Name: ______________________________
(surname first)
Student #: ___________________________

QUEEN'S UNIVERSITY AT KINGSTON

FACULTY OF ARTS AND SCIENCE

Department of Economics

ECONOMICS 110/111*

Mid-Year Examination/Final Examination

December 13, 2001

Instructors:

110A: I. Cromb 110B: P. Coe 110C: A. Stewart 110D: L. Carmichael
111A: M. Adshade 111X: U. Berkok

Time Limit:

3 hours

Instructions:

Mark your selections for Part A on the multiple choice answer card in PENCIL. If you make changes, be sure to erase completely. Beside your name on the card, please record the number you see in the top left hand corner of this page.

Write your answers for Parts B and C in the booklets provided. Clearly mark the questions you have answered on the front of the first booklet. Hand in the card for part A inside the answer booklet.

Marking Scheme:

Part A	[60 marks]	FORTY multiple-choice questions - $1\frac{1}{2}$ marks each
Part B	[20 marks]	FOUR of six True/False/Uncertain questions - 5 marks each
Part C	[20 marks]	ONE of two Problems - 20 marks

Notes:

- If doubt exists as to the interpretation of any question, then for any question requiring a written answer the candidate is urged to submit with the answer paper a clear statement of any assumptions made.
- Academic dishonesty is a serious academic offence. With respect to examinations, Academic Regulation 26 of the Faculty of Arts and Science specifically prohibits the following activities: “impersonating another student, copying from another student, making information available to another student, communicating with another student, or using unauthorized material.” A finding of academic dishonesty carries penalties that may include expulsion from the University.

Part A ***Multiple Choice*** [60 marks]

Answer all 40 questions, each is question is worth $1\frac{1}{2}$ marks.

Use the multiple choice answer card provided. Shade IN PENCIL the area corresponding to the best answer. If you make changes, be sure to erase completely. Beside your name on the card, please record the number you see in the top left hand corner of this page. Hand-in the card inside your answer booklet.

1. Scarcity:
   A. is a consequence of greed.
   B. indicates the need for a central planning authority.
   C. indicates the need for free markets.
   D. requires making choices among alternatives.
   E. denies real choice.

2. A reduction in the wage rate has an income effect, which results in __________ consumption of leisure, and a substitution effect, which results in __________ consumption of leisure.
   A. reduced; reduced
   B. reduced; increased
   C. unchanged; reduced
   D. increased; reduced
   E. increased; increased

3. A reduction in the price of a substitute product will normally cause:
   A. a movement along the demand curve such that quantity demanded declines.
   B. a movement along the demand curve such that quantity demanded increases.
   C. the demand curve to shift to the left.
   D. the demand curve to shift to the right.
   E. an individual to increase consumption of any goods she purchases.

4. If an insurance company selling life insurance knows that smoking increases the risk of death but it cannot easily determine whether anyone smokes, the problem of __________ refers to __________ being more likely to buy insurance.
   A. adverse selection; non-smokers
   B. moral hazard; non-smokers
   C. adverse selection; smokers
   D. moral hazard; smokers
   E. moral selection; smokers

5. Which of the following is not a condition for a monopolist to practice price discrimination?
   A. There must be distinct groups of customers.
   B. The price elasticities of different groups must be different.
   C. Resale must be difficult.
   D. The monopolist must face an elastic demand curve in all markets.
   E. The monopolist must be able to identify the distinct groups.

6. If demand for a product is price-elastic, total revenue will:
   A. be unchanged regardless of the direction of the price change.
   B. fall if price is reduced.
   C. increase if price is increased.
   D. increase if price is reduced.
   E. increase regardless of the direction of the price change.

7. If it costs the firm $72 to produce 6 units of output and $60 to produce 5 units of output, the marginal cost of the sixth unit equals:
   A. -$12.
   B. $12.
   C. $60.
   D. $72.
   E. $132.

