**Chapter 01**

**The Fundamentals of Managerial Economics**

**Multiple Choice Questions**

1. 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 statements associated with this question are correct.

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application   
Difficulty: 01 Easy

2. If the interest rate is 10 percent and cash flows are $1,000 at the end of year one and $2,000 at the end of year two, then the present value of these cash flows is:   
A. $2,562.  
B. $3,200.  
C. $439.  
D. $3,000.

Answer: A

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 1 Easy

3. Accounting profits are:   
A. total revenue minus total cost.  
B. total cost minus total revenue.  
C. marginal revenue minus total cost.  
D. total revenue minus marginal cost.

Answer: A

Learning Objective: 01-02

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application

Difficulty: 01 Easy

4. 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.

Answer: C

Learning Objective: 01-02

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

5. Which of the following is an implicit cost to a firm that produces a good or service?   
A. Labor costs  
B. Costs of operating production machinery  
C. Foregone profits of producing a different good or service  
D. Costs of renting or buying land for a production site

Answer: C

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

6. Which of the following is an implicit cost of going to college?   
A. Tuition  
B. Cost of books and supplies  
C. Room and board  
D. Foregone wages

Answer: D

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

7. Which of the following are signals to the owners of scarce resources about the best uses of those resources?   
A. Profits of businesses  
B. Government regulations  
C. Economic indicators  
D. The accounting cost of those resources

Answer: A

Learning Objective: 01-03

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

8. The primary inducement for new firms to enter an industry is:   
A. increased technology.  
B. availability of labor.  
C. low capital costs.  
D. presence of economic profits.

Answer: D

Learning Objective: 01-03

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

9. As more firms enter an industry:   
A. accounting profits increase.  
B. economic profits decrease.  
C. prices rise.  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-04

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application

Difficulty: 01 Easy

10. Scarce resources are ultimately allocated toward the production of goods most wanted by society because:   
A. firms attempt to maximize profits.  
B. they are most efficiently utilized in these areas.  
C. consumers demand inexpensive goods and services.  
D. managers are benevolent.

Answer: A

Learning Objective: 01-03

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

11. The opportunity cost of receiving $10 in the future as opposed to getting that $10 today is:   
A. the foregone interest that could be earned if you had the money today.  
B. the taxes paid on any earnings.  
C. the value of $10 relative to the total income of that person.  
D. the value of $10 relative to the total income of all persons.

Answer: A

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 01 Easy

12. If the interest rate is 5 percent, what is the present value of $10 received one year from now?   
A. $9.50  
B. $10.05  
C. $9.52  
D. $9.77

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

13. If you put $1,000 in a savings account at an interest rate of 10 percent, how much money will you have in one year?   
A. $1,200  
B. $909  
C. $950  
D. $1,100

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

14. If the interest rate is 5 percent, the present value of $200 received at the end of five years is:   
A. $121.34.  
B. $156.71.  
C. $176.41.  
D. $132.62.

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking

Difficulty: 03 Hard

15. When dealing with present value, a higher interest rate:   
A. does not affect the present value of the future amount.  
B. increases the present value of a future amount.  
C. decreases the present value of a future amount.  
D. None of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application

Difficulty: 02 Medium

16. A farm must decide whether or not to purchase a new tractor. The tractor will reduce costs by $2,000 in the first year, $2,500 in the second, and $3,000 in the third and final year of usefulness. The tractor costs $9,000 today, while the above cost savings will be realized at the end of each year. If the interest rate is 7 percent, what is the net present value of purchasing the tractor?   
A. $6,764  
B. $9,362  
C. $18,362  
D. None of the statements associated with this question are correct.

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

17. A firm will have constant profits of $100,000 per year for the next four years, and the interest rate is 6 percent. Assuming these profits are realized at the end of each year, what is the present value of these future profits?   
A. $325,816  
B. $376,741  
C. $400,000  
D. $346,511

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking

Difficulty: 02 Medium

18. A firm will maximize the present value of future profits by maximizing current profits when the:   
A. growth rate in profits is constant.  
B. growth rate in profits is larger than the interest rate.  
C. interest rate is larger than the growth rate in profits and both are constant.  
D. growth rate and interest rate are constant and equal.

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application

Difficulty: 02 Medium

19. Suppose the interest rate is 5 percent, the expected growth rate of the firm is 2 percent, and the firm is expected to continue forever. If current profits are $1,000, what is the value of the firm?   
A. $31,000  
B. $30,000  
C. $26,500  
D. $35,000

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

20. To maximize profits, a firm should continue to increase production of a good until:   
A. total revenue equals total cost.  
B. profits are zero.  
C. marginal revenue equals marginal cost.  
D. average cost equals average revenue.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

21. What is the marginal revenue of producing the third unit?

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 1 | 100 | 50 |
| 2 | 180 | 110 |
| 3 | 250 | 180 |
| 4 | 290 | 270 |
| 5 | 310 | 380 |

A. 250  
B. 70  
C. 0  
D. 90

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

22. What is the marginal cost of producing the fifth unit? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 1 | 100 | 50 |
| 2 | 180 | 110 |
| 3 | 250 | 180 |
| 4 | 290 | 270 |
| 5 | 310 | 380 |

A. 270  
B. 110  
C. 50  
D. 0

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

23. At what level of output does marginal cost equal marginal revenue? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 1 | 100 | 50 |
| 2 | 180 | 110 |
| 3 | 250 | 180 |
| 4 | 290 | 270 |
| 5 | 310 | 380 |

A. 1  
B. 2  
C. 3  
D. 4

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

24. What is the level of net benefits when four units are produced? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 1 | 100 | 50 |
| 2 | 180 | 110 |
| 3 | 250 | 180 |
| 4 | 290 | 270 |
| 5 | 310 | 380 |

A. 0  
B. 70  
C. -70  
D. 20

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

25. What is the marginal net benefit of producing the fourth unit? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 1 | 100 | 50 |
| 2 | 180 | 110 |
| 3 | 250 | 180 |
| 4 | 290 | 270 |
| 5 | 310 | 380 |

A. -50  
B. 0  
C. 60  
D. 40

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

26. The additional benefits that arise by using an additional unit of the managerial control variable is defined as the:   
A. total benefit.  
B. opportunity cost.  
C. marginal benefit.  
D. present value of benefits.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

27. The additional cost incurred by using an additional unit of the managerial control variable is defined as the:   
A. total cost.  
B. net cost.  
C. net benefit.  
D. marginal cost.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

28. The change in net benefits that arises from a one-unit change in quantity is the:   
A. marginal net benefits.  
B. total net benefits.  
C. variable benefits.  
D. present value benefits.

