

MBA 506—Managerial Economics

Self Assessment Packet

This Self Assessment packet is provided to assist you in determining your level of competency with the material in MBA 506.

1. Competence is critical as this course is foundational to others.
2. Our expectation is that you know this material; it will not be reviewed in a subsequent class.
3. Students who have had success in a previous equivalent course as indicated by receiving a grade of B (3.0) or better have been automatically waived out of the course.
4. If you have not mastered the material, it is essential that you complete the course in order to be successful in your Master's level program.
5. If you choose to take the class, your grade will be counted towards graduation and you will be required to complete the course with a grade of C (2.0) or higher or repeat the class.

Included in this packet are the following items:

1. A course description and outline of topics with specific concepts to be understood.
2. A self-assessment examination. A score of 80% or higher is suggested as evidence of mastery of the material. You will receive the answer key at the Advising Session.

If you would like to refresh your knowledge of the content of MBA 506, you might consult the text for this course, Michael Baye's *Managerial Economics and Business Strategy*, 6th edition or an alternative managerial economics text.

MBA 506—Managerial Economics

Course Description

Develops a coherent economic framework for effective managerial decision-making. Introduces fundamental economic concepts, and discusses the goals of the firm. Surveys market forces of supply and demand, examines the role of elasticity, and studies the theory of consumer behavior on which demand is based. Presents production, cost and revenue concepts, and analyzes input demand and output supply decisions in perfectly competitive markets. Discusses alternative market structures, and studies pricing practices for firms with market power.

Outline of Topics

A. The Fundamentals of Managerial Economics

1. Students should understand how managerial economics is used to analyze business situations.
2. Students should understand economic measures of profit.
3. Students should understand present value analysis.
4. Students should understand marginal analysis.

B. The Organization of the Firm

1. Students should understand the agency problem and some of the mechanisms that work toward reducing the problem.

C. Market Forces: Supply and Demand

1. Students should understand how to interpret demand and supply functions.
2. Students should understand how changing factors affect demand, supply, and market equilibrium.
3. Students should understand how to analyze the effect of price restrictions.

D. Quantitative Demand Analysis

1. Students should understand and be able to define price elasticity, income elasticity, cross-price elasticity, and other elasticities of interest.
2. Students should be familiar with the determinants of price elasticity.
3. Students should be able to apply elasticity concepts to managerial decision problems.
4. Students should understand the basic means by which demand functions are estimated and the diagnostic statistics that usually reported.

E. The Theory of Individual Behavior

1. Students should understand the properties of indifference curves and what they say about an individual's preferences.
2. Students should understand income and substitution effects and why demand curves are downward sloping.

3. Students should be able to use the utility-maximization model to analyze a variety of individual decision problems.

F. The Production Process

1. Students should be familiar with the production function and related concepts, such as marginal product and marginal rate of technical substitution.
2. Students should be able to solve cost minimization problems using the framework of isoquants and isocost lines.
3. Students should be familiar with total, average, and marginal cost concepts and how they relate to the production function.
4. Students should be able to apply appropriate cost concepts to a variety of managerial decision problems.

G. Market Structure

1. Students should know the basic types of market structure and the characteristics that distinguish them.
2. Students should understand the relationship between market structure and market power.

H. Managing in Different Market Structures

1. Students should be able to identify a firm's profit-maximizing output in a perfectly competitive market.
2. Students should be able to identify a firm's profit-maximizing output and price in monopolistic and monopolistically competitive markets.
3. Students should understand the similarities and differences between profit-maximizing decisions in perfectly competitive, monopolistically competitive, and monopolistic markets.

I. Pricing with Market Power: Price Discrimination

1. Students should be familiar with the conditions under which a firm may be able to practice price discrimination.
2. Students should understand the purpose and some of the methods of discriminatory pricing.

MBA 506—Managerial Economics

Self Assessment Examination

A. The Fundamentals of Managerial Economics

MULTIPLE CHOICE

1. Managerial economics
 - a) has little to say about day-to-day decisions.
 - b) is valuable to the coordinator of a shelter for the homeless.
 - c) is not relevant for managers of "not-for-profit" groups.
 - d) is the study of how to get rich in the stock market.