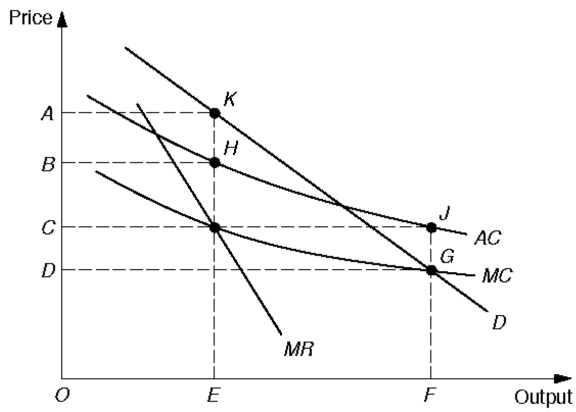

Figure 8 – Information for Question #8

8. Figure 8 shows the demand, marginal revenue, average cost, and marginal cost curves of a natural monopoly. If a regulatory body imposed marginal cost pricing on the natural monopolist, the firm would make a:
   A. loss given by the area CDGJ.
   B. profit given by the area CDGJ.
   C. loss given by the area ABHK.
   D. profit given by the area ABHK.
   E. loss given by the area DOPG.

9. If the demand curve for a product is relatively inelastic, and there is a rise in the price of an input used in the manufacture of the product, equilibrium quantity will __________, equilibrium price will __________, but equilibrium __________ will change proportionately more.
   A. decrease; increase; price
   B. increase; decrease; price
   C. decrease; increase; quantity
   D. increase; decrease; quantity
   E. increase; increase; price

10. All of the following, except one, are characteristics of monopolistic competition. Which is not?
    A. a small number of firms
    B. ease of entry into, and exit from, the industry
    C. a downward-sloping demand curve
    D. firms' ignoring the reactions of rivals
    E. product differentiation

11. The term rent seeking, when used to refer to a problem associated with monopoly, describes a situation in which:
    A. a firm buys another firm that also enjoys monopoly rents.
    B. a government tries to find out the size of a firm's monopoly rents.
    C. a firm tries to increase the rents it charges on property it owns.
    D. a government tries to expropriate a firm's monopoly rents.
    E. a firm devotes resources to maintaining a monopoly position.

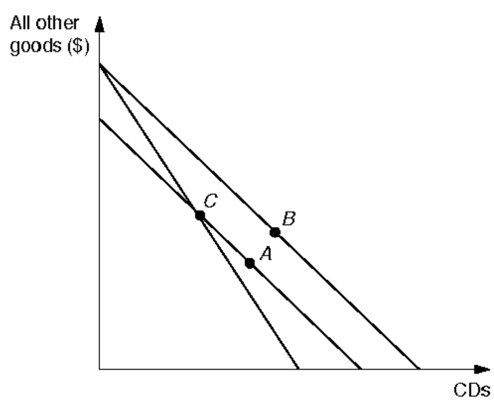

Figure 12 – Information for Question #12

12. Figure 12 shows a decrease in the price of CDs. Which of the following is true?
    A. The substitution effect is the movement from A to B and the income effect is the movement from B to C.
    B. The substitution effect is the movement from C to B and the income effect is the movement from B to A.
    C. The substitution effect is the movement from A to C and the income effect is the movement from C to B.
    D. The substitution effect is the movement from B to C and the income effect is the movement from C to A.
    E. The substitution effect is the movement from C to A and the income effect is the movement from A to B.

Figure 13 – Information for Question #13

13. Figure 13 shows two individuals' demand curves for the same product. If these are the only two individuals in the economy, market demand at a price of $4 will be:
   A. 5 units.
   B. 10 units.
   C. 15 units.
   D. 20 units.
   E. 25 units.

14. When economists claim that voluntary exchanges are mutually beneficial, they mean that:
   A. all parties to the exchange will be happy with the outcome of the exchange.
   B. the amount gained by some will exceed the losses incurred by others.
   C. the price paid and received will be perceived as fair by all.
   D. making the trade is preferable to not making the trade.
   E. the total gains will exceed the total losses.

15. The ideal investment would have:
   A. a high rate of return, low risk, and be tax-exempt.
   B. a low rate of return, low risk, and be tax-exempt.
   C. a high rate of return, high risk, and not be tax-exempt.
   D. a high rate of return, high risk, and be tax-exempt.
   E. a high rate of return, low risk, and not be tax-exempt.

