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CARLETON UNIVERSITY

MIDTERM
EXAMINATION
DECEMBER 2008

DURATION: 2.5 HOURS **No. of Students:** 1370

Department Name & Course Number: ECON 1000 A, B, C, D, V
Course Instructor(s): D. Smith, G. Kowalski, V. Dehejia, T. Joseph, M. Francis

Authorized Memoranda
None.

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 12 pages.

This examination paper MAY **be taken from the examination room.**

In addition to this question paper, students require: two (2) examination booklets yes ☒ no ☐
a Scantron sheet yes ☐ no ☒

PLEASE READ ALL INSTRUCTIONS CAREFULLY

Note: This examination has three (3) sections

PART A: MULTIPLE CHOICE (20 questions, 2 marks each). Answer ALL questions. Detach answer sheet from examination paper and hand in answer sheet with exam booklets. USE BLOCK CAPITAL LETTERS. (Total 40 Marks).

PART B: SHORTER QUESTIONS: Answer any FIVE (5) of the questions. Each question is worth 8 marks. Answer in exam booklet. (Total 40 Marks)

PART C: LONGER QUESTIONS: Answer any ONE (1) of the questions. Each question is worth 20 marks. Answer in exam booklet. (Total 20 Marks)

Please note: Answer Parts B & C in separate exam booklets.

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PART A---MULTIPLE CHOICE. DO ALL QUESTIONS. 2 MARKS EACH.
Answer on attached answer sheet and be sure to detach and hand in with your exam.

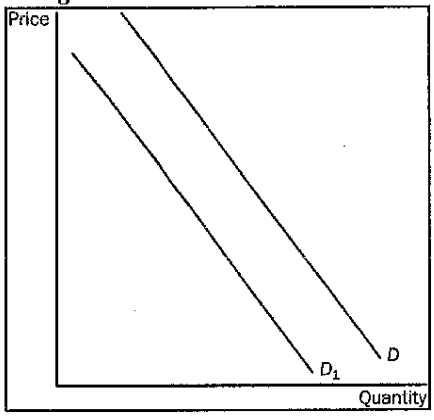
1. Any point on a country's production possibilities frontier represents a combination of two goods that an economy
   a. will never be able to produce.
   b. can produce using all available resources and technology.
   c. can produce using some of its resources and technology.
   d. may be able to produce sometime in the future with additional resources and technology.

2. Table 2

Labor Hours needed to make one unit of:			Amount produced in 160 hours:	
	Quilts	Dresses	Quilts	Dresses
Helen	40	10	4	16
Carolyn	80	16	2	10

2. **Refer to Table 2**. The opportunity cost of 1 quilt for Helen is
   a. 2 dresses.
   b. 3 dresses.
   c. 4 dresses.
   d. 5 dresses.

3. Figure 3



3. **Refer to Figure 3**. The movement from D to D_1 could be caused by
   a. an increase in price.
   b. a decrease in the price of a complement.
   c. an increase in technology.
   d. a decrease in the price of a substitute.

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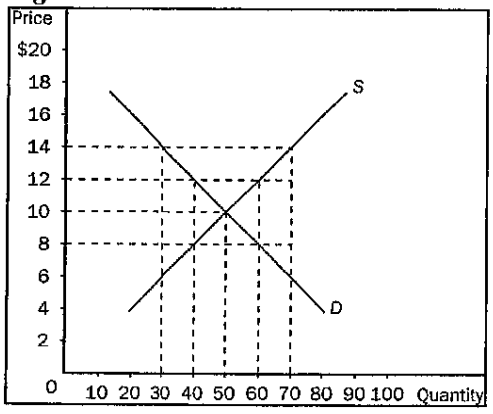
4. There are very few, if any, good substitutes for motor oil. Therefore,
   a. the supply of motor oil would tend to be price elastic.
   b. the demand for motor oil would tend to be price elastic.
   c. the demand for motor oil would tend to be price inelastic.
   d. the demand for motor oil would tend to be income elastic.

5. When the local used bookstore prices economics books at $15.00 each, they generally sell 70 per month. If they lower the price to $7.00 each they sell 90. Given this, we know that the elasticity of demand for economics books is
   a. 2.91, so this store should lower price to raise total revenue.
   b. 2.91, so this store should raise price to raise total revenue.
   c. 0.34, so this store should lower price to raise total revenue.
   d. 0.34, so this store should raise price to raise total revenue.

   USE THE MID-POINT METHOD.

Figure 6



6. **Refer to Figure 6**. A binding price ceiling would exist at a price of
   a. $14.00.
   b. $12.00.
   c. $10.00.
   d. $8.00.

7. Public goods are
   a. excludable but not rival.
   b. rival but not excludable.
   c. both excludable and rival.
   d. neither excludable nor rival.