2. Economic profits are:
 - a) total revenue minus total cost.
 - b) marginal revenue minus marginal cost.
 - c) total revenue minus total opportunity cost.
 - d) total profits of the economy as a whole.

3. The value of the firm is:
 - a) the current value of profits.
 - b) the present discounted value of all future profits.
 - c) the average value of all future profits.
 - d) the total value of all future profits.

4. The higher the interest rate:
 - a) the greater the present value of a future amount.
 - b) the smaller the present value of a future amount.
 - c) the greater the level of inflation.
 - d) none of the above.

5. If the interest rate is 5%, \$100 received at the end of 7 years is worth how much today?
 - a) $100/(0.05)^7$.
 - b) $100/(1 + .05)^7$.
 - c) $100/(1 + 5)^7$.
 - d) 100.

6. Given the cost function $C(Y) = 6Y^2$, what is the marginal cost?
- a) $6Y$.
 - b) Y^2 .
 - c) $3Y$.
 - d) $12Y$.

B. The Organization of the Firm

MULTIPLE CHOICE

1. A drawback of separating ownership from control by creating a firm is:
- a) The losses of specialization.
 - b) Increased transaction costs.
 - c) The principal-agent problem.
 - d) Synergies of team production.
2. Which of the following payment plans does not give an incentive to a manager to stop shirking?
- a) Flat salary with additional pay based on profits of the firm.
 - b) Pay schedule based solely on profits earned by the firm.
 - c) Flat salary regardless of firm profits.
 - d) None of the above.

C. Market Forces: Demand and Supply

MULTIPLE CHOICE

1. Suppose the demand for X is given by $Q_d = 100 - 2P_X + 4P_Y + 10M + 2A$, where P_X represents the price of good X, P_Y is the price of good Y, M is income and A is the amount of advertising on good X. Based on this information, we know that good X is
- a) a substitute for good Y and a normal good.
 - b) a complement for good Y and an inferior good.
 - c) a complement for good Y and a normal good.
 - d) a substitute for good Y and an inferior good.

2. Other things held constant, the greater the price of a good
- the lower the demand.
 - the higher the demand.
 - the greater the consumer surplus.
 - the lower the consumer surplus.
3. If consumers expect future prices to be higher
- they substitute current purchases for future purchases of perishable products.
 - stockpiling will happen when products are durable in nature.
 - the position of the demand will not change.
 - the demand for automobiles today will not change.
4. The supply function for good X is given by $Q_s = 1,000 + P_X - 5P_Y - 2P_W$, where P_X is the price of X, P_Y is the price of good Y and P_W is the price of input W. If the price of input W increases by \$10, then the supply of good X
- will increase by 10 units.
 - will increase by 20 units.
 - will decrease by 10 units.
 - none of the above.
5. In a competitive market, the market demand is $Q_d = 60 - 6P$ and the market supply is $Q_s = 4P$. A price ceiling of \$3 will result in
- A shortage of 18 units.
 - A shortage of 30 units.
 - A surplus of 30 units.
 - A surplus of 12 units.
 - neither a shortage nor a surplus.
6. When an effective price ceiling is in place
- every consumer is better off.
 - every consumer is worse off.
 - some consumers are better off and others are worse off.
 - on average the net change in consumer surplus is zero.

D. Quantitative Demand Analysis

MULTIPLE CHOICE

- The demand for good X has been estimated by $Q_d = 12 - 3P_x + 4P_y$. Suppose that good X sells at \$2 per unit and good Y sells for \$1 per unit. Calculate the own price elasticity.
 - 0.2.
 - 0.3.
 - 0.4.
 - 0.5.
 - 0.6.
- The own-price elasticity of demand for apples is -1.2. If the price of apples falls by 5%, what will happen to the quantity of apples demanded?
 - It will increase 5%.
 - It will fall 4.3%.
 - It will increase 4.2%.
 - It will increase 6%.
- If the price of pork chops falls from \$8 to \$6, and this leads to an increase in demand for apple sauce from 100 to 140 jars, what is the cross price-elasticity of apple sauce and pork chops at a pork chop price of \$6?
 - 1.17.
 - 2.71.
 - 0.42.
 - .86.
- You are the manager of a supermarket, and know that the income elasticity of peanut butter is exactly -0.7. Due to the recession, you expect incomes to drop by 15% next year. How should you adjust your purchase of peanut butter?
 - buy 10.5% more peanut butter.
 - buy 2.14% more peanut butter.
 - buy 6.2% less peanut butter.
 - buy 9.8% less peanut butter.