16. __________ is concerned with describing how an economy will respond to a particular policy change, and __________ with making judgments about whether the policy change is desirable.
   A. Macroeconomics; microeconomics
   B. Normative economics; positive economics
   C. Microeconomics; macroeconomics
   D. Positive economics; normative economics
   E. Positive economics; macroeconomics

17. The fundamental reason a monopolist reduces economic efficiency is because:
    A. the firm is too big to produce at the point of minimum average cost.
    B. price equals marginal revenue, but exceeds marginal cost.
    C. the marginal cost of producing an extra unit exceeds the marginal revenue.
    D. the marginal benefit from an extra unit exceeds the marginal cost.
    E. the marginal cost of producing an extra unit is lower than the marginal revenue.

18. Because a monopolist must lower its price on all units to sell extra units:
    A. marginal revenue will be equal to price.
    B. marginal revenue will be less than price.
    C. marginal revenue will be greater than price.
    D. the monopolist's revenue will always decline when it reduces price.
    E. the monopolist's revenue will always increase when it increases price.

19. If a country is operating inside its production possibilities curve:
    A. resources are equally well equipped for the production of any good.
    B. it can only increase production of one good by decreasing production of another.
    C. it is operating efficiently.
    D. it does not need to decrease production of one good to increase production of another.
    E. an increase in total production requires an increase in total resources.

20. A consumer is willing to pay $11 for his first beer, $7 for his second beer, $4 for his third beer, $2 for his fourth beer, and $1 for his fifth beer. If the price is $2, his total consumer surplus is:
    A. $24.
    B. $22.
    C. $20.
    D. $18.
    E. $16.

21. The decision to save more today is identical to:
    A. consuming less in the future.
    B. investing less today.
    C. consuming more in the future.
    D. saving more in the future.
    E. consuming more today.

22. One explanation for the continued existence of protectionist policies is that, when two countries trade:
    A. both countries lose from the trade.
    B. both countries gain from the trade, but all individuals in the countries lose from the trade.
    C. only one country gains from the trade.
    D. both countries gain from the trade, but some individuals in the countries may lose from the trade.
    E. both countries gain from the trade.

23. Whenever the interest rate declines, the present discounted value of $100 in a year's time:
   A. rises.
   B. falls.
   C. remains constant.
   D. may rise or fall.
   E. is unaffected.

24. If the wage that the firm has to pay its workers increases, and labour is a variable input:
   A. the average cost curve shifts upwards, but the marginal cost curve is unchanged.
   B. the average cost and marginal cost curves both shift upwards.
   C. neither the average cost curve nor the marginal cost curve is affected.
   D. the average cost and marginal cost curves both shift downwards.
   E. the marginal cost curve shifts upwards, but the average cost curve is unchanged.

25. A profit-maximizing firm will enter a competitive market if total revenue exceeds:
   A. total variable cost.
   B. the cost of the firm's fixed input(s).
   C. the firm's fixed cost.
   D. the cost of the firm's variable input(s).
   E. total cost.

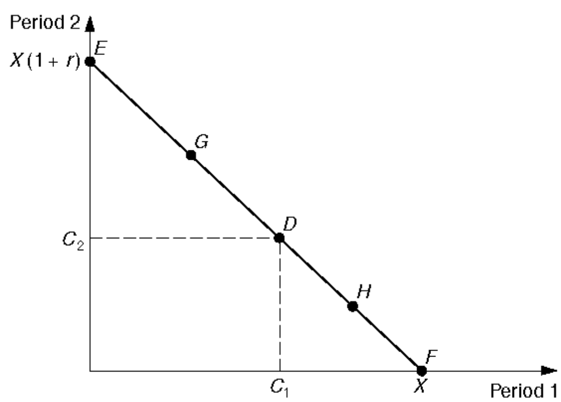

Figure 26 – Information for Question #26

26. Figure 26 shows Joan's two-period budget constraint with her endowment point given by F. If she positions herself at point D, she consumes __________ and saves __________ in period 1.
   A. C_1; C_2
   B. C_2; C_1
   C. C_1; $X - C_1$
   D. C_2; $X - C_2$
   E. C_2; $X(1 + r) - C_2$

27. A cartel determines its collective profit-maximizing output level by:
    A. allowing each firm to equate its marginal cost and marginal revenue.
    B. equating the cartel's marginal cost with the market demand.
    C. equating the cartel's marginal cost with a typical firm's marginal revenue.
    D. allowing each firm to equate demand and supply.
    E. equating the cartel's marginal cost and marginal revenue.

