revenue if Clark raises its price? Explain.
  - (d) If demand for the new device increases, explain what will happen to each of the following in the short run.
    - (i) Profit-maximizing output
    - (ii) Total cost
  
2. Assume that the market for home security systems is perfectly competitive and currently in equilibrium.
  - (a) Using a correctly labeled graph of supply and demand, show each of the following.
    - (i) The equilibrium price and quantity, labeled as  $P^*$  and  $Q^*$ , respectively
    - (ii) The area representing consumer surplus, labeled as CS
    - (iii) The area representing producer surplus, labeled as PS
  - (b) Suppose that the government imposes an effective (binding) price ceiling. Redraw your graph in part (a), and label the ceiling price as  $P_2$ . Completely shade the area representing the sum of the consumer surplus and the producer surplus after the imposition of the price ceiling.
  - (c) Suppose the demand for home security systems decreases and the price ceiling remains binding. Indicate what will happen to each of the following.
    - (i) Consumer surplus
    - (ii) Producer surplus

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3. Pride Textiles produces and sells towels in a perfectly competitive market. Pride Textiles hires its workers in a perfectly competitive labor market. Assume that the market wage rate for workers is \$80 per day.
- (a) State the conditions necessary for hiring the profit-maximizing amount of labor.
  - (b) At the profit-maximizing level of output, suppose that the marginal product of the last worker hired is 20 towels per day. Calculate the price of a towel.
  - (c) Draw a correctly labeled graph of the labor supply and demand curves for Pride Textiles, and show the equilibrium amount of labor hired.
  - (d) Given your answer to part (b), if the price of a towel increases, explain how Pride's profit-maximizing quantity of labor will be affected.

**STOP**

**END OF EXAM**