5. You are the manager of a popular shoe company. You know that the advertising elasticity of demand for your product is .15. How much will you have to increase advertising in order to increase demand by 10%?
- a) .02%.
 - b) 38.6%.
 - c) 66.7%.
 - d) 4.3%.
6. If the cross-price elasticity between good A & B is negative, we know the goods are
- a) inferior goods.
 - b) complements.
 - c) inelastic.
 - d) substitutes.
7. Which of the following factors would not affect the own-price elasticity of a good?
- a) time.
 - b) price of an input.
 - c) available substitutes.
 - d) expenditure share.
8. We would expect the demand for jeans to be
- a) more elastic than the demand for clothing.
 - b) less elastic than the demand for clothing.
 - c) the same as the demand for clothing.
 - d) none of the above.
9. Demand is more inelastic in the short-term because consumers
- a) are impatient.
 - b) have no time to find available substitutes.
 - c) are present-oriented.
 - d) none of the above.
10. Which of the following measures of fit penalizes a researcher for estimating many coefficients with relatively little data?
- a) t-statistic.
 - b) R-square.
 - c) adjusted R-square.
 - d) none of the above.

11. The lower the standard error,
- the less confident the manager can be that the parameter estimates reflect the true values.
 - the more confident the manager can be that the parameter estimates reflect the true values.
 - the more precisely the parameter estimates the true values.
 - the less precisely the parameter estimates the true values.

SHORT ANSWER QUESTIONS

12. A study sponsored by the American Medical Association suggests that the absolute value of the own price elasticity for surgical procedures is smaller than that for the own price elasticity for office visits. Explain why this would be expected.
13. As the manager of a local hotel chain, you have hired an econometrician to estimate the demand for one of your hotels (H). The estimation has resulted in the following demand function: $Q_H = 2,000 - P_H - 1.5P_C - 2.25P_{SE} + 0.8P_{OH} + .01M$, where P_H is the price of a room at your hotel, P_C is the price of concerts in your area, P_{SE} is the price of sporting events in your area, P_{OH} is the average room price at other hotels in your area, and M is the average income in the United States. What would be the impact on your firm of
- A \$500 increase in income?
 - A \$10 reduction in the price charged by other hotels?
 - A \$7 increase in the price of tickets to local sporting events?
 - A \$5 increase in the price of concert tickets, accompanied by an \$8 increase in income?
14. A firm is considering raising its price by 9 percent and has hired an econometrician to estimate the elasticity of demand for its product. The econometrician estimates the parameters of a log-linear demand function and reports that the parameter estimate for the elasticity of demand is -1.5 and the standard error of the estimate is 0.3.
- If the firm raises its price by 9 percent, what is the expected change in quantity demanded?
 - Approximate the upper and lower bounds on the 95 percent confidence interval for the change in quantity demanded.

E. The Theory of Individual Behavior

MULTIPLE CHOICE

1. Which of the following is true?
 - a) Indifference curves may intersect.
 - b) At a point of consumer equilibrium, the MRS equals 1.
 - c) If income increases, a consumer will always consume more of a good.
 - d) None of the above are true.

2. Some individuals choose to undertake risky prospects while others choose safer ones, because they have different
 - a) degrees of transitivity.
 - b) marginal rates of substitution between risk and reward.
 - c) income elasticities.
 - d) marginal utilities.

3. The difference between a price decrease and an increase in income is that
 - a) A price decrease does not affect the consumption of other goods while an increase in income does.
 - b) An increase in income does not affect the slope of the budget line while a decrease in price does change the slope.
 - c) A price decrease decreases real income while an increase in income increases real income.
 - d) A price decrease leaves real income unchanged while an increase in income increases real income.
 - e) None of the above.