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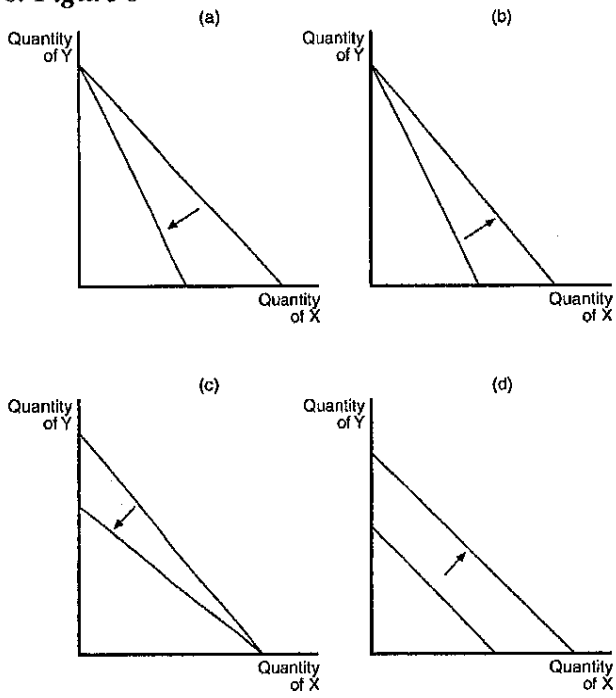
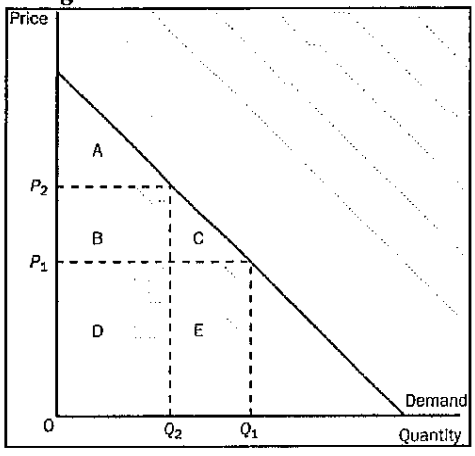
8. Figure 8



8. **Refer to Figure 8.** Which of the graphs in the figure reflects a decrease in the price of good X only?
   a. graph (a)
   b. graph (b)
   c. graph (c)
   d. graph (d)

9. Figure 9



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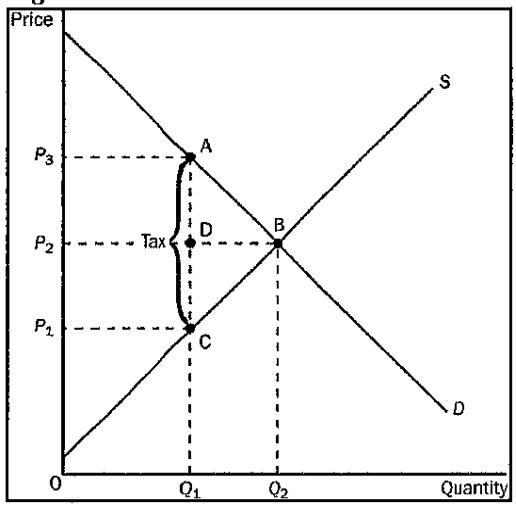
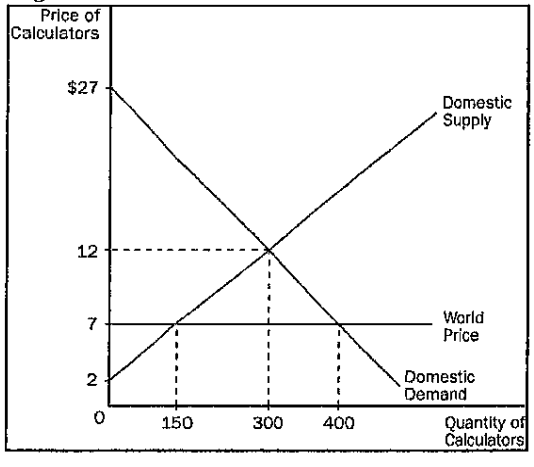
9. **Refer to Figure 9**. When the price rises from P_1 to P_2, consumer surplus
   a. increases by an amount equal to A.
   b. decreases by an amount equal to B + C.
   c. increases by an amount equal to B + C.
   d. decreases by an amount equal to C.

Figure 10



10. The amount of tax revenue received by the government is equal to the area
   a. P_3 A C P_1.
   b. A B C.
   c. P_2 D A P_3.
   d. P_1 C D P_2.

Figure 11



11. **Refer to Figure 11**. Jamaica would
   a. import 150 calculators.
   b. import 250 calculators.

