

CARLETON UNIVERSITY

Midterm Exam.2
November 2012

DURATION: 1H:45 Minutes
Econ 2020B: Production and market

Total marks (21)
Instructor: Dr. Kazi Islam

Calculators Permitted

Students **MUST** count the number of pages in this examination question paper before beginning to write, and report any discrepancy immediately to a proctor. This question paper has 1 page.

This examination paper **MAY NOT** be taken from the examination room.

In addition to this question paper, students require: an examination booklet yes no

Answer all questions; marks are shown in the parentheses.

1. (7 marks) State whether you agree or disagree with each of the following statements. Using appropriate **diagrams**, **explain** your response.
 - a. Producing at $MC=MR$ does not guarantee that a firm will make a profit.
 - b. A profit maximizing monopolist must operate on the inelastic portion of the demand curve.

2. a. (3) What is the law of supply? Using diagrams, **explain** how would you derive the supply curve of a competitive firm.

b. (4) i. Explain the relationship between AR and MR of a competitive firm.

Suppose a competitive firm's short run total cost curve is: $C = 5 + 10q + 0.5q^2$.
 - ii) If $P = \$20$, find the profit of the firm.
 - iii. Find the supply equation of the firm, and show it on a diagram.
 - iv) If there are 2 identical firms, find the equation of the market supply curve and show it on a diagram.

3. a. (2) Define the following concepts: i. Consumer surplus, ii. Producer surplus.
b. (2) What is deadweight loss? Using diagrams, **explain** how a monopolist creates a deadweight loss.
b. (3) The demand and cost functions for Wayless (monopolist), a dietary supplement, are as follows
$$Q = 220 - 20P; \quad C(Q) = 100 + 0.5Q^2$$
 - i. Calculate profit maximizing price, quantity and profit.
 - ii. Find the elasticity of demand at the profit maximizing level of output.
 - iii. Calculate the deadweight loss due to monopoly.

Return this question with the exam booklet