Wilfrid W. Csaplar Jr., Ph.D. Economics 280 Exam #3 2006/03/31

Write your name on the cover of the test booklet and nowhere else. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 170 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 14-point question should take 7 minutes. I cannot give extra time because of the class which follows yours.

1) (10 points) Answer EITHER Part A OR Part B.
A) What is the formula for the slope of an isocost line? Explain why that is the slope.
B) What is the formula for the slope of an isoquant line? Explain why that is the slope.

2) (12 points each) Answer TWO of the following parts.
A) What is the shape of the industry long-run supply curve for a perfectly competitive industry? Explain why it takes that shape.
B) What is the shut-down point? Why is it at that point?
C) What is profit maximizing for all firms? Why is it profit maximizing?

3) (20 points) Answer EITHER Part A OR Part B.
A) Draw a straight-line TR/TC diagram for two firms with the same demand and two different amounts of capital. Have the two firms making identical profits at the quantity they produced. Which has a flatter slope? What is the economic reason for the flatter slope? Which has a higher degree of leverage? What is the economic reason it has a higher degree of leverage?
B) Suppose a firm has fixed costs of $8000. The price of its product is $7/unit. The AVC = MC = $5/unit. What is its break-even point? If it is producing 5000 items, then what is the degree of leverage? Show all work for both calculations. Is a large degree of leverage good or bad for the company? Explain your logic.

4) (22 points) Answer EITHER Part A OR Part B.
A) Draw a SRMC/SRAVC/SRATC/AFC diagram. Illustrate decrease in the cost of materials on the diagram. Explain why the curve(s) moved as drawn.
B) Draw a SRMC/SRAVC/SRATC/AFC diagram. Illustrate a decrease in the price of electricity on the diagram. Explain why the curve(s) moved as drawn.

5) (24 points) Answer EITHER Part A OR Part B.
A) Draw an isoquant/isocost diagram with three isoquant lines and three isocost lines. Assume the wage rate is $30/L and the rental rate is $20/K. Use this diagram to derive the **SRTC curve**. Tell me the coordinates of the **SRTC curve** you derived. **Do NOT draw it**. Explain how you found the points on the **SRTC curve** and explain how you know the wage and rental rates in your diagram are what I asked for. If you need to make an assumption, tell me what assumption you are making.
B) Draw an isoquant which shows the output of 200 items. Put a scale on both axes. Draw two isocost lines. The first represents a wage of $30/L and the rental rate is $20/K. How much capital and labor will you use? Explain how you reached that conclusion. For the second isocost line, assume the wage rate is $30/L and the rental rate is $40/K. How much capital and labor will you use? Explain how you reached that conclusion. For both lines, you want to produce 200 items and remember to you have a precise scale on the axes.