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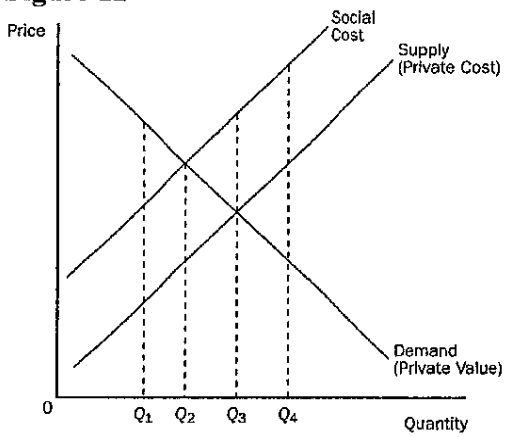
c. export 100 calculators.
d. export 250 calculators.

Figure 12



12. **Refer to Figure 12.** The optimum amount of this product from society's standpoint would be
    a. Q_1.
    b. Q_2.
    c. Q_3.
    d. Q_4.

13. When marginal cost is less than average total cost,
    a. marginal cost must be falling.
    b. average variable cost must be falling.
    c. average total cost is falling.
    d. average total cost is rising.

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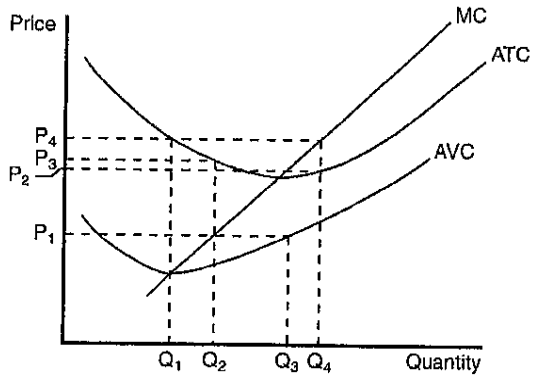
14. Figure 14



14. **Refer to Figure 14**. When market price is P_1, a profit-maximizing firm's total revenue can be represented by the area
   a. $P_1 \times Q_2$.
   b. $P_2 \times Q_2$.
   c. $P_3 \times Q_2$.
   d. $P_1 \times Q_3$.

15. For a profit-maximizing monopolist,
   a. P > MR = MC.
   b. P = MR = MC.
   c. P > MR > MC.
   d. MR < MC < P.

16. As a group, oligopolists would always be best off if they would
   a. produce the perfectly competitive quantity of output.
   b. produce more than the perfectly competitive quantity of output.
   c. charge the same price that a monopolist would charge if the market were a monopoly.
   d. operate according to their own individual self-interests.

Figure 17 (below)

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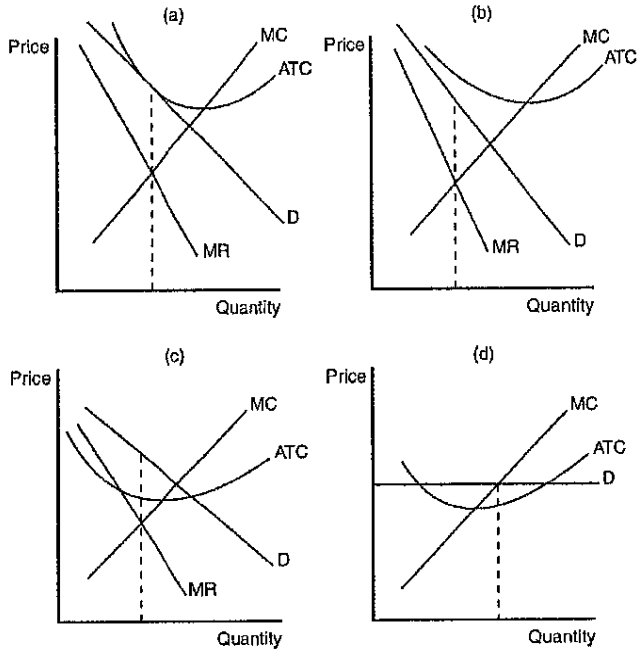

17. **Refer to Figure 17- Use Panel (a) only to answer this question.** Panel (a) shows a profit-maximizing monopolistically competitive firm that is
    a. earning a zero profit.
    b. in long-run equilibrium.
    c. charging a price that is equal to average total cost.
    d. All of the above are correct.

18. To maximize profit, a competitive firm hires workers up to the point of intersection of the
    a. marginal-product curve and the marginal-cost curve.
    b. value-of-marginal-product curve and the wage line.
    c. value-of-marginal-product curve and the marginal-revenue curve.
    d. total-revenue curve and the wage line.

19. When a country allows trade and becomes an importer of a good,
    a. both domestic producers and domestic consumers are better off.
    b. domestic producers are better off, and domestic consumers are worse off.
    c. domestic producers are worse off, and domestic consumers are better off.
    d. both domestic producers and domestic consumers are worse off.

