2000 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS

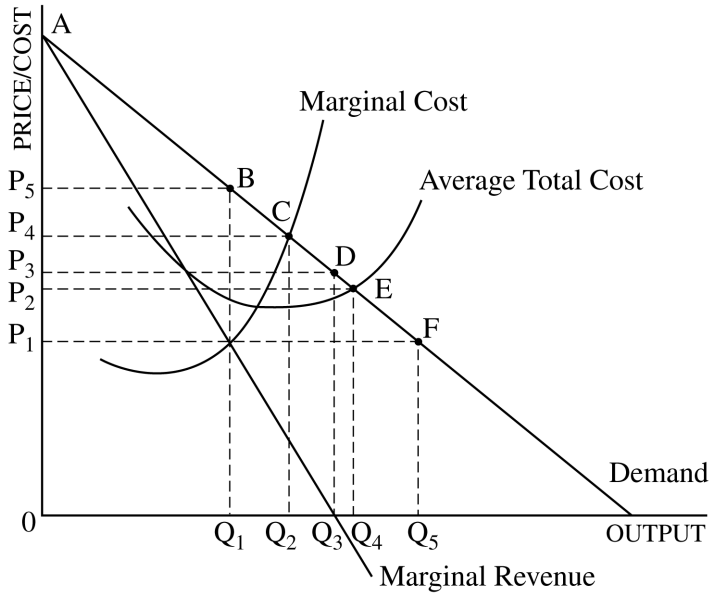
MICROECONOMICS

Section II

Planning time—10 minutes

Writing time—50 minutes

Directions: You have fifty 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.



1. The diagram above shows the cost and revenue curves for a monopoly.
   (a) How does a monopolist determine its profit-maximizing level of output and price?
   (b) Using the information in the graph, identify each of the following for the monopolist.
      (i) The profit-maximizing level of output and price
      (ii) The line segment of the demand curve that is elastic
   (c) Suppose that the industry depicted in the graph became perfectly competitive without changing the demand or cost curves. Identify the equilibrium price and output that would prevail in the perfectly competitive market.
   (d) Using the information in the graph, identify the area of consumer surplus for each of the following.
      (i) The profit-maximizing monopoly
      (ii) The perfectly competitive industry
   (e) Define allocative efficiency.
   (f) To be allocatively efficient, what level of output should the monopolist produce?
   (g) Should the government use a per-unit tax or a per-unit subsidy to lead the monopolist to produce the allocatively efficient level of output? Explain how this tax or subsidy would achieve the allocatively efficient level of output.

GO ON TO THE NEXT PAGE.

2. Assume that a firm produces output using one fixed input, capital, and one variable input, labor. The firm can sell all of the output it produces at a market price of $3 each, can hire all of the workers it wants at a market wage rate of $11 each, and has fixed costs of $10. It faces the following production schedule.

Number of Employees	Total Output
0	0
1	14
2	26
3	35
4	42
5	46
6	48

(a) In what kind of market structure does this firm sell its output? How can you tell?

(b) In what kind of market structure does this firm hire its employees? How can you tell?

(c) Using marginal revenue product analysis, how many employees should this firm hire to maximize short-run profits? How can you determine that?

(d) Based on your answer in part (c), how many units of output will this firm produce?

(e) At the level of output you identified in part (d), is the firm earning an economic profit, a normal profit, or suffering a loss? How can you tell?

3. Assume all of the following about imported and domestically produced shoes.

- They are sold in two separate and perfectly competitive markets.
- They are close substitutes.
- The demand for both is price elastic.

Now assume that a tariff is imposed on imported shoes.

(a) Using a correctly labeled graph, show the impact of the tariff on each of the following in the market for imported shoes.

(i) Price

(ii) Output

(b) Using a new correctly labeled graph, show the impact of the tariff on each of the following in the market for domestically produced shoes.

(i) Price

(ii) Output

(c) Given that the demand for imported shoes is price elastic, will expenditures on imported shoes by consumers increase, decrease, or remain the same? How do you know?

END OF EXAMINATION

Scoring Guideline for Microeconomics Question 1:

[2+2+1+2+1+1+2=11]

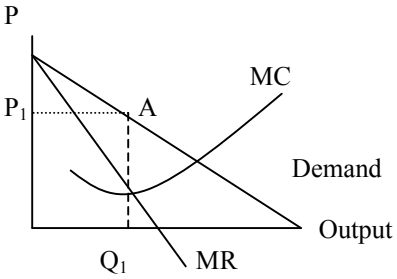
Part (a)

(i) MR = MC for output (1 point)
(ii) P from Demand curve (1 point)

Part (b)

(i) Q1 and P5 (or Point B) (1 point)
ii) A to D (or range for which MR > 0) (1 point)

- It is not necessary for them to acknowledge that D technically shouldn't be included in this line segment.
- While other line segments (AB, AC, BC, BD, CD) are elastic, they include only a portion of the line segment that is elastic and should not be given credit.
- **Often, the answer to A) will be found in B), and can be acceptable as a correct answer to A).**
    - **Also, the student may attempt to answer this (and other) part of the question with a simplified graph of his/her/its own, such as the one below. If it is correctly labeled and is correct, this is acceptable.**



Profit maximizing output here is Q1
Profit maximizing price is P1
A is the profit-maximizing point

Part (c)

Q2 and P4, (or point C) (1 point).

Part (d)

(i) ABP_5 (monopoly) (1 point)

- If the answer to d) I) is incorrect but consistent with the student's answer in b), credit should be given.

(ii) ACP_4 (perfect competition) (1 point)

- Again, there is a consistency problem; if the answer to ii) is incorrect but is consistent with the (incorrect) answer the student gave in c), credit should be given.

Part (e)

P = MC ,or
MB = MC (1 point)

- This definition is entirely self-contained; there need be no reference to the graph to get full credit.