28. If Mary can bring in 4 new clients a day or type 60 pages of notes, and Bill can bring in 2 new clients or type 40 pages of notes, which of the following statements is true?
    A. Bill has an absolute advantage in typing.
    B. Mary has a comparative advantage in bringing in new clients.
    C. Bill has a comparative advantage in bringing in new clients.
    D. Bill has an absolute advantage in bringing in new clients.
    E. The principle of comparative advantage suggests that Mary should do the typing.

29. If the price of a product changes by 5 percent, and as a result quantity demanded changes by 10 percent:
    A. demand is price-elastic.
    B. this can only be the result of a rightward shift of the demand curve.
    C. the price elasticity of demand is unity.
    D. this can only be the result of a leftward shift of the demand curve.
    E. demand is price-inelastic.

30. Inferior goods are goods for which consumption:
    A. changes in the same direction as income.
    B. changes in the opposite direction to income.
    C. declines when income falls.
    D. increases as the price of the good declines.
    E. stays constant when income changes.

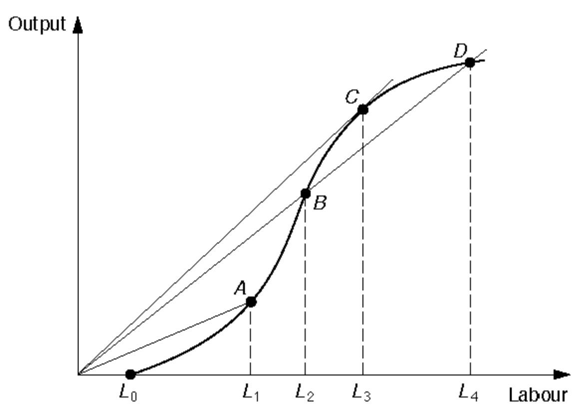

Figure 31 – Information for Question #31

31. Figure 31 shows a production function. All except one of the following statements concerning the marginal and average product of labour are correct. Which is not?
    A. At L_3, the average product equals the marginal product.
    B. The marginal product is the slope of the production function.
    C. The average product at L_2 equals the average product at L_4.
    D. The average product initially rises with L and then declines.
    E. The marginal product reaches a maximum at L_3.

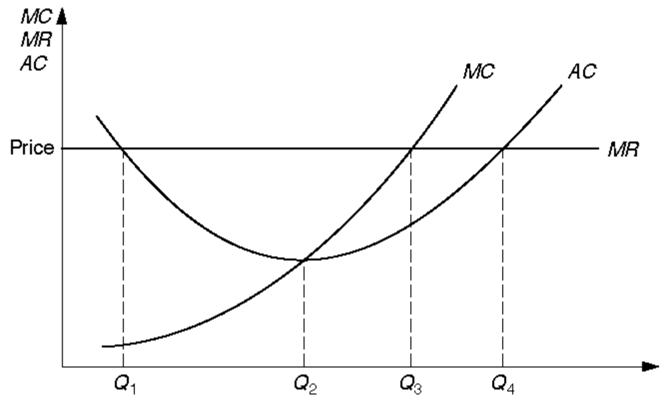

Figure 32 – Information for Question #32

32. Figure 32 shows a competitive firm's marginal revenue, marginal cost, and average cost curves. If the firm were producing Q_3, it should:
   - A. reduce output to Q_1 to maximize profit.
   - B. reduce output to Q_2 to maximize profit.
   - C. increase output to Q_4 to maximize profit.
   - D. expand output beyond Q_4 to maximize profit.
   - E. continue to produce Q_3, which is the profit-maximizing output.