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

29. The difference between marginal benefits and marginal costs is the:   
A. profits.  
B. marginal net benefits.  
C. opportunity cost.  
D. accounting cost.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

30. In order to maximize net benefits, firms should produce where:   
A. total benefits equal total costs.  
B. profits are zero.  
C. marginal cost is minimized.  
D. marginal benefits equal marginal costs.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

31. Given the cost function C(Y) = 6Y2, what is the marginal cost?   
A. 6Y  
B. Y2  
C. 3Y  
D. 12Y

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

32. Given the benefit function B(Y) = 400Y − 2Y2, the marginal benefit is:   
A. 200Y.  
B. 400 − 2Y2.  
C. 400 − 4Y.  
D. 800 − 2Y.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

33. Suppose total benefits and total costs are given by B(Y) = 100Y − 8Y2 and C(Y) = 10Y2. Then marginal benefits are:   
A. 100 − 16Y.  
B. 100Y − 8Y2.  
C. 50 − 4Y.  
D. 200Y − 10Y.

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

34. Suppose total benefits and total costs are given by B(Y) = 100Y − 8Y2 and C(Y) = 10Y2. Then marginal costs are:   
A. 20Y2.  
B. 40.  
C. 5Y.  
D. 20Y.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking

Difficulty: 02 Medium

35. Suppose total benefits and total costs are given by B(Y) = 100Y − 8Y2 and C(Y) = 10Y2. What level of Y will yield the maximum net benefits?   
A. 75/36  
B. 75/18  
C. 50/18  
D. 100/36

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

36. Suppose total benefits and total costs are given by B(Y) = 100Y − 8Y2 and C(Y) = 10Y2. What is the maximum level of net benefits (rounded to the nearest whole number)?   
A. 92  
B. 139  
C. 78  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking

Difficulty: 03 Hard

37. If a producer offers a price that is in excess of a consumer's valuation of the good, the consumer:   
A. must buy the good at that price.  
B. will refuse to purchase the good.  
C. must revalue the good.  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

38. Negotiations between the buyer and seller of a new house are an example of:   
A. consumer−consumer rivalry.  
B. consumer−producer rivalry.  
C. producer−producer rivalry.  
D. monopoly.

Answer: B

Learning Objective: 01-04

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

39. The behavior of bidders in an auction is an example of:   
A. consumer−consumer rivalry.  
B. consumer−producer rivalry.  
C. producer−producer rivalry.  
D. None of the statements associated with this question are correct.

Answer: A

Learning Objective: 01-04

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

40. Under producer−producer rivalry, individual firms want to sell the product at the maximum price consumers will pay, but they are unable to do this because of:   
A. cost considerations.  
B. the scarcity of resources.  
C. competition among sellers.  
D. competition among buyers.

Answer: C

Learning Objective: 01-04

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

41. In the *Wealth of Nations*, Adam Smith argues that:   
A. self-interest leads to the efficient allocation of resources.  
B. benevolence leads to the efficient allocation of resources.  
C. profits are maximized where marginal revenue equals net marginal benefits.  
D. None of the statements associated with this question are correct.

Answer: A

Learning Objective: 01-03

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

42. Other things equal, the greater the interest rate:   
A. the lower the NPV.  
B. the higher the NPV.  
C. the higher the PV.  
D. None of the statements associated with this question are correct.

Answer: A

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

43. Economics:   
A. exists because of scarcity.  
B. is not related to decision making.  
C. is the science of the rich.  
D. has nothing to do with the allocation of resources.

Answer: A

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

44. 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.

Answer: B

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

45. Basic principles that comprise good management include:   
A. identifying goals and constraints.  
B. recognizing the nature and importance of profits.  
C. understanding incentives.  
D. All of the statements associated with this question are correct.

Answer: D

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

46. Which of the following is the main goal of a continuing company?   
A. To maximize the value of the firm  
B. To minimize costs  
C. To improve product quality  
D. To enhance service to its customers

Answer: A

Learning Objective: 01-03

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

47. Which of the following is (are) true?   
A. Accounting costs generally understate economic costs.  
B. Accounting profits generally overstate economic profits.  
C. In the absence of any opportunity costs, accounting profits equal economic profits.  
D. All of the statements associated with this question are correct.

Answer: D

Learning Objective: 01-02

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 02 Medium

48. Which of the following is incorrect?   
A. Accounting profits generally overstate economic profits.  
B. Accounting profits do not take opportunity cost into account.  
C. Economic costs include not only the accounting costs but also the opportunity costs of the resources used in production.  
D. Managers should only be interested in accounting profits.

Answer: D

Learning Objective: 01-02

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 02 Medium

49. What is the main role of economic profits?   
A. To signal where resources are most highly valued  
B. To help firms cover their production costs  
C. To help consumers cover their opportunity cost  
D. None of the statements associated with this question are correct.

Answer: A

Learning Objective: 01-03

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

50. If the annual interest rate is 0 percent, the present value of receiving $1.10 in the next year is:   
A. $1.00.  
B. $1.01.  
C. $1.11.  
D. $1.10.

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

51. If the interest rate is 5 percent, $100 received at the end of seven years is worth how much today?   
A. 100/(0.05)7  
B. 100/(1 + 0.05)7  
C. 100/(1 + 5)7  
D. 100

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

52. As the interest rate increases, the opportunity cost of waiting to receive a future amount:   
A. increases.  
B. decreases.  
C. may rise or fall.  
D. remains the same.

Answer: A

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

53. The higher the interest rate, the greater the:   
A. present value.  
B. net present value.  
C. Both A and B are correct.  
D. Neither A nor B is correct.

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

54. To an economist, maximizing profit is:   
A. maximizing the value of the firm.  
B. maximizing the current year's profits.  
C. minimizing the permanent total costs.  
D. minimizing the future risks.

Answer: A

Learning Objective: 01-07

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

55. The value of the firm is the:   
A. current value of profits.  
B. present discounted value of all future profits.  
C. average value of all future profits.  
D. total value of all future profits.

Answer: B

Learning Objective: 01-07

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

56. Marginal benefits are the:   
A. incremental benefits of a decision.  
B. average benefits of a decision.  
C. total benefits of a decision.  
D. present discounted benefit of a decision.

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

57. The optimal amount of studying is determined by comparing:   
A. marginal benefit and the total cost of studying.  
B. marginal benefit and the total benefit of studying.  
C. marginal benefit and the marginal cost of studying.  
D. total benefit and the total cost of studying.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 01 Easy

58. If marginal benefits exceed marginal costs, it is profitable to:   
A. increase Q.  
B. decrease Q.  
C. stay at that level of Q.  
D. All of the statements associated with this question are correct.