4. After a price decrease for good X, the new consumer equilibrium level of good X will be
 - a) higher than before the price change.
 - b) lower than before the price change.
 - c) indeterminate without more information.
 - d) the same as before the price change.

5. Many gourmet shops go out of business during recessions since they sell almost exclusively
 - a) inferior goods.
 - b) normal goods.
 - c) substitutes.
 - d) complements.

6. If the slope of the indifference curve is steeper than the slope of the budget line, and X is on the horizontal axis,
- the consumer is willing to give up more of good Y to get an additional unit of good X than is necessary under the current market prices.
 - $MRS < P_X / P_Y$.
 - $MRS < - P_X / P_Y$.
 - the consumer is willing to give up more of good X to get an additional unit of good Y than is necessary under the current market prices.
7. The substitution effect isolates the change in the consumption of a good caused by
- the lower "real" income.
 - the change in consumer preferences.
 - the change in the market rate of substitution.
 - none of the above.
8. Under the buy one, get one free regime,
- the budget line rotates counter-clockwise.
 - the price is reduced by 50%.
 - the budget set expands.
 - the indifference curve is changed.

SHORT ANSWER QUESTIONS

9. Airlines give away millions of tickets each year through their frequent flyer programs, with the typical airline awarding a free ticket for each 25,000 miles flown on the airline. The average airline ticket costs \$500 and is for a 2,500-mile round trip. Given this information, evaluate the following statement: Airlines could have the same effect on demand by eliminating their frequent flyer programs and simply lowering the average ticket price by 10 percent.
10. Suppose an individual's marginal rate of substitution is three slices of pizza for one beer at the present bundle of beer and pizza she is consuming. If the price of beer is \$1.00 and the price of a slice of pizza is \$1.50, is the consumer maximizing her welfare? If not, how should she change her consumption?
11. If shoes and socks are complements and both are normal goods, show graphically what would happen to the consumption of shoes and socks if
- the price of shoes decreased.
 - consumer incomes increased.

F. The Production Process

MULTIPLE CHOICE

1. Suppose the marginal product of labor is 8 and the marginal product of capital is 2. If the wage rate is \$4 and the price of capital is \$2, then in order to minimize costs the firm should
 - a) use more capital and less labor.
 - b) use more labor and less capital.
 - c) use three times more capital than labor.
 - d) none of the above.

2. It is profitable to hire units of labor as long as
 - a) value marginal product is less than wage.
 - b) value marginal product exceeds average product.
 - c) value marginal product equals price.
 - d) value marginal product exceeds wage.

3. As long as marginal product is increasing, marginal product is
 - a) less than average product.
 - b) greater than average product.
 - c) equal to average output.
 - d) equal to total product.

4. Which of the following conditions is true when a producer minimizes the cost of producing a given level of output?
 - a) The MRTS is equal to the ratio of input prices.
 - b) The marginal product per dollar spent on all inputs are equal.
 - c) The marginal products of all inputs are equal.
 - d) a and b.

5. The long-run average cost curve defines the minimum average cost of producing alternative levels of output, allowing for optimal selection of
 - a) fixed factors of production.
 - b) variable factors of production.
 - c) all factors of production.
 - d) sunk cost factors of production.

6. Two firms producing identical products may merge due to the existence of
- Economies of scope.
 - Economies of scale.
 - Cost complementarities.
 - All of the above.
 - a and c only.
7. For the cost function $C(Q) = 100 + 2Q + 3Q^2$, the marginal cost of producing 2 units of output is
- 2.
 - 3.
 - 12.
 - 14.
8. Which of the following sets of economic data is minimizing the cost of producing a given level of output?
- $MP_L = 20, MP_K = 40, W = \$16, r = \$32$.
 - $MP_L = 20, MP_K = 40, W = \$32, r = \$16$.
 - $MP_L = 40, MP_K = 20, W = \$16, r = \$32$.
 - $MP_L = 40, MP_K = 40, W = \$16, r = \$32$.