33. As price falls, the quantity supplied falls along a market supply curve because:
   I. the lower price causes the firm to offer fewer units of the good for sale.
   II. as the price falls, firms leave the market.
   Which of the following is correct?
   - A. Both I and II apply.
   - B. Neither I nor II applies.
   - C. Either I or II can apply, but not simultaneously.
   - D. Only II applies.
   - E. Only I applies.

Price ($)	*Quantity demanded*	*Quantity supplied*
2.10	800	7,200
1.80	1,600	4,800
1.60	2,400	2,400
1.40	3,200	800
1.20	4,100	200

Table 34 – Information for Question #34

34. Table 34 shows the quantities demanded and supplied at different prices. If the price were $1.40:
   - A. the excess demand would cause the price to fall.
   - B. the excess demand would cause the price to rise.
   - C. the market would be in equilibrium.
   - D. the excess supply would cause the price to fall.
   - E. the excess supply would cause the price to rise.

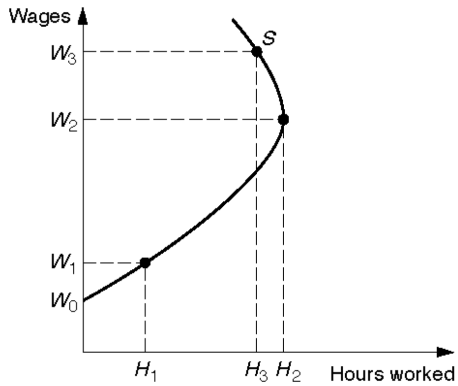

Figure 35 – Information for Question #35

35. Figure 35 shows an individual's labour supply curve. Between the wage rates W_1 and W_2, the:
   - A. income effect exactly offsets the substitution effect.
   - B. income effect dominates the substitution effect.
   - C. income effect reinforces the substitution effect.
   - D. substitution effect is zero.
   - E. substitution effect dominates the income effect.

36. All of the following, except one, are potential barriers to entry. Which is not?
   - A. a patent
   - B. economies of scale
   - C. increasing average cost
   - D. single ownership of essential input
   - E. lack of information

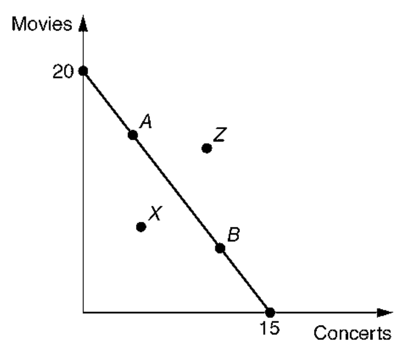

Figure 37 – Information for Question #37

37. Figure 37 shows Christopher's budget constraint. Which of the following statements about the budget constraint is correct?
   - A. It is impossible to determine whether attending a movie is more or less expensive than attending a concert.
   - B. Attending a movie is more expensive than attending a concert.
   - C. It costs Christopher the same price to attend a movie as it does to attend a concert.
   - D. Attending a concert is more expensive than attending a movie.
   - E. Attending a concert is twice as expensive as attending a movie.

38. In what sense is a monopolist's price viewed by economists as too high?
    A. The profit-maximizing price is above marginal cost.
    B. The profit-maximizing price is above the equilibrium price.
    C. The profit-maximizing price exceeds what consumers think is a fair price.
    D. The profit-maximizing price is above the market clearing price.
    E. The profit-maximizing price does not bring forth an output such that the market clears.

39. When labour is the single variable input, we often observe diminishing returns to labour in the production process, which means that, as the amount of:
    A. output increases, the amount of labour diminishes.
    B. labour increases, the amount of output falls.
    C. labour increases, the marginal product of labour falls.
    D. labour diminishes, the amount of output increases.
    E. labour increases, the marginal product of labour increases.