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

59. If marginal costs exceed marginal benefits, then:   
A. the firm ends up with a net loss.  
B. the firm's average costs exceed average benefits.  
C. the firm should decrease its production level.  
D. None of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

60. In order to maximize net benefits, the managerial control variable should be used up to the point where:   
A. total costs equal total benefits.  
B. average costs equal marginal benefits.  
C. average benefits equal marginal costs.  
D. net marginal benefits equal zero.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

61. Maximizing total benefits is equivalent to maximizing net benefits if and only if there are:   
A. constant marginal costs associated with achieving more benefits.  
B. no costs associated with achieving more benefits.  
C. increasing costs associated with achieving more benefits.  
D. decreasing costs associated with achieving more benefits.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

62. Which of the following is the incorrect statement?   
A. The marginal benefits curve is the slope of the total benefits curve.  
B. dB(Q)/dQ = MB.  
C. The slope of the net benefit curve is horizontal where MB = MC.  
D. The difference in the slope of the total benefit curve and the total cost curve is maximized at the optimal level of Q.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 03 Hard

63. When MB = 300 − 12Y and TC = 12Y + 108, the optimal level of Y is:   
A. 25.  
B. 4.5.  
C. 8.  
D. 24.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

64. Incentive plans imply:   
A. if managers get highly paid, then they work hard.  
B. if managers put forth little effort, they receive little pay; if they put forth much effort and hence generate many sales, they receive a lot of pay.  
C. managers are not selfish.  
D. managers should be watched all the time.

Answer: B

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

65. Which of the following is NOT a source of rivalry in economic transactions?   
A. Consumer−producer rivalry  
B. Producer−producer rivalry  
C. Government−producer rivalry  
D. All of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

66. Consumer−producer rivalry occurs because of:   
A. consumers' high valuation and producers' low production cost of a good.  
B. producers' high production cost and consumers' low valuation of a good.  
C. the competing interests of consumers and producers.  
D. None of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

67. Trade will take place:   
A. if the maximum that a consumer is willing and able to pay is less than the minimum price the producer is willing and able to accept for a good.  
B. if the maximum that a consumer is willing and able to pay is greater than the minimum price the producer is willing and able to accept for a good.  
C. only if the maximum that a consumer is willing and able to pay is equal to the minimum price the producer is willing and able to accept for a good.  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

68. Consumer−consumer rivalry:   
A. increases the negotiating power of consumers in the marketplace.  
B. reduces the negotiating power of producers in the marketplace.  
C. reduces the negotiating power of consumers in the marketplace.  
D. increases the likelihood of government intervention in the marketplace.

Answer: C

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 03 Hard

69. Consumer−consumer rivalry arises because of:   
A. human nature.  
B. the limited number of suppliers.  
C. the scarcity of goods available.  
D. None of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

70. Producer−producer rivalry functions:   
A. only when multiple sellers for a product compete in the market.  
B. only when single sellers for a product compete in the market.  
C. regardless of the number of sellers.  
D. even when customers are not scarce.

Answer: A

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

71. Because of producer−producer rivalry, the price will tend to:   
A. be driven to a lower price.  
B. rise up to the maximum price the consumers are willing and able to pay.  
C. be the same as the competitive price.  
D. be the same as the monopoly price.

Answer: A

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

72. Which is the correct statement about the relationship between government and the market?   
A. Government should intervene on the consumers' behalf.  
B. Government should intervene on the producers' behalf.  
C. Government should not intervene on any party's behalf.  
D. Government often plays a role in disciplining the market process.

Answer: D

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 01 Easy

73. Suppose the growth rate of the firm's profit is 5 percent, the interest rate is 6 percent, and the current profits of the firm are $80 million. What is the value of the firm?   
A. $89.2 million  
B. $1,413.3 million  
C. $8,480 million  
D. None of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

74. Suppose the growth rate of the firm's profit is 5 percent, the interest rate is 6 percent, and the current profits of the firm are $100 million. What is the value of the firm?   
A. $111.5 million  
B. $1,766.6 million  
C. $10,600 million  
D. None of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

75. Maximizing the present value of all future profits is the same as maximizing current profits if the growth rate in profits is:   
A. greater than the interest rate.  
B. less than the interest rate.  
C. equal to the interest rate.  
D. not constant over time.

Answer: B

Learning Objective: 01-07

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

76. Marginal benefit refers to:   
A. the average benefits that arise by using an additional unit of the managerial control variables.  
B. the additional benefits that arise by using an additional unit of the managerial control variables.  
C. the change in average benefits arising from a change in the control variable.  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

77. Generally when calculating profits as total revenue minus total costs, accounting profits are larger than economic profits because economists take into account:

 A. only explicit costs.  
B. only implicit costs.  
C. both explicit and implicit costs.  
D. Both types of profits are always equal because they account for the same costs.

Answer: C

Learning Objective: 01-02

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

78. "Our marginal revenue is greater than our marginal cost at the current production level." This statement indicates that the firm:   
A. is maximizing profits.  
B. should increase the quantity produced to increase profits.  
C. should decrease the quantity produced to increase profits.  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

79. If the interest rate is 5 percent and cash flows are $3,000 at the end of year one and $5,000 at the end of year two, then the present value of these cash flows is:   
A. $7,392.29.  
B. $8,400.34.  
C. $4,222.50.  
D. $400.74.

Answer: A

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

80. New firms have incentive to enter an industry when there is(are):   
A. new production technologies.  
B. positive economic profits.  
C. an abundance of labor.  
D. high capital costs.

Answer: B

Learning Objective: 01-04

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

81. Property owners move scarce resources toward the production of goods most valued by society because:   
A. government controls the allocation of resources.  
B. consumers demand inexpensive goods and services.  
C. managers are solely pursuing the interests of society.  
D. firms attempt to maximize profits.

Answer: B

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

82. If the interest rate is 12.5 percent, what is the present value of $200 received in one year?   
A. $25  
B. $177.78  
C. $197  
D. $225

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

83. If you put $700 in a savings account at an interest rate of 3 percent, how much money will you have in one year?   
A. $370  
B. $679.61  
C. $703.00  
D. $721

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

84. If the interest rate is 3 percent, the present value of $900 received at the end of four years is:   
A. $792.00.  
B. $799.64.  
C. $873.79.  
D. $927.40.

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

85. Maximizing the lifetime value of the firm is equivalent to maximizing the firm's current profits if the:   
A. interest rate is larger than the growth rate in profits and both are constant.  
B. growth rate in profits is constant and is larger than the interest rate.  
C. interest rate is smaller than the growth rate of profits.  
D. growth rate of profits and the interest rate are equal.

