Answers and Explanations

1. **The correct answer is (B).** The opportunity cost of a good or service includes the implicit and explicit costs, which includes the time and opportunity given up as well as the out-of-pocket expense. The opportunity cost of a good or service is the next best alternative.

2. **The correct answer is (E).** There must be no limitation on the ability of all members of society to have a good for it to be considered NOT scarce. Government controls, income, or any single individual's limitations when acquiring the good makes the good scarce.

3. **The correct answer is (B).** In a market economy, prices are the signals that transmit information, provide incentives, and distribute income. Higher prices provide consumers the incentive to substitute or conserve. To producers, higher prices give greater incentive to produce.

4. **The correct answer is (C).** Comparative advantage is based upon a country's or an individual's opportunity costs. The producer that has a lower opportunity cost of producing a good is said to have the comparative advantage in producing that good.

5. **The correct answer is (A).** (A), (B), (C), and (D) are production possibilities for this economy. (A), (B), and (C) are on the production possibilities frontier and thus the economy is operating efficiently at full employment. (D) is possible even though the economy will be operating inefficiently and therefore some resources will not be employed.

6. **The correct answer is (B).** The opportunity cost of a good is the tradeoff between the two goods the producer faces. As Nancy reallocates her time between producing goods, she forgoes producing units of one good to produce the other. Therefore, the cost to Nancy of producing one bottle of perfume is 3/4 of a yard of cloth.

7. **The correct answer is (D).** Comparative advantage is determined for each producer by determining their opportunity costs and comparing the opportunity costs among producers. Nancy has the least opportunity cost in cloth and therefore Nancy has the comparative advantage in cloth. Absolute advantage is determined by comparing the total maximum amounts that can be produced. Roger can produce perfume faster than Nancy and therefore Roger has the absolute advantage in perfume.

8. **The correct answer is (B).** Specializing according to comparative advantage (least opportunity cost) and trading for the other good allows greater consumption for each. Therefore, Nancy should specialize in cloth production and Roger in perfume production.

9. **The correct answer is (D).** The price of complements and substitutes, income, tastes and preferences and price expectations are all determinants of demand. The prices of inputs used to produce the good are a determinant of supply.

10. **The correct answer is (B).** At \$15, the quantity demanded is 400 and the quantity supplied is 700. At \$20, the quantity demanded equals the quantity supplied of 600. At \$25, the quantity supplied is 800 and the quantity demanded is 500.

11. **The correct answer is (A).** At \$25, the quantity supplied is greater than the quantity demanded so there is a surplus of 300.

12. **The correct answer is (A).** The quantity demanded is only affected by a price movement. A change in the price of a complement (bananas) to vanilla pudding would decrease the demand for vanilla pudding.

13. **The correct answer is (E).** An increase in income will increase the demand for normal goods and decrease the demand for inferior goods. Thus the good in this case is an inferior good.

14. **The correct answer is (A).** The quantity demanded is affected only by a price movement. The supply of rice would decrease as producers wait to sell at the higher price, and the demand for rice now would, in turn, rise.

15. **The correct answer is (E).** When the price of gold falls, we would expect you to increase your gold purchases and for you to produce more jewelry than before at each possible price.

16. **The correct answer is (B).** A decrease in buyers' incomes means a decrease in demand, while a reduction in input prices means a decrease in supply. Therefore, the equilibrium price would decrease, but the impact on the amount sold in the market would be ambiguous depending upon the amounts of the decreases and the elasticities of supply and demand.

17. **The correct answer is (A).** A decrease in demand paired with an increase in supply leads to a lower price with an ambiguous quantity change which depends upon elasticities and the degree to which demand is weaker and supply stronger.

18. **The correct answer is (E).** A price ceiling is a government-imposed legal maximum price at which the quantity demanded is greater than the quantity supplied.

19. **The correct answer is (B).** A binding price ceiling ensures that the equilibrium price is unavailable to the market. In panel (a), the price ceiling does not prevent the price from reaching equilibrium. In panel (b), the price ceiling results in a quantity demanded greater than the quantity supplied.

20. **The correct answer is (B).** Rent control is a government-imposed maximum price on housing. Rent control results in a shortage of housing in the short run as well as a significant decrease in the quality of housing in the long term. Look in a question like this for economic instead of moral judgments. "Price ceiling" and "efficient" are economic terms, although "efficient" is used, in (E), to form a moral judgment. The testmaker will not ask you to pronounce moral judgments, so you can safely eliminate every possibility that mentions "social problems" or "inequality."

21. **The correct answer is (A).** The price that buyers will pay, $8.00, is derived from the demand curve at the quantity bought and sold when the tax is imposed (50 units).

22. **The correct answer is (A).** The price prior to the imposition of the tax was $6.00 and the price that producers will receive after the tax is $5.00. Therefore, the producers will pay $1.00 of the tax.

23. **The correct answer is (A).** A consumer's willingness to trade or the ratio of additional satisfaction (marginal utility) the consumer receives from consuming goods is called the marginal rate of substitution.