SHORT ANSWER QUESTIONS

9. You have been hired to replace the manager of a firm that used only two inputs, capital and labor, to produce output. The firm can hire as much labor as it wants at a wage of \$5 per hour and can rent as much capital as it wants at a price of \$50 per hour. After you look at the company books, you learn that the company has been using capital and labor in amounts that imply a marginal product of labor of 50 and a marginal product of capital of 100. Do you know why the firm hired you? Explain.
10. Congress is considering legislation that will provide additional investment tax credits to businesses. Effectively, an investment tax credit reduces the cost to firms of using capital in production. Would you expect labor unions to lobby for or against such a bill? (Hint: What impact would such a plan have on the capital-to-labor ratio at the typical firm?)
11. The manager of a meat-packing plant can use either butchers (labor) or meat saws (capital) to prepare packages of sirloin steak. Based on estimates provided by an efficiency expert, the firm's production function for sirloin steak is given by $Q = K + L$.
- What is the marginal product of capital and labor? Does the answer depend on how much labor and capital are used?
 - If the price of labor is \$2 per hour and the rental price of capital is \$3 per hour, how much capital and labor should be used to minimize the cost of production?

12. An accountant for a car rental company was recently asked to report the firm's costs of producing various levels of output. The accountant knows that the most recent estimate available of the firm's cost function is $C(Q) = 100 + 10Q + Q^2$, where costs are measured in thousands of dollars and output is measured in thousands of hours rented.
- What is the average fixed cost of producing 2 units of output?
 - What is the average variable cost of producing 2 units of output?
 - What is the average total cost of producing 2 units of output?
 - What is the marginal cost of producing 2 units of output?
 - What is the relation between the answers to (a), (b), and (c) above? Is this a general property of average cost curves?

G. Market Structure

MULTIPLE CHOICE

- Which of the following kinds of market structure are not associated with market power?
 - oligopoly.
 - perfect competition.
 - monopolistic competition.
 - b and c.
- Monopolistic competition is characterized by
 - heterogeneous products.
 - employing labor from a perfectly competitive labor market.
 - no free entry.
 - large markets.
- In perfect competition, which is not true?
 - Every firm has a small but perceivable market power.
 - There are a large number of firms.
 - Firms are price-takers.
 - Firms produce homogenous goods.
- In the 1960s, each firm in the computer industry was able to make extremely large profit margins, some as high as 50-60%. The margins decreased to 20-40% in the 1970s and to 10-20% in the 1980s. We may conclude that
 - Market power increased in the two decades.
 - The industry has evolved from oligopolistic to a more competitive industry in the two decades.
 - Lower profit margins were due to the government's regulation to protect consumers.
 - Lower profit margins were largely due to the mal-management of computer firms.

5. The causal view of the industry believes that
 - a) market structure causes firms to behave in a certain way.
 - b) market performance causes firms to have a certain structure.
 - c) market performance causes firms to behave in a certain way.
 - d) behavior causes firms to have a certain structure.

6. Which of the following may transform an industry from oligopoly to monopolistic competition?
 - a) entry.
 - b) takeover.
 - c) exit.
 - d) acquisition.

7. Which market structure has the most market power?
 - a) monopolistic competition.
 - b) perfect competition.
 - c) monopoly.
 - d) oligopoly.

8. Which of the following industries is best characterized as monopolistically competitive?
 - a) toothpaste.
 - b) crude oil.
 - c) agriculture.
 - d) local telephone service.

9. Which of the following is an example of monopoly?
 - a) Shoe industry in the United States.
 - b) Local utility industry in a small town.
 - c) Newspaper industry in New York City.
 - d) Bread industry in New York City.

10. Source(s) of market power may include
 - a) economies of scale.
 - b) economies of scope.
 - c) patents.
 - d) all of the above.

SHORT ANSWER QUESTIONS

11. Firms like McDonald's and Wendy's sell hamburgers, salads, and other products that are differentiated in nature. While numerous fast-food restaurants exist in most locations, the differentiated nature of the firms' products permits them to charge prices that are in excess of marginal cost. Given these observations, is the fast-food industry most likely a perfectly competitive industry, a monopoly, monopolistically competitive, or an oligopoly? Use the causal view of structure, conduct, and performance to explain the roles of product differentiation in the industry, and explain how the feedback critique applies in this context.
12. Alpha Industries operates in a highly competitive market. While there are few other firms in the industry due to the high fixed costs of building plants, rival firms are very aggressive in their pricing strategies. Of the products sold in the industry, over 80 percent have 10 years of patent protection remaining. Does this industry meet an economist's definition of a perfectly competitive industry?