Answer: A

Learning Objective: 01-07

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 03 Hard

86. Given the benefit function B(Y) = 200Y − 3Y2, the marginal benefit is:   
A. 600Y.  
B. 200 − 3Y.  
C. 200 − 6Y2.  
D. 200 − 6Y.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

87. Negotiation between the buyer and seller of a new ski boat is an example of:   
A. consumer− producer rivalry.  
B. consumer− consumer rivalry.  
C. producer− producer rivalry.  
D. None of the statements associated with this question are correct.

Answer: A

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

88. If the annual interest rate is 0 percent, the present value of receiving $210 in the next year is:   
A. $221.  
B. $200.  
C. $201.  
D. $210.

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

89. If the interest rate is 7 percent, $500 received at the end of nine years is worth how much today?

 A. 500/(0.07)9  
B. 500/(1 + .07)9  
C. 500/(1 + 7)9  
D. 500

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

90. Suppose the growth rate of the firm's profit is 7 percent, the interest rate is 10 percent, and the current profits of the firm are $120 million. What is the value of the firm?

 A. $44 million  
B. $4,280 million  
C. $4,400 million  
D. $6,800 million

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

91. The opportunity cost of an action is the:   
A. monetary payment the action required.  
B. value of the most highly valued alternative action given up.  
C. cost of all alternative actions that could have been taken.  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

92. What is the total benefit associated with producing four units of the control variable, Q (identify point A in the table)?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. 600  
B. 2,600  
C. 3,000  
D. 3,400

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

93. What is the total cost associated with producing eight units of the control variable, Q (identify point B in the table)? 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. 3,000  
B. 3,600  
C. 3,800  
D. 4,200

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

94. What is the net benefit associated with producing two units of the control variable, Q (identify point C in the table)? 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. 600  
B. 800  
C. 1,200  
D. 1,400

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

95. What is the marginal benefit associated with producing six units of the control variable, Q (identify point D in the table)? 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. 600  
B. 400  
C. 200  
D. 100

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

96. What is the marginal cost associated with producing three units of the control variable, Q (identify point E in the table)? 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. 50  
B. 100  
C. 200  
D. 300

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

97. What is the marginal net benefit associated with producing five units of the control variable, Q (identify point F in the table)? 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. -100  
B. -75  
C. 0  
D. 100

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

98. The marginal cost in the table is: 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. increasing at an increasing rate.  
B. decreasing at an increasing rate.  
C. increasing at a constant rate.  
D. decreasing at a decreasing rate.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

99. The marginal benefit in the table is: 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. increasing at a constant rate.  
B. decreasing at a constant rate.  
C. increasing at a decreasing rate.  
D. decreasing at an increasing rate.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

100. To maximize net benefits in the table, it is most appropriate to use: 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. four units of the control variable, since the marginal benefit exceeds marginal cost.  
B. six units of the control variable, since the marginal cost exceeds marginal benefit.  
C. five units of the control variable, since net marginal benefits are zero.  
D. None of the statements associated with this question are correct.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

101. Total benefits in the table are: 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. increasing at a decreasing rate.  
B. increasing at a constant rate.  
C. decreasing at a constant rate.  
D. decreasing at an increasing rate.

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

102. Total costs in the table are: 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. decreasing at a constant rate.  
B. decreasing at a decreasing rate.  
C. increasing at a constant rate.  
D. increasing at an increasing rate.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

103. Net benefits in the table: 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. initially increase, reach a maximum, and then decrease.  
B. initially decrease, reach a minimum, and then increase.  
C. remain relatively stable over different values for the control variable.  
D. initially remain relatively stable and then decrease.

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

104. Marginal net benefits in the table: 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Control Variable** | **Total Benefits** | **Total Costs** | **Net Benefits** | **Marginal Benefit** | **Marginal Cost** | **Marginal Net Benefit** |
| ***Q*** | ***B(Q)*** | ***C(Q)*** | ***N(Q)*** | ***MB(Q)*** | ***MC(Q)*** | ***MNB(Q)*** |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 900 | 100 | 800 | 900 | 100 | 800 |
| 2 | 1,700 | 300 | ***C*** | 800 | 200 | 600 |
| 3 | 2,400 | 600 | 1,800 | 700 | ***E*** | 400 |
| 4 | ***A*** | 1,000 | 2,000 | 600 | 400 | 200 |
| 5 | 3,500 | 1,500 | 2,000 | 500 | 500 | ***F*** |
| 6 | 3,900 | 2,100 | 1,800 | ***D*** | 600 | -200 |
| 7 | 4,200 | 2,800 | 1,400 | 300 | 700 | -400 |
| 8 | 4,400 | ***B*** | 800 | 200 | 800 | -600 |
| 9 | 4,500 | 4,500 | 0 | 100 | 900 | -800 |
| 10 | 4,500 | 5,500 | -1,000 | 0 | 1,000 | -1000 |

A. initially increase, reach a maximum, and then decrease.  
B. initially decrease, reach a minimum, and then increase.  
C. remain relatively stable over different values for the control variable.  
D. decrease at a constant rate.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

105. The first-order condition for maximizing net benefits is:   
A. dB/dQ = 0.  
B. dN/dQ = 0.  
C. d2N/dQ2 = 0.  
D. dC/dQ = 0.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 02 Medium

106. The second-order condition for maximizing net benefits is:   
A. d2N/dQ2 < 0.  
B. d(MB)/dQ < d(MC)/dQ.  
C. d2B/dQ2 < d2C/dQ2.  
D. All of the statements associated with this question are correct.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 03 Hard

107. Compute the present value of a perpetual bond that pays a monthly cash flow of $1,000 at an annual interest rate of 12 percent.   
A. $8,333.33  
B. $9,333.33  
C. $100,000  
D. $101,000

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

108. Find the annual interest rate that would create a perpetual cash flow stream of $15,000 when the present value of the asset is $100,000.   
A. 0.15 percent  
B. 15 percent  
C. 0.1765 percent  
D. 17.65 percent

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

109. Compute the present value of a preferred stock that pays, in perpetuity, an annual cash flow of $200 at an annual interest rate of 5 percent.   
A. $190.48  
B. $210  
C. $4,000  
D. $4,200

Answer: C

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

110. Suppose B(Q) = 5Q − Q2 and C(Q) = 1 + Q2. Then, net benefits are \_\_\_\_\_\_ when Q equals \_\_\_\_\_\_\_\_\_\_ units since the second-order condition is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   
A. maximized; 5/4; negative  
B. minimized; −1; positive  
C. maximized; 4/5; positive  
D. minimized; 4/5; negative

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

111. According to the five forces framework, sustainable industry profits depend upon:   
A. industry entry conditions.  
B. the power of input suppliers.  
C. the degree of industry rivalry.  
D. All of the statements associated with this question are correct.