24. **The correct answer is (E).** The more an individual has of a good, the less additional satisfaction the consumer will receive. Therefore, the amount of a good that the consumer has affects the rate at which the consumer is willing to trade.

25. **The correct answer is (A).** Utility measures satisfaction. When a consumer buys and consumes a bundle of goods, they receive satisfaction or utility.

26. **The correct answer is (C).** Consumers are willing to spend their income on goods that are priced within or at the maximum level of their budget while taking into account their tastes and preferences.

27. **The correct answer is (A).** Marginal utility is the additional satisfaction gained from consuming an additional unit of the good. If the price rises, then the additional satisfaction must be higher. Otherwise, the consumer will not purchase the good at the higher price.

28. **The correct answer is (B).** To maximize utility Robert will set the additional utility per dollar of wine equal to the additional utility per dollar of quiche. That is, he will set the marginal utility of wine divided by the price of wine equal to marginal utility of quiche divided by the price of quiche.

29. **The correct answer is (A).** If the additional utility from consuming an additional unit of a good is negative, then less satisfaction is attained. Consumption of another unit of the good is detrimental to Juan.

30. **The correct answer is (D).** By increasing wheat consumption, the additional utility (marginal utility) will diminish until it equals the price, which is the point at which Tom will maximize utility.

31. **The correct answer is (E).** The most important determinant of elasticity is the number of substitutes. The more substitutes, the more elastic the demand curve. As there are many, many flavors of ice cream, and because other flavors of ice cream are almost perfect substitutes, the demand curve for Chocolate Chip ice cream is highly elastic.

32. **The correct answer is (D).** The midpoint formula is $[(Q_2 - Q_1)/Q_1]/2$ divided by $[(P_2 - P_1)/P_1]/2$. Therefore, the correct answer is –11/17.

33. **The correct answer is (E).** Profit is defined as total revenue minus total cost. Profit is a total concept and thus marginal (meaning additional) and average cannot be used to evaluate it.

34. **The correct answer is (C).** Total revenue is 275 units times $95, which equals $26,125.

35. **The correct answer is (D).** Each of the answers above is an explicit cost (money was paid for the service) except the opportunity cost of financial capital that has been invested in the business (an implicit cost).

36. **The correct answer is (B).** Only total fixed costs do not vary with output. Average fixed cost is defined as total fixed cost divided by output.

37. **The correct answer is (A).** Variable cost varies with output and thus is zero when output is zero. All of the other answers include fixed costs that are always greater than zero.

38. **The correct answer is (B).** The size of the factory is fixed in the short-run analysis but in the long run, all inputs (and thus costs) are allowed to vary.

39. **The correct answer is (C).** When the additional costs are greater than the average costs, average costs must be rising.

40. **The correct answer is (A).** In the long run, all inputs are considered to be variable. Factory size, plant and machinery may all be sold or purchased in the long run.

41. **The correct answer is (E).** In an economy of scale, businesses can reduce long-run average total costs if they increase the factory size and other fixed inputs (and therefore increase output).

42. **The correct answer is (D).** Diminishing returns begin when the marginal (additional) production due to an additional amount of labor decreases. When the per worker productivity begins to fall, the firm has diminishing returns to labor.

43. **The correct answer is (D).** Opportunity cost is equal to the implicit cost ($250) plus the explicit cost ($130) or $380.

44. **The correct answer is (C).** Accounting profit equals total revenue minus explicit costs or 170.

45. **The correct answer is (A).** Economic equals is total revenue minus opportunity costs (explicit costs and implicit costs) or $–80.

46. **The correct answer is (B).** Marginal product is the change in output generated from another unit of labor or an increase in output obtained from a one-unit increase in labor.

47. **The correct answer is (C).** In a perfectly competitive market, there are so many buyers and sellers that by definition they have a negligible impact on the market price.

48. **The correct answer is (D).** A profit maximizing firm always chooses the level of output such that marginal revenue equals marginal cost. In the perfectly competitive case, marginal revenue is constant at 9, so the firm will produce where marginal cost equals 9.

49. **The correct answer is (C).** The price taker sets the price equal to marginal cost. Thus, the portion of the marginal cost curve above the average variable cost curve is the supply curve for the price taker. Below average variable cost, the supply curve is zero.

50. **The correct answer is (B).** For zero economic profits, $P = MR = MC_2$ at minimum ATC.

51. **The correct answer is (E).** In a perfectly competitive market, the price is equal to average revenue is equal to marginal revenue. The price is perfectly elastic and does not change regardless of output and thus is equal to $10.

52. **The correct answer is (A).** Meatball prices will exceed marginal cost. The monopolist uses the market demand (or price) curve as the demand curve and thus the marginal revenue curve is also downward sloping and less than the price (curve). A profit maximizer, the monopolist sets marginal revenue equal to marginal cost that is less than the price.

53. **The correct answer is (A).** The most important way for monopolies to maintain their monopoly power is barriers to entry.