20. The short-run supply curve for a firm in a perfectly competitive market is
    a. likely to be horizontal.
    b. likely to slope downward.
    c. determined by forces external to the firm.
    d. its marginal cost curve (above average variable cost).

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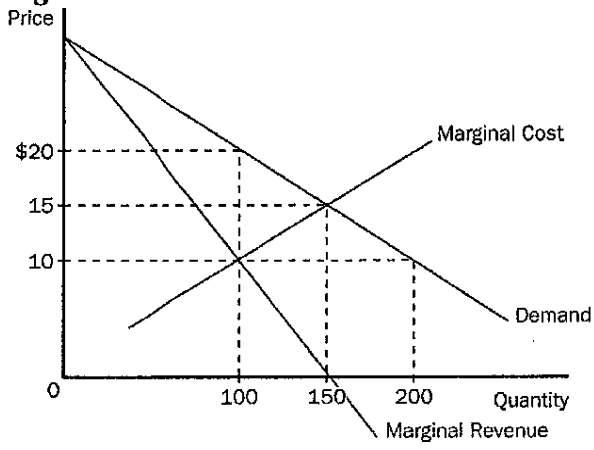
PART B: SHORT ANSWERS. DO 5 OUT OF 8. 8 MARKS EACH

1. Answer each of the following questions on demand and consumer surplus.
   a. What is consumer surplus, and how is it measured?
   b. What is the relationship between the demand curve and the willingness to pay?
   c. Other things equal, what happens to consumer surplus if the price of a good falls? Why? Illustrate using a demand curve.
   d. In what way does the demand curve represent the benefit consumers receive from participating in a market? In addition to the demand curve, what else must be considered to determine consumer surplus?

2. Refer to the diagram below to answer the following questions.

Figure



   a. To maximize total surplus, a benevolent social planner would choose what price and how many units? Explain your answer.

   b. To maximize its profit, a monopolist would choose what price and how many units? Explain your answer.

   c. What is the deadweight loss caused by the profit-maximizing monopoly (how many dollars)? Graphically depict the deadweight loss. How is this similar to deadweight loss from taxation?

3. Using a supply and demand diagram, or otherwise, demonstrate the benefits to society of opening up trade in a commodity for which, before trade, the domestic price was below the world price.

4 (a) Describe what is meant by an "externality".
(b) In the case of a negative externality, use a diagram to illustrate how this externality affects the market equilibrium.

Based on your answer to (b), illustrate how the equilibrium with the negative externality compares with the social optimum. How might the government help to eliminate this inefficiency?

5. (a). Some goods are non-excludable. Why does this create a problem for markets?
(b) Some goods are non-rival. Why does this create a problem for markets?

6. Define monopolistic competition. Show in a diagram, and explain, the long run equilibrium in such an industry.

7. Illustrate the effects of a tax on the market equilibrium, and show these effects clearly on a diagram. In particular, show the deadweight losses from the tax. What part is borne by consumers, and what part by producers? Show the tax revenues raised by the government. What part of the incidence of the tax is borne by consumers, and what part by producers? Should the tax revenues be considered a loss to society, or a transfer to the government? Explain briefly.

8. Illustrate the effects of a binding price ceiling on the market equilibrium, and show these effects clearly on a diagram. In particular, is there a shortage or surplus of the commodity? Show this on the diagram. Suppose a black market for the commodity were to arise. What would be the black market premium? Show this clearly on the diagram.

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Part C: Do one (1) question. 20 marks

1. This question on unit commodity taxes is divided into three parts.

(i) Using separate demand and supply diagrams, show the difference in deadweight loss due to a unit tax between a market with inelastic demand and supply curves and a market with elastic demand and supply curves. Explain the difference in deadweight loss.

(ii) How does elasticity affect the burden of a tax? What is the incidence of the tax on consumers and producers? Justify your answer using supply and demand diagrams.

(iii) Illustrate on three demand and supply graphs how the size of a tax (small, medium and large) can alter total government revenue and deadweight loss. Explain what happens to total government revenue as the tax is increased.

2. Assume that the industry that produces toothpaste is monopolistically competitive. How profitable will it be to produce toothpaste in the long run and why? Explain the short and long run effects on an initial equilibrium if more people are convinced of the benefits of frequent use of toothpaste.

3. Both canola oil and sunflower oil are produced in perfectly competitive industries. Both oils can be used in cooking meals at home. If a medical discovery shows that sunflower oil protects against cancer, whereas canola oil does not, what will happen to price and output in the market for sunflower oil? Consider both the short and the long run. Use diagrams to illustrate your answer.

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PART A. MULTIPLE CHOICE ANSWER SHEET

NAME_____
[SURNAME, GIVEN NAME]
STUDENT NUMBER_____

USE **UPPER CASE LETTERS** TO ANSWER.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
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