Answer: D

Learning Objective: 01-04

Topic: The Economics of Effective Management

Blooms: Remember

AACSB: Knowledge Application  
Difficulty: 01 Easy

112. The lower 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 statements associated with this question are correct.

Answer: A

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 01 Easy

113. What is the marginal revenue of producing the fortieth unit? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 10 | 120 | 40 |
| 20 | 200 | 100 |
| 30 | 270 | 170 |
| 40 | 310 | 260 |
| 50 | 330 | 370 |

A. 4  
B. 80  
C. 7.75  
D. 40

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

114. What is the marginal cost of producing the tenth unit? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 10 | 120 | 40 |
| 20 | 200 | 100 |
| 30 | 270 | 170 |
| 40 | 310 | 260 |
| 50 | 330 | 370 |

A. 80  
B. 5  
C. 40  
D. 4

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

115. At what level of output does marginal cost equal marginal revenue? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 10 | 120 | 40 |
| 20 | 200 | 100 |
| 30 | 270 | 170 |
| 40 | 310 | 260 |
| 50 | 330 | 370 |

A. 10  
B. 20  
C. 30  
D. 40

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

116. What is the level of net benefits when 20 units are produced? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 10 | 120 | 40 |
| 20 | 200 | 100 |
| 30 | 270 | 170 |
| 40 | 310 | 260 |
| 50 | 330 | 370 |

A. -100  
B. 80  
C. 100  
D. 10

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

117. What is the marginal net benefit of producing the twentieth unit? 

|  |  |  |
| --- | --- | --- |
| **No. Units Produced** | **Total Revenue** | **Total Costs** |
| 0 | 0 | 0 |
| 10 | 120 | 40 |
| 20 | 200 | 100 |
| 30 | 270 | 170 |
| 40 | 310 | 260 |
| 50 | 330 | 370 |

A. 2  
B. -5  
C. -2  
D. 8

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

118. Suppose total benefits and total costs are given by B(Y) = 150Y − 10Y2 and C(Y) = 5Y2. Then marginal benefits are:   
A. 150 − 20Y.  
B. 150Y − 8Y2.  
C. 15 − 4Y.  
D. 5 − 20Y.

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

119. Suppose total benefits and total costs are given by B(Y) = 150Y − 10Y2 and C(Y) = 5Y2. Then marginal costs are:   
A. 2.5Y.  
B. 25Y.  
C. 5Y.  
D. 10Y.

Answer: D

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

120. Suppose total benefits and total costs are given by B(Y) = 150Y − 10Y2 and C(Y) = 5Y2. What level of Y will yield the maximum net benefits?   
A. 7  
B. 10/9  
C. 5  
D. 150/20

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

121. Suppose total benefits and total costs are given by B(Y) = 220Y − 15Y2 and C(Y) = 10Y. What level of Y will yield the maximum net benefits?   
A. 7  
B. 10/9  
C. 5  
D. 150/20

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

122. Suppose the growth rate of the firm's profit is 7 percent, the interest rate is 9 percent, and the current profits of the firm are $60 million. What is the value of the firm?   
A. $289.4 million  
B. $3,270 million  
C. $4,480.6 million  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

123. Suppose the growth rate of the firm's profit is 4 percent, the interest rate is 5 percent, and the current profits of the firm are $75 million. What is the value of the firm?   
A. $2,111.5 million  
B. $7,766.6 million  
C. $10,600 million  
D. None of the statements associated with this question are correct.

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

124. Which of the following is the incorrect statement?   
A. The marginal benefits curve is the slope of the total benefits curve.  
B. dB(Q)/dQ = MB.  
C. The slope of the net benefit curve is vertical where MB = MC.  
D. The vertical difference between the total benefit curve and the total cost curve is maximized at the optimal level of Q.

Answer: C

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 03 Hard

125. When MB = 171 − 8Y and TC = 5Y2 + 108, the optimal level of Y is:   
A. 25.  
B. 9.5.  
C. 8.  
D. 24.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

126. Suppose total benefits and total costs are given by B(Y) = 600Y − 12Y2 and C(Y) = 20Y2. What level of Y will yield the maximum net benefits?   
A. 600/64  
B. 600/32  
C. 300/64  
D. 300/32

Answer: A

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

127. Suppose total benefits and total costs are given by B(Y) = 600Y − 12Y2 and C(Y) = 20Y2. What is the maximum level of net benefits?   
A. 2,500.75  
B. 2,812.5  
C. 1916.4  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking

Difficulty: 03 Hard

128. Suppose the interest rate is 6 percent, the expected growth rate of the firm is 3 percent, and the firm is expected to continue forever. If current profits are $1,200, what is the value of the firm?   
A. $41,200  
B. $40,000  
C. $36,500  
D. $42,400

Answer: D

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard

129. If the interest rate is 4 percent, the present value of $500 received at the end of four years is:   
A. $427.40.  
B. $431.71.  
C. $416.41.  
D. $432.68.

Answer: A

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking

Difficulty: 03 Hard

130. Suppose total benefits and total costs are given by B(Y) = 600Y − 12Y2 and C(Y) = 20Y2. What is the maximum level of total benefits?   
A. 2,812.5  
B. 7,500  
C. 1,600  
D. None of the statements associated with this question are correct.

Answer: B

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking

Difficulty: 03 Hard

**Essay Questions**

131. You are the manager of a Fortune 500 hotel chain and must decide where to locate a new hotel. Based on tax considerations, your accounting department suggests that Atlantic City is the best choice, followed closely by Las Vegas. In particular, your current year tax savings from locating in Atlantic City are $4 million, but they are only $3 million in Las Vegas. Your marketing department, on the other hand, has provided you with sales estimates that suggest that the present value of the gross (of taxes) operating profits from locating in Atlantic City are only $10 million, but they are $14 million for Las Vegas. It will cost $14 million to build the hotel in either location. Ignoring all other considerations, where should you build the hotel? What are your firm's economic profits if you locate the hotel in Atlantic City?

Answer: Ignoring other considerations, if you build the hotel in Atlantic City your accounting profits are zero (computed as $4 million in tax savings, plus $10 million in operating profits, minus $14 in building costs). In contrast, if you build in Las Vegas your accounting profits are $3 million (computed as $3 million in tax savings, plus $14 million in operating profits, minus $14 million in building costs). Your best alternative is thus to build in Las Vegas to earn $3 million in accounting (and economic) profits. If you build the hotel in Atlantic City, your accounting profits are zero, but your implicit cost is the $3 million you give up by not building in Las Vegas, your best alternative. Thus, your economic profits of building in Atlantic City are −$3 million.