H. Managing in Different Market Structures

MULTIPLE CHOICE

1. Which of the following is true under monopoly?
 - a) profits are always positive.
 - b) $P > MC$.
 - c) $P = MR$.
 - d) all of the above are true for monopoly.
2. You are the manager of a firm that sells its product in a competitive market at a price of \$50. Your firm's cost function is $C = 40 + 5Q^2$. Your firm's maximum profits are
 - a) 125.
 - b) 250.
 - c) 100.
 - d) 85.
3. You are the manager of a monopoly that faces a demand curve described by $P = 230 - 20Q$. Your costs are $C = 5 + 30Q$. Your firm's maximum profits are
 - a) 495.
 - b) 475.
 - c) 480.
 - d) 415.

4. In a competitive industry with identical firms, long run equilibrium is characterized by
- $P = AC$.
 - $P = MC$.
 - $MR = MC$.
 - All of the above.
5. You are the manager of a firm that sells its product in a competitive market at a price of \$40. Your firm's cost function is $C = 60 + 4Q^2$. The profit-maximizing output for your firm is
- 4.
 - 5.
 - 10.
 - 15.
6. You are the manager of a monopoly that faces a demand curve described by $P = 85 - 5Q$. Your costs are $C = 20 + 5Q$. The profit-maximizing price is
- 45.
 - 55.
 - 60.
 - 50.
7. In the long-run, monopolistically competitive firms
- charge prices equal to marginal cost.
 - have excess capacity.
 - produce at the minimum of average total cost.
 - b. and c.
8. If a monopolistically competitive firm's marginal cost increases, then in order to maximize profits the firm will
- reduce output and increase price.
 - increase output and decrease price.
 - increase both output and price.
 - reduce both output and price.

9. Suppose that initially the price is \$50 in a perfectly competitive market. Firms are making zero economic profits. Then the market demand shrinks permanently and some firms leave the industry and the industry returns back to a long run equilibrium. What will be the new equilibrium price, assuming cost conditions in the industry remain constant?
- \$50.
 - \$45.
 - Lower than \$50 but exact value cannot be known without more information.
 - Larger than \$45 but exact value cannot be known without more information.
10. Which of the following features is common to both perfectly competitive markets and monopolistically competitive markets?
- Firms produce homogeneous goods.
 - There is free entry.
 - Long run profits are zero.
 - both b and c.
11. A monopoly has two production plants with cost functions $C_1 = 50 + 0.1Q_1^2$ and $C_2 = 30 + 0.05Q_2^2$. The demand it faces is $Q = 500 - 10P$. What is the condition for profit maximization?
- $MC_1(Q_1) = MC_2(Q_2) = P(Q_1 + Q_2)$.
 - $MC_1(Q_1) = MC_2(Q_2) = MR(Q_1 + Q_2)$.
 - $MC_1(Q_1 + Q_2) = MC_2(Q_1 + Q_2) = P(Q_1 + Q_2)$.
 - $MC_1(Q_1 + Q_2) = MC_2(Q_1 + Q_2) = MR(Q_1 + Q_2)$.
12. Which of the following is a correct representation of the profit maximization condition for a monopoly?
- $P = MR$.
 - $MC = MR$.
 - $P = ATC + MR$.
 - $MR = MC + ATC$.
13. In the long-run, monopolistically competitive firms produce a level of output such that
- $P > MC$.
 - $P = ATC$.
 - $ATC >$ minimum of average costs.
 - all of the above.

