1. Perfectly competitive firms do not have competitive behaviour because
A. the actions of any one firm would have no effect on any other firm.
B. the firms are regulated.
C. government legislation prevents it.
D. None of the above.

2. In a perfectly competitive market structure,
A. one firm's ability to sell its product does not depend on the behaviour of any other firm.
B. there is no need for individual firms to compete actively with one another.
C. there are so many firms in the market that each must accept the price set by the forces of market demand and market supply.
D. All of the above.

3. A firm seeking to maximize profits must also minimize costs since
A. the failure to do so negates the possibility of maximum profit.
B. cost minimization guarantees maximum profit.
C. firms that maximize profits have the power to hold costs to a minimum.
D. profits and costs are related in reciprocal fashion.

4. The short run average total cost curve will touch the long run average cost curve at a level of output
A. such that the short run cost curve is at a minimum.
B. at which the quantity of the fixed factor being employed is at the optimal level for that level of output.
C. such that all the factors of production are at the optimal level.
D. such that the short run marginal cost equals the short run average total cost.

5. In economics, the long run for a firm is
A. the time frame in which the firm can change the amounts of all inputs of production~~,comma~~ but not its technology the amounts of all inputs of production, but not its technology.
B. a period of time that starts on January 1 and ends on December 31 of possibly another year.
C. usually eight months, but it depends on the accounting laws of each country.
D. the time frame in which the firm can change the amounts of all inputs of production and its technology the amounts of all inputs of production and its technology.

6. The output level at which diminishing marginal returns begins occurs where
A. the total product curve begins to fallbegins to fall.
B. marginal product is at its maximum.

C. the marginal product curve has a downward slope and intersects the average product curve.

7. A government might choose to implement a price ceiling to
A. keep specific prices down.
B. free-up resources for other purposes.
C. restrict production of certain goods.
D. All of the above are possible motives.

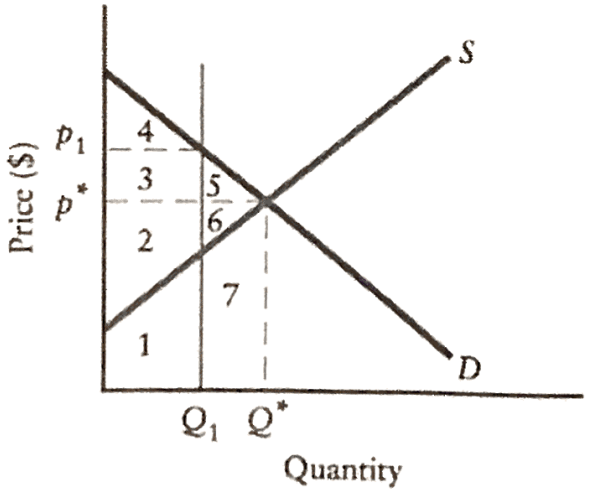
8. Marginal cost for a single-price monopolist
A. is always more than the price.
B. is the same as the average fixed cost average fixed cost at all levels of quantity produced.
C. is constant as the quantity sold increases is constant as the quantity sold increases.
D. varies with quantity sold comma just like a perfectly varies with quantity sold, just like a perfectly competitive firm's marginal cost.

9. Which of the following is the best example of perfect price discrimination?
A. An airline offers a discount to students discount to students.
B. Universities give entry scholarships to poorer students.
C. A doctor charges for services according to the knowledge of the patients' income levels knowledge of the patients' income levels.
D. People who collect the mail coupons get discounts at the local food store.

10. The theory of oligopoly explains economic behaviour in industries in which there are
A. many large firms, each with market power, that do not actively compete with each other.
B. a few large firms, each with no market power, that actively compete with each other.
C. a few large firms, each with market power, that actively compete with each other.
D. a few small firms, each with market power, that actively compete with each other.

PART B: Answer 5 of the 7 questions in this section (@ 3 marks each)

1. The diagram below shows supply and demand curves in the Canadian market for soybeans. The free market equilibrium price and quantity are p* and Q*.



a. If the price of soybeans is at its market-clearing equilibrium level, p*, identify the areas on the graph that sum to this market's total economic surplus.
b. Suppose the government imposes an output quota at Q1. Identify the areas on the graph that represent the reduction in economic surplus as a result of this government's imposition of the quota.
c. Deserибe the effect of this quota on market efficiency. Is society as a whole better off?

2. Fill in the blanks to make the following statements correct.
a. For given factor prices, when average product per worker is at a maximum, average variable cost is at a .....
b. If marginal costs are above average costs, then producing one more unit of output will.....the average cost.
c. The level of output that corresponds to a firm's minimum short-run average total cost is called the..... of the firm.

3. An electronic-parts manufacturer with U-shaped short-run cost curves is producing 10 000 units per month and has short-run costs as follows:
ATC = $6.50
AVC = $4.50
AFC = $2.00
MC = $6.90
a. At this level of output, has the firm started experiencing diminishing marginal and average returns? How do you know?
b. At this level of output, is the firm operating below, at, or above its capacity? How do you know?

4. Explain why a profit-maximizing firm must also minimize costs.

5. Fill in the blanks to make the following statements correct.
a. The shut-down price is the price at which the firm can just cover its.....
b. If the average variable cost of producing any given level of output exceeds the price at which it can be sold, then the firm should.....
c. If a firm is producing a level of output such that MC > MR, that firm should..... output.