Learning Objective: 01-02

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

132. You are the manager of a firm that plans to expand the human resource base of its operation by hiring additional business school graduates over the next few years. You recently read an article in *The Wall Street Journal* that reports that enrollments in business schools have declined as students are moving into the "hard sciences." That same article reports that the shakeup of upper management is over at U.S. firms, and that over the next decade there will be a nationwide surge in the demand for MBAs. How will these events affect your firm's ability to expand its own base of MBAs?

Answer: The recent decline in MBAs reflects exit from the market, due to a low return on the investment in such an education. A likely reason for the predicted rise in MBAs over the next decade is that salaries of MBAs will rise to increase the returns to an MBA, thus inducing entry into this line of study. This means that your firm will likely have to pay more to be able to hire MBAs in the future, and that the costs of expanding your firm's human resource base might be higher than expected.

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

133. You have just been hired as a consultant to help a firm to decide which of three options to take to maximize the value of the firm over the next three years. The following table shows year-end profits for each option. Interest rates are expected to be stable at 8 percent over the next three years.

|  |  |  |  |
| --- | --- | --- | --- |
| *Option* | *Profits in Year 1* | *Profits in Year 2* | *Profits in Year 3* |
| A | $70,000 | $80,000 | $90,000 |
| B | $50,000 | $90,000 | $100,000 |
| C | $30,000 | $100,000 | $115,000 |

1. Discuss the difference in the profits associated with each option. Provide an example of real-world options that might generate such profit streams.
2. Which option has the greatest present value?

Answer:

a. Option A has the highest first-year profits, but the lowest second- and third-year profits. Option B earns less in the first year than A, but more in years two and three. Option C has the lowest first-year profits, but the greatest profits in years two and three. Option A might represent a low current advertising budget; it doesn't cost much today (and thus current profits are relatively high). However, a low current advertising budget does not increase future profits as much as a moderate (Option B) or an intensive (Option C) level of current advertising budget.

b. PVA = 70,000/(1.08) + 80,000/(1.08)2 + 90,000/(1.08)3 = $204,846.82.  
PVB = 50,000/(1.08) + 90,000/(1.08)2 + 100,000/(1.08)3 = $202,840.01.  
PVC = 30,000/(1.08) + 100,000/(1.08)2 + 115,000/(1.08)3 = $204,802.37.  
Option A has the highest present value.

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

134. A potential entrepreneur is trying to decide whether to open a new health spa. She currently makes $35,000 per year as an aerobics instructor and will have to give up this job if she opens the new health spa. If she chooses to open the spa, it will cost her $200,000 per year in rent and other operating expenses.   
a. What are her accounting costs?  
b. What are her opportunity costs?  
c. How much would she need to make in revenues to earn positive accounting profits? Positive economic profits?

Answer:

a. Accounting costs equal $200,000 per year in rent plus other operating expenses.  
b. Opportunity costs equal $235,000 per year in rent, other operating expenses, and forgone wages.  
c. In order to earn positive accounting profits, the revenues per year should be greater than $200,000 per year. In order to earn positive economic profits, the revenues per year should be greater than $235,000 per year.

 Learning Objective: 01-02

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

135. You are the manager of a firm that specializes in selling exotic animals to zoos around the world. Your goal is to determine the number of baby zebras (Z) that must be born on your firm's farm each month in order to maximize profits. The total benefits (revenues) and costs to your firm of producing various quantities of zebras are given in the first three columns of the following table. Based on this scenario, complete the table and answer the accompanying questions:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* |
| *Control Variable Z* | *Total Benefits B(Z)* | *Total Costs C(Z)* | *Net Benefits N(Z)* | *Marginal Benefit MB(Z)* | *Marginal Cost MC(Z)* | *Marginal Net Benefit MNB(Z)* |
| 0 | 0 | 0 |  |  |  |  |
| 1 | 200 | 10 |  |  |  |  |
| 2 | 380 | 30 |  |  |  |  |
| 3 | 540 | 60 |  |  |  |  |
| 4 | 680 | 100 |  |  |  |  |
| 5 | 800 | 150 |  |  |  |  |
| 6 | 900 | 210 |  |  |  |  |
| 7 | 980 | 280 |  |  |  |  |
| 8 | 1,040 | 360 |  |  |  |  |
| 9 | 1,080 | 450 |  |  |  |  |
| 10 | 1,100 | 550 |  |  |  |  |

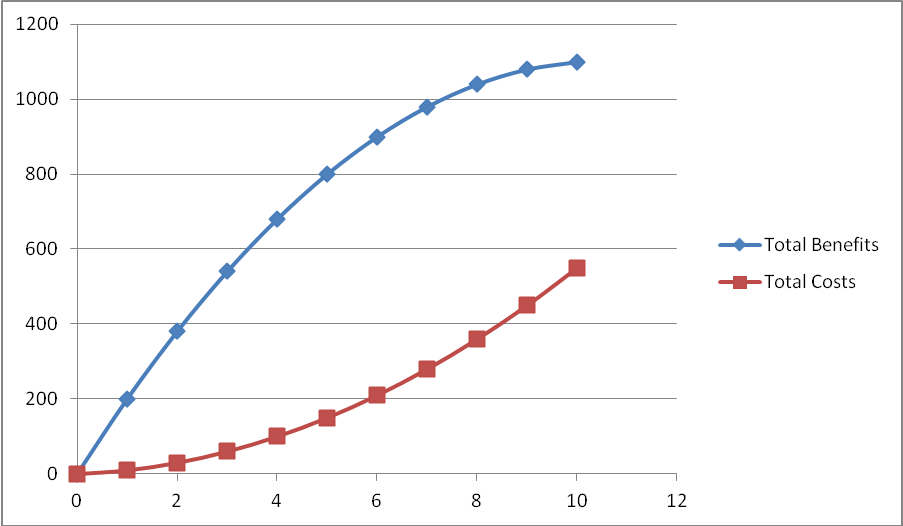
a. What level of zebra births maximizes net benefits?  
b. What is the relation between marginal benefit and marginal cost at this level of Z?  
c. Graph the total cost and total benefit curves.  
d. On another graph, plot the points for the marginal cost, marginal benefit, and marginal net benefit.  
e. Show how the two graphs relate to each other.

