

## Final Exam: Microeconomics

Note: Chris Ragan created this exam for use with Lipsey/Ragan, *Microeconomics*, 10<sup>th</sup> Canadian Edition.

### **Instructions:**

- 1. This exam is out of 100 points.**
- 2. Dictionaries are allowed, calculators are NOT allowed.**

### **Part 1. Basic Concepts (40 points — 4 questions at 10 points each).**

- 1. Consider the market for corn. Assume there are a large number of small consumers, and a large number of small producers. Assume also there are no externalities of any kind. Finally, assume that in all other markets, price equals marginal cost. Compare the allocative efficiency of two situations:**
  - i) all corn producers behave as price takers**
  - ii) all corn producers successfully collude to produce the monopoly level of output**
- 2. Explain what is meant by producer surplus. Provide a diagram to illustrate. How is it related to economic profits?**
- 3. Explain the difference between average total cost (ATC), average variable cost (AVC), average fixed cost (AFC), and marginal cost (MC). For a price-taking firm, explain the firm's supply curve, including the importance of the firm's shut-down price.**
- 4. Define the concepts of allocative and productive efficiency, and explain how they are related to a country's production possibilities frontier.**

**Part 2. Problems (30 points — 2 questions at 15 points each).**

5. Imagine the competitive market for steel ingots. Quantity of steel demanded (ingots per month) is given by  $Q^D = a - bp$ . Quantity of steel supplied (ingots per month) is given by  $Q^S = c + dp$ , where  $p$  is the market price (\$ per ingot) and  $a$ ,  $b$ ,  $c$ , and  $d$  are all positive parameters. Suppose that the production of each ingot of steel generates pollution which imposes a cost of  $\$x$  on society.
- a) What are the precise free-market equilibrium price and quantity in the steel market? Provide a diagram to illustrate the free-market outcome (with as much precision as possible).
- b) What can you say about allocative efficiency in part (a)? (You may assume that price equals marginal cost in all other markets.) Explain thoroughly.
- c) What government policy may restore efficiency in this case? Explain in detail and provide a diagram to illustrate.
7. Provide and describe a model that can be used to explain why Canada imports coffee and exports newsprint. For your analysis, you may assume that there is only one type of coffee and only one type of newsprint. You may also assume that Canada is "small" in both world markets. Make sure you explain in the model how Canada's pattern of trade is related to the pattern of comparative advantage.

### **Part 3. Choice of Essay (30 points)**

**Write ONLY ONE of the following three essays. You have less than four pages in which to provide your essay.**

**Essay A. Write a balanced essay outlining the defence of free markets. This essay should include a description of why markets work "well" (and what "well" means) and in which situations markets fail to work "well", including a discussion of which situations provide a potential role for government intervention.**

**Essay B. Write an essay describing the effects — in a small open economy — of placing a tariff on an imported product. Explain how the tariff influences the level of domestic production and consumption of the good, and who gains and who loses from the tariff. Also provide a discussion of the (allocative) efficiency implications of the tariff.**

**Essay C. Write an essay describing a system of (tradable) quotas for the production and sale of milk. Include an explanation of how the quota system works, how it affects equilibrium quantities and prices, and who gains and who loses from the quota system. Explain also how the market value of a quota is determined, and why this matters.**

**End of Examination**