14. You are a manager in a perfectly competitive market. The price in your market is \$14. Your total cost curve is $C(Q) = 10 + 4Q + 0.5Q^2$. What level of profits will you make in the short-run?
- a) \$20.
 - b) \$40.
 - c) \$60.
 - d) \$80.
15. You are a manager in a perfectly competitive market. The price in your market is \$14. Your total cost curve is $C(Q) = 10 + 4Q + 0.5Q^2$. What will happen in the long-run if there is no change in the demand curve?
- a) Some firms will leave the market eventually.
 - b) Some firms will enter the market eventually.
 - c) There will be neither entry nor leave.
 - d) None of the above.
16. A firm in a perfectly competitive market faces
- a) a perfectly elastic demand function.
 - b) a perfectly inelastic demand function.
 - c) a demand function with unitary elasticity.
 - d) none of the above.
17. A monopoly produces widgets at a marginal cost of \$10 per unit and zero fixed costs. It faces an inverse demand function given by $P = 50 - Q$. Suppose fixed costs rise to \$400. What happens in the market?
- a) The firm will raise the price.
 - b) The firm will shut down immediately.
 - c) The firm continues to produce the same output and charge the same price.
 - d) The firm will reduce its output and raise price.
18. Which of the following statements is true?
- a) The more elastic the demand, the higher is the profit-maximizing markup.
 - b) The more elastic the demand, the lower is the profit-maximizing markup.
 - c) The higher the marginal cost, the lower the profit-maximizing price.
 - d) The higher the average cost, the lower the profit-maximizing price.

SHORT ANSWER QUESTIONS

19. U.S. Airways experienced huge losses for several years in the 1990s, yet it continued to operate its fleets. Why didn't U.S. Airways shut down its operations to avoid the losses?
20. You are a manager in a perfectly competitive market. The price in your market is \$35. Your total cost curve is $C(Q) = 10 + 2Q + .5Q^2$.
- What level of output should you produce in the short run?
 - What price should you charge in the short run?
 - Will you make any profits in the short run?
 - What will happen in the long run?
 - How would your answer change if your costs were $C(Q) = 80 + 5Q + 30Q^2$?
21. You are the manager of a monopolistically competitive firm. The present demand curve you face is $P = 100 - 4Q$. Your cost function is $C(Q) = 50 + 8.5Q^2$.
- What level of output should you choose to maximize profits?
 - What price should you charge?
 - What will happen in your market in the long-run? Explain.

I. Pricing with Market Power: Price Discrimination

MULTIPLE CHOICE

1. Which of the following is not a condition for a firm to engage in price discrimination?
- Consumers are partitioned into two or more types, with one type having a more elastic demand than the other.
 - The firm has a means of identifying consumer types.
 - The consumers are assured to be sincere in telling their true natures.
 - There is no resale market for the good.
2. Cinemas sometimes give senior citizens discounts. What is a possible reason for them to do so?
- Purely because entrepreneurs are benevolent.
 - Senior citizens have a more elastic demand for movies than ordinary citizens.
 - Senior citizens lack recreational activities.
 - None of the above.

3. One of the conditions under which price discrimination is profitable is
- a) ability to identify consumer types.
 - b) inability to resell the good.
 - c) differences in demand elasticities.
 - d) all of the above.
4. A local video store estimates their average customer's demand per year is $Q = 7 - 2P$, and knows the marginal cost of each rental is \$0.5. How much should the store charge for an annual membership in order to extract all the consumer surplus via an optimal two-part pricing strategy?
- a) \$9.
 - b) \$10.
 - c) \$11.
 - d) \$12.
5. A local video store estimates its average customer's demand per year is $Q = 7 - 2P$, and knows the marginal cost of each rental is \$0.5. What is the annual profit that the video store expects to make on an average customer if it engages in optimal two-part pricing?
- a) \$6.
 - b) \$7.
 - c) \$8.
 - d) \$9.
6. A Broadway theater sells weekday show tickets at a lower price than for a weekend show. This is an example of
- a) price discrimination.
 - b) peak-load pricing.
 - c) all of the above.
 - d) none of the above.

SHORT ANSWER QUESTION

7. Suppose a typical consumer's inverse demand function for bottled water at a resort area where one firm owns all the rights to a local spring is given by $P = 15 - 3Q$. The marginal cost for gathering and bottling the water is \$3 per gallon. Find the optimal number of bottles to package together for sale and the profit-maximizing price to charge for the package. Show the solution graphically.