  Answer:

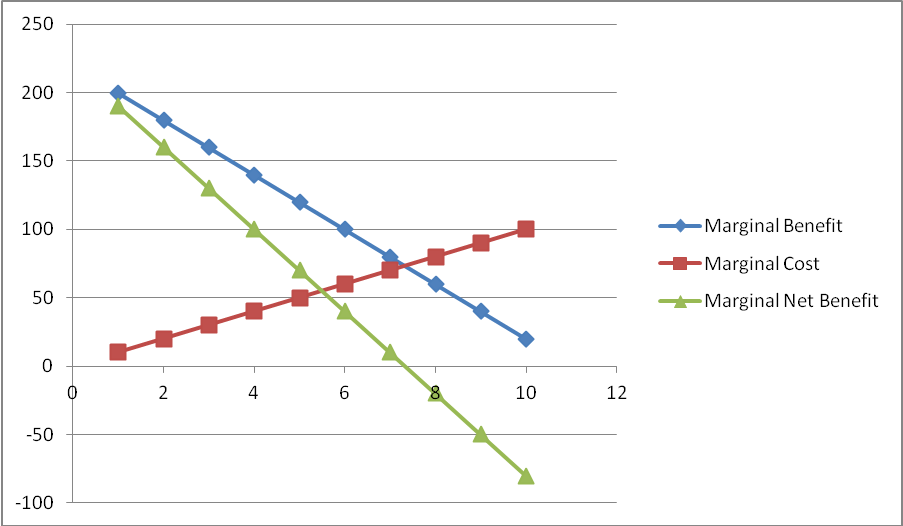
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| (1)  Control  Variable  Z | (2)  Total  Benefits  B(Z) | (3)  Total  Costs  C(Z) | (4)  Net  Benefits  N(Z) | (5) Marginal  Benefit  MB(Z) | (6)  Marginal Cost  MC(Z) | (7)  Marginal Net Benefit  MNB(Z) |
| 0 | 0 | 0 | 0 | -- | -- | -- |
| 1 | 200 | 10 | 190 | 200 | 10 | 190 |
| 2 | 380 | 30 | 350 | 180 | 20 | 160 |
| 3 | 540 | 60 | 480 | 160 | 30 | 130 |
| 4 | 680 | 100 | 580 | 140 | 40 | 100 |
| 5 | 800 | 150 | 650 | 120 | 50 | 70 |
| 6 | 900 | 210 | 690 | 100 | 60 | 40 |
| 7 | 980 | 280 | 700 | 80 | 70 | 10 |
| 8 | 1,040 | 360 | 680 | 60 | 80 | -20 |
| 9 | 1,080 | 450 | 630 | 40 | 90 | -50 |
| 10 | 1,100 | 550 | 550 | 20 | 100 | -80 |

a. Z = 7 maximizes net benefits.  
b. Marginal cost is a little bit smaller than marginal benefit (MC = 70, MB = 80). This is due to the discrete nature of the control variable.

c.



d.



e. Marginal net benefit equals zero for the same value of Z where the difference between total benefits and total costs is greatest. This is also where marginal benefit and marginal cost intersect.

Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

136. A recent survey of new graduates in High Tech Cauldron Coalescence (HTCC) revealed that every graduate had at least two job offers and the average offer was $100,000 per year. With the release of this information, what do you expect to see happen to the number of HTCC majors? What do you expect to happen to salaries in the HTCC field in 10 years? Why?

Answer: Initially the number of people that major in HTCC will increase as they attempt to learn the skills required to earn the high salaries in the field. After 10 years it is likely that enough people would have entered the field to decrease the salaries to the opportunity cost of entering this field of study.

 Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

137. A new manager recently was given an assignment to create two possible wage schemes for a design firm. The manager came up with the following packages: (1) Each employee will start at $15 per hour and will work eight hours per day; (2) each employee will receive $8 per hour and one-tenth of 1 percent of profits (expected profits are $80,000 per day if everyone puts out maximum effort). Which program will motivate the employees more? Which program would you choose? Why?

Answer: Package 2 will motivate the employees better. Under package 1, the employees have no incentive to work hard, as working hard will not bring them extra benefits. On the other hand, under package 2, increased effort will increase their income.  
Under package 1, an employee receives $120 per day whether he or she works hard or not. Under package 2, an employee receives $144 per day if all employees exert maximum effort and $64 per day with minimal effort. As a manager, part of your job is to extract maximum effort from your employees. Package 2 is preferred.

Learning Objective: 01-01

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

138. Your firm's research department has estimated your total revenues to be R(Q) = 3,000 – 8Q2 and your total costs to be C(Q) = 100 + 2Q2.  (Note that MB = 3,000 – 16Q and MC = 4Q.)    
a. What level of *Q* maximizes net benefits?  
b. What is marginal benefit at this level of *Q*?  
c. What is marginal cost at this level of *Q*?  
d. What is the maximum level of net benefits?  
e. What is another word for *net benefits* in this example?

Answer:

a. Setting *MNB(Q)* = 3000 − 20*Q* = 0 and solving for *Q* yields *Q* = 150.  
b. Marginal benefit at *Q* = 150 is 600.  
c. Marginal cost at *Q* = 150 is 4(150) = 600.  
d. Net benefits are 3,000*Q* − 8*Q*2 − (100 + 2*Q*2). When *Q* = 150, net benefits are $224,900.  
e. "Net benefits" mean profits.

Learning Objective: 01-06

Topic: The Economics of Effective Management

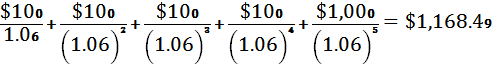
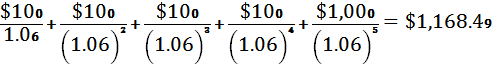
Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

139. A bond pays $100 at the end of each year for five years, plus an additional $1,000 when the bond matures at the end of five years. What is the most you would be willing to pay for this bond if your opportunity cost of funds is 6 percent?

Answer: The maximum amount you should be willing to pay is the present value of the income stream generated from the bond. This amount is $1,168.49, since:

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Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 01 Easy

 140. You are the manager of a 24-hour copy shop that is closed on Sundays. You lease a building for $2,000 per month and hire three employees who each work eight-hour shifts at a wage of $10.00 per hour. The markets for labor and office space are tight in your area. To acquire the lease and hire workers, you signed contracts requiring you to give 12 months advance notice before abandoning your lease or laying off workers (if you fail to comply, the contracts force you to fully compensate your landlord and workers for the income they otherwise would have earned over the 12-month period). Paper costs you $.02 per sheet. You currently sell 500,000 color copies per year at a price of $.10 per copy and 1,000,000 black-and-white copies per year at a price of $.05 per copy. Because of your high volume, each of your two copiers has a useful life of only one year. You just received a call from an employee who informs you that your color copier just broke down. The good news is that your black-and-white copier is brand-new; the bad news is that a new color copier will cost $30,000. Should you purchase a new color copier? Assume that customers who want color copies are unwilling to substitute black-and-white copies.

Answer: Your cost of labor and lease payments are irrelevant to this decision, as the contract requires you to make these payments over the next year regardless of whether you acquire a new color copier. The incremental cost of the copier is $30,000. If you acquire a new copier, you will earn 8 cents on each copy you sell (10 cents less paper costs of 2 cents), so your incremental revenues from purchasing a new copier are ($.08)(500,000) = $40,000. Since incremental revenues exceed incremental costs, you should acquire a new color copier. You earn $10,000 more by purchasing a new copier than by not purchasing it.