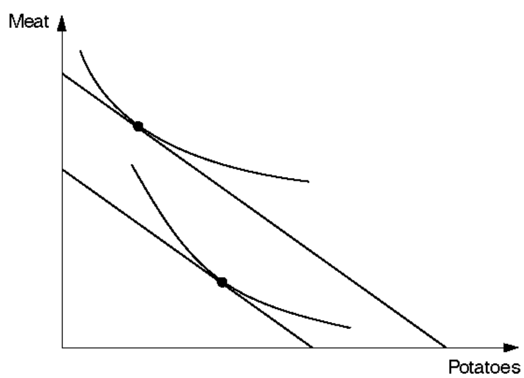

Figure 40 – Information for Question #40

40. Figure 40 shows an increase in income for Bill, who buys only meat and potatoes. Which of the following is correct?
    A. Meat is an inferior good, potatoes are a normal good.
    B. Meat and potatoes are both normal goods.
    C. Meat and potatoes are both inferior goods.
    D. Whether meat and potatoes are inferior goods is indeterminate.
    E. Meat is a normal good, potatoes are an inferior good.

Part B ***True/False/Uncertain***

20 marks - Each question answered is worth 5 marks.

Answer FOUR of the following six questions.

Explain why the following statement is True, False, or Uncertain according to economic principles. **Use diagrams where appropriate.** Unsupported answers will receive no marks. It is the explanation that is important.

B1. In the short-run, the burden of a per-unit sales tax is shared between consumers and producers.

B2. Trade allows a country to consume outside its production possibility curve.

B3. An increase in the after-tax wage is certain to increase the labour supplied by an individual.

B4. In the long-run, a firm operating in a perfectly competitive industry earns zero economic profit.

B5. Suppose that two firms are sharing a market. Each is faced with two possible actions, to produce the "cartel amount" or to "cheat" on the cartel and produce more in order to maximize individual profits. If the payoffs to these actions are as given below, the equilibrium will involve both firms producing the cartel amount.

		Firm B	
		Cartel Amount	Cheat Amount
Firm A	Cartel Amount	Profit A = 20 Profit B = 20	Profit A = 5 Profit B = 30
	Cheat Amount	Profit A = 30 Profit B = 5	Profit A = 10 Profit B = 10

B6. Monopoly output levels are inefficient.

Part C ***Problems***

20 marks - Each part worth 5 marks

Answer ONE of the following two questions.

C1. Suppose the supply and demand curves for milk are given by:

$$Q^S = -1 + 3p \qquad Q^D = 11 - p$$

where Q^S and Q^D are the quantities supplied and demanded in millions of litres per day and p is the price per litre.

(a) Calculate the equilibrium price and quantity of milk. Illustrate in a supply and demand diagram.

(b) Calculate the elasticity of demand at the equilibrium point using either the (average) arc method, or the point method. Would a rightward shift in supply lead to more or less total spending on milk? Explain.

(c) Suppose the government uses quotas to limit the quantity produced to 6. What is the new price of milk? What is the value of a quota that allows the production of a litre of milk? Illustrate both in your diagram for part (a). Has the total revenue received by milk producers increased or decreased from the situation in part (a)?

(d) Is the quota system an efficient way to increase farm revenues? Explain with reference to your diagram.

C2. Suppose Mary will earn $\$X$ over her working life and must allocate this between consumption in the present (during the working life) and consumption in the future (during retirement). Assume she faces an after-tax interest rate equal to "r" between the two periods.

(a) Illustrate Mary's budget line in a diagram with present consumption on the horizontal axis and future consumption on the vertical axis. What is the relative price (opportunity cost) of present consumption? Suppose she chooses to consume one third of X in the present. Using an indifference curve, illustrate her choice. How much does she save? How much does she consume in the future? Illustrate both in your diagram.

(b) Suppose that the government introduces a mandatory public pension plan in which the consumer must contribute one third of X in the present, for which she will receive one third of X plus interest in the future. How does this plan affect her choice? In particular, what happens to consumption in the present? consumption in the future? private saving by the individual?

(c) Suppose all consumers are identical to Mary. Analyse the effect of the public plan on the overall capital market of the economy assuming; (i) the plan is fully funded, and (ii) the plan is financed on an unfunded, pay-as-you-go basis. In particular, what is the effect on the equilibrium interest rate?

(d) The interest rate can be thought of as being the price of capital used by firms in the production of goods and services. What effect would each of the situations outlined in (c) have on a perfectly competitive industry? In particular, what would happen to the equilibrium price and quantity in the short-run, and in the long-run? [Hint: Assume that the amount of capital employed by a firm is fixed in the short-run.]