

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 160 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because some students have a class after your class.

1) (12 points) Answer EITHER Part A OR Part B.

A) When firms entered the market, we drew the industry supply curve getting flatter. Why? Explain our logic.

B) We said that even if one company had a better resource, like access to a river or a patented production method, their costs are the same as other companies's costs. Explain our logic.

2) (12 points) Answer EITHER Part A OR Part B.

A) Explain why *homogenous products* is a necessary assumption to reach the conclusion that profits are zero in the long run.

B) What is the profit maximizing equation for all firms? Prove that does maximize profits.

3) (16 points) Answer EITHER Part A OR Part B.

A) Why is the LRATC curve the envelope of the SRATC curves? Why doesn't that logic apply to the LRMC curve and the SRMC curves?

B) Suppose that if you make just small cars, it will cost you \$1 million to make 100 small cars. If you make just large cars, it will cost you \$1.2 million to make 100 large cars. However, if you make them together, it would cost you \$2 million to make 100 of each. What is the economies of scope? Show all work. What does that tell you? What could cause those economies or diseconomies of scope? Explain your logic.

4) (20 points) The cost curve diagram on the back has at least 6 errors. Find 4 errors in the graph. Explain why they are errors.

5) (20 points) Answer EITHER Part A OR Part B referring to the isoquant/isocost diagram on the back.

A) Assume the company has 3 units of capital in the short-run. Use the graph to find the short-run and long-run total costs for 10 and 11. Also find the short-run marginal costs, short-run variable costs, and short-run fixed costs for 10. Show all work. If there is no work, state how you got the answer.

B) Use the graph to find short-run and long-run total costs for 10 and 11 assuming they have 3 units of capital. Also, find the cost-output elasticity, E_C , the long-run marginal costs, and the long-run average variable costs for the 10th item. Show all work. If there is no work, state how you got the answer.

6) (20 points) Answer EITHER Part A OR Part B.

A) Draw a supply and demand diagram for an industry. Place a price ceiling on the diagram. Find the quantity produced, price charged, consumer surplus, producer surplus, and dead-weight loss. Explain how you found them. Why did I argue the graph in the book is wrong?

B) Draw the ATC/AVC/MC/D diagram for a perfectly competitive firm which is making negative profits but staying in business. Find their losses and prove they would lose more if they went out of business.

The horizontal line from where $TC=140$ crosses the expansion path and is tangent to $Q = 11$, is at the level $K = 4.25$. The solid horizontal line is at $K = 3$