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

141. Delta Software earned $10 million this year. Suppose the growth rate of Delta's profits and the interest rate are both constant and Delta will be in business forever. Determine the value of Delta Software when:   
a. The interest rate is 10 percent and profits grow by 4 percent per year.  
b. The interest rate is 10 percent and profits grow by 0 percent per year.  
c. The interest rate is 10 percent and profits decline by 4 percent per year.  
d. The interest rate is 10 percent and profits grow by 12 percent per year. (This part of the question is tricky.)

Answer:

a.   million.  
b.   million.  
c.  million.  
d. Since the profits grow faster than the interest rate, Delta Software's value is infinite.



Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

142. AMS recently instituted an in-house recycling program. The benefits of this program include not only the benefits to the environment of recycling but also the goodwill generated by AMS's leadership in this area. The costs of recycling include all of the energy, labor, and space required to do the recycling. Suppose these benefits and costs are given by B(Q) = 100Q – 2Q2 and C(Q) = 2Q. (Note that MB = 100 – 4Q, and MC = 2.)   
a. What level of *Q* maximizes the total benefits of recycling?  
b. What level of *Q* minimizes the total costs of recycling?  
c. What level of *Q* maximizes the net benefits of recycling?  
d. What level of recycling is optimal? Why?

Answer:

a. Total benefits are maximized when *MB(Q)* = 100 − 4*Q* = 0, which means *Q* = 25.  
b. The total costs of recycling are minimized when Q equals zero.  
c. Setting *MNB(Q)* = 100 − 4*Q* − 2 = 0 and solving, we see that the net benefits of recycling are maximized when *Q* = 24.5.  
d. The optimal level of recycling is 24.5. At this level, the net benefits are maximized.

 Learning Objective: 01-06

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

143. You are a strong advocate for a one-year investment project that would cost your firm $10,000 today, but generate virtually certain earnings of $15,000 at year-end. Those in your firm's financial group concur that the investment is virtually risk-free, but nonetheless your boss is concerned about the firm's cash flow problems. In fact, the problems are so severe that the firm's bank currently charges it 20 percent on one-year loans. Convince your boss to undertake the project.

Answer: The net present value of the investment is:



Since the net present value is positive, the investment should be undertaken. Cash flow considerations are irrelevant, in this case. Your firm could secure a $10,000 one-year loan from the bank at 20 percent. Since the net present value is positive, in one year the $15,000 generated from the investment will be more than enough to pay back the interest and principal on the loan. Thus, cash flow is not really an issue in this case, and in present value terms, your firm will pocket $2,500 from this investment.

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 02 Medium

144. Individuals who choose to attend school have made a decision to invest in human capital. Use the terminology of net present value analysis to explain why you are attending school.

Answer: The net present value of attending school is the present value of the benefits derived from attending school (including the stream of higher earnings and the value to you of the work environment and prestige that your education provides), minus the opportunity cost of attending school. The opportunity cost of attending school is generally greater than the cost of books and tuition.

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 01 Easy

145. In 1995 a $50 million major renovation project of the 19-year-old Seattle Kingdome was completed nearly $18 million over the initial budget. Several million dollars in other expenses were incurred during the renovation phase, including payments to the Seattle Seahawks football team and the Mariners baseball team for revenue they lost by not being able to play in the Kingdome. If you were on the city council, what information would you have needed to determine whether the renovation project was a sound investment?

Answer: You need to obtain the information required to do the net present value calculations. This includes not only the interest rate at which Seattle can borrow funds, but the marginal profits Seattle will generate each year from the renovation. Some of the earnings will accrue to the city though increased business activity (and tax revenue), and explicit revenue derived from activities in the Kingdome. Some will arise because Seattle will not have to make payments to entities like the Mariners and Seahawks for failing to provide a playing site, as presumably stipulated in a contract with the teams. The terms of the contract would thus also be important information. Finally, you would need to know how long it would be before another renovation was needed. Given all of this information, determining whether the renovation project was a sound investment is a relatively simple calculation.

Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Understand

AACSB: Knowledge Application  
Difficulty: 02 Medium

146. The Taxpayer Relief Act of 1997 created the Roth IRA, which permits qualifying individuals to make after-tax retirement contributions of up to $2,000 annually. Contributions to a Roth IRA are not tax-deductible, but no taxes are paid on earnings generated from a Roth IRA. In contrast, contributions made to traditional IRAs are tax-deductible, but individuals will pay taxes on all future distributions. In short, investors using the Roth IRA make contributions that have already been taxed and have earnings that grow tax-free, while those using the traditional IRAs defer taxes until funds are withdrawn. Consider an individual who is five years away from retirement and will need to withdraw all her retirement funds at that time. She has $2,000 in pretax income to allocate each year to a retirement plan, faces a fixed tax rate of 15 percent now as well as at retirement, and anticipates a stable 8 percent return on her investments. She can set up a Roth IRA for a one-time, up-front fee of $10, or she can set up a traditional IRA for free. Which option should she choose?

Answer: If she invests $2,000 in pretax money each year in a traditional IRA, at the end of five years the taxable value of her traditional IRA will be:  
  
$2,000(1.08)5 + $2,000(1.08)4 + $2,000(1.08)3 + $2,000(1.08)2 + $2,000(1.08)1 = $12,671.86.  
  
She gets to keep only 85 percent of this (her tax rate is 15 percent), so her spendable income when she withdraws her funds at the end of five years is (.85)($12,671.86) = $10,771.08. In contrast, if she has $2,000 in pretax income, she can only invest $1,700 in a Roth IRA each year (the remaining $300 must be paid to Uncle Sam). Since she doesn't have to pay taxes on her earnings, the value of her Roth IRA account at the end of five years represents her spendable income upon retirement if she uses a Roth IRA. This amount is  
  
$1,700(1.08)5 + $1,700(1.08)4 + $1,700(1.08)3 + $1,700(1.08)2 + $1,700(1.08)1 = $10,771.08.  
  
Notice that, ignoring setup fees, the Roth and traditional IRAs result in exactly the same after-tax income at retirement. Therefore, she should adopt the plan with the lower setup fees. In this case, this means choosing the traditional IRA, thus avoiding the $10 setup fee charged for the Roth IRA. In other words, the net present value of her after-tax retirement funds if she chooses a traditional IRA,  is $10 higher than under a Roth IRA.



Learning Objective: 01-05

Topic: The Economics of Effective Management

Blooms: Apply

AACSB: Analytical Thinking  
Difficulty: 03 Hard