6. Imagine a monopolist that has fixed costs but no variable costs (thus there are no marginal costs, so MC = 0. For example, consider a firm that owns a spring of water that can produce indefinitely once it installs certain pipes, in an area where no other source of water is available.
a. Draw a downward-sloping demand curve for water, its associated MR curve, and the monopolist's MC curve.
b. On your diagram, show the monopolist's profit- maximizing price and level of output.
c. At the monopolist's profit-maximizing level of out- put, what is the marginal value of this good to society, and how does it compare with the marginal cost?

7. Do you think any of the following industries might be monopolistically competitive? Why or why not?
   a. Textbook publishing (approximately 10 introductory economics textbooks are in use on campuses in this year)
   b. Post-secondary education
   c. Cigarette manufacturing
   d. Restaurant operation
   e. Automobile retailing
   f. Landscaping services

PART C: Answer any 5 of the 7 questions in this section (@ 5 marks each)

1. Consider the market for burritos in a hypothetical Canadian city, blessed with thousands of hungry students and dozens of small burrito stands. The demand and supply schedules are shown in the table.

Price($)	Quantity Demanded (thousands of burritos per month)	Quantity Supplied (thousands of burritos per month)
0	500	125
1.00	400	175
1.50	350	200
2.00	300	225
2.50	250	250
3.00	200	275
3.50	150	300
4.00	100	325
5.00	0	375

   a. Graph the demand and supply curves. What is the free-market equilibrium in this market?
   b. What is the dollar value of the total economic surplus in this market in the free-market equilibrium? What area in your diagram represents this economic surplus?
   c. Suppose the local government, out of concern for the students' welfare, enforces a price ceiling on burritos at a price of $1.50. Show in your diagram the effect on price and quantity exchanged.
   d. Are students better off as a result of this policy? Explain.
   e. What happens to overall economic surplus in this market as a result of the price ceiling? Show this in the diagram.

2. The following table shows how the total output of skates (per month) changes when the quantity of the variable input (labour) changes. The firm's amount of capital is fixed.

Hours of Labour (per month)	Pairs of Skates (per month)	Average Product	Marginal Product
100	200	—	—
120	260	—	—
140	350	—	—
160	580	—	—
180	720	—	—
200	780	—	—
220	800	—	—
240	810	—	—

a. Compute the average product of labour for each level of output and fill in the table. Plot the AP curve on a scale diagram.

b. Compute the marginal product of labour for each interval (that is, between 100 and 120 hours, between 120 and 140 hours, and so on). Fill in the table and plot the MP curve on the same diagram. Remember to plot the value for MP at the midpoint of the output intervals.

c. Is the "law of diminishing marginal returns" satisfied?

d. Explain the relationship between the marginal product of labour and the average product of labour.

3. Each of the following situations describes a firm's production and costs during a given year.

a . Firm A is producing 20 000 units of output, incurring a total cost of $1 000,000 and total variable cost of $600,000. What is Firm A's average fixed cost?

b. Firm B is producing 20 000 units of output, incur- ring a total cost of $100 000 and total fixed cost of $20,000. What is Firm B's average variable cost?

c. Firm C is producing 750 units of output. Average variable cost is $10 per unit and average fixed cost is $5 per unit. What is Firm C's total cost?

d. Firm D is producing 400 units of output. Average total cost is $12 and average fixed cost is $4. What is Firm D's total variable cost?

e. Firm E is producing 1 250 000 units of output, incurring a total cost of $20 million and total variable cost of $18 million. What is Firm E's average fixed cost?

4. In the text, we learned that the LRAC curve eventually slopes upward because of diseconomies of scale. In the previous chapter we saw that the SRATC curve eventually slopes upward because of diminishing marginal product of the variable factor.

a. Explain the difference between diseconomies of scale and diminishing marginal product of the variable factor. Why is one a short-run concept and the other a long-run concept?

b. Draw a diagram with short-run and long-run aver- age cost curves that illustrates for the same level of output both diseconomies of scale and diminishing marginal product of the variable factor.

5. Larry's Linens produces white cloth napkins for restaurants in a perfectly competitive market. The table below shows output and total costs for one day of production.

Output	TVC	TFC	TC	MC	ATC	AVC
0	0	100	—		—	—
100	40	100	—	—	—	—
200	70	100	—	—	—	—
300	120	100	—	—	—	—
400	180	100	—	—	—	—
500	250	100	—	—	—	—
600	330	100	—	—	—	—
700	420	100	—	—	—	—
800	520	100	—	—	—	—
900	630	100	—	—	—	—

a. Complete the cost schedule for this firm by calculating TC, MC, ATC, and AVC. Remember to record the MC figures between the rows of output and total cost.

b. Draw a scale diagram and plot ATC, AVC, and MC.

c. Below which price should this firm choose to pro- duce zero output?

d. If the market price per napkin is $0.80, what is this firm's profit-maximizing level of output? Since MC is calculated between the rows of the output levels given, state the range of output in which the profit- maximizing level of output will fall. Do the same for market prices of $0.60 and $1.00.

e. Calculate the firm's profit per unit and total profit per day at an output level of 450 napkins per day and at a market price of $0.70.

6. Consider the following industries:

- chocolate bars
- copper wire
- outboard motors
- coal
- local newspaper

a. Which of these industries would it be most profit- able to monopolize, and why?

b. Does your answer to part (a) depend on several factors or just one or two?

c. As a consumer, which of these industries would you least like to have monopolized by someone else?

d. If your answers to parts (a) and (c) are different, explain why?

7. Consider the following industries in Canada that have traditionally been oligopolistic:

- Brewing
- Banking
- Airlines
- Railways
- Internet service providers
- Grocery stores

a. What are the barriers to entry in each of these industries that might explain persistently high profits?

b. Explain in each case how technology is changing in ways that circumvent these entry barriers.