54. **The correct answer is (B).** Monopolies are only constrained by demand. As long as a consumer wishes to buy the product, the firm will produce more of it. An increase in demand may increase the price, but the firm will increase production to meet the higher demand.

55. **The correct answer is (A).** Monopolies, like all other firms, maximize profits by setting marginal revenue equal to marginal cost.

56. **The correct answer is (B).** Total revenue is $160 and total cost is $60. Therefore, profit is equal to $100.

57. **The correct answer is (B).** Economic inefficiency results from the monopolist charging a higher price and producing less than the socially efficient equilibrium of perfect competition. The deadweight loss to society measures this economic inefficiency.

58. **The correct answer is (C).** Total revenue is 120 at 6 units and marginal revenue decreases total revenue by 8 to produce 8 units. Total revenue, then, is 112.

59. **The correct answer is (C).** Total revenue is price multiplied by quantity at the output where marginal revenue equals marginal cost, or $P_3 \times Q_2$.

60. **The correct answer is (A).** Perfectly competitive firms produce a homogeneous product (exactly the same) whereas monopolistically competitive firms offer a somewhat differentiated product. Advertising is then used to convince consumers that the monopolist's product is the only one worth buying (and thus that it has a monopoly on the production of the good).

61. **The correct answer is (E).** Firms are not attracted to any market unless some firms in the market are making economic profits. In monopolistically competitive markets, firms often make economic profits by convincing consumers that their products are special and one of a kind. This enables them to charge higher prices.

62. **The correct answer is (A).** Panel (a) shows a monopolistically competitive firm that produces the profit maximizing output (where marginal revenue equals marginal cost) at which the price equals average total cost. Another way of seeing this is geometrically: the price times quantity (total revenue) exactly equals the average total cost multiplied by quantity (total cost) in panel (a) only.

63. **The correct answer is (D).** The socially efficient production occurs at the output where price equals marginal cost. Monopolistically competitive firms price above the point where marginal revenue equals marginal cost by differentiating their product, and thus creating an economic inefficiency.

64. **The correct answer is (A).** The monopoly price and quantity provide the greatest economic profit. Therefore, if as a group the oligopolists can act collectively as a single monopolist, they will gain the greatest economic benefit.

65. **The correct answer is (C).** As marginal cost is zero, the firm should maximize revenue to maximize profit. The revenue maximum is $540,000 with 9,000 subscriptions at a price of $60 each.

66. **The correct answer is (E).** A cartel is by definition a group of firms that act in unison as a monopolist to maximize collective profits.

67. **The correct answer is (C).** The demand for labor is derived from the amount of output the firm produces. More production requires more labor; more labor requires more production.

68. **The correct answer is (A).** Wages and fringe benefits comprise approximately three-fourths of all income in the United States.

69. **The correct answer is (E).** Firms maximize profit when the value of the marginal product curve (which is the price of output times the productivity of a worker) and the wage curves intersect. Another way to state this is that when the worker's productivity is equal to the real wage, the worker is paid.

70. **The correct answer is (C).** A key determinant of productivity is the amount of human capital workers acquire through education and training. Physical capital, natural resources and technology are other key determinants of productivity.

71. **The correct answer is (A).** The wage is a perfectly elastic curve at $500. A profit maximizing firm hires labor as long as the value of the marginal product of labor is greater than or equal to the wage rate.

72. **The correct answer is (C).** The value of the marginal product is greater than the wage rate for 3 workers. The value of the fourth worker's productivity is only $400.

73. **The correct answer is (D).** Buyers and sellers neglect the external effects of their actions that impact society. Therefore, market equilibrium is not efficient. By internalizing the externality, which makes the external effects of the actions of buyers and sellers part of the market equilibrium, efficiency is restored.

74. **The correct answer is (E).** A bystander is not a market participant and therefore an impact on the well-being of a bystander is an externality or an external influence. The market does not include the bystander in the pricing considerations or provision of the good or service.

75. **The correct answer is (C).** Inefficiencies of production or consumption exist because the social costs exceed the private costs at the private market solution. The buyers and sellers have no incentive to take the external effects into account when making their transaction.

76. **The correct answer is (B).** If the externality is not internalized, the market will produce more than is socially optimal, the consumers will benefit from a lower price, and the producers will produce more steel than the socially optimal quantity.

77. **The correct answer is (A).** Private goods are those goods that are excludable and rival. Goods than are nonexcludable and nonrival are public goods (provided by the public or government). There is no incentive for offering a good that one cannot exclude another from using, or providing a good for which there is no rivalry in its use.

78. **The correct answer is (C).** The revenue the workers generate, or the value of their marginal product, equals the wage for perfectly competitive firms. This is another way to state that total revenue equals total cost.

79. **The correct answer is (E).** Public goods are nonexcludable, which means that all passing ships are able to enjoy the benefits of the lighthouse without paying.

80. **The correct answer is (C).** The poverty line is set at a level that reflects an annual income of approximately three times the cost of providing an adequate diet.