

**Multiple Choice: on a scantron mark the single best answer (*two points each*). Part B Diagrams: Draw the diagram relevant to the problem (*two points each, unless specified otherwise*). 160 points.**

1. The following are four differences between monopoly and perfect competition. Which of these is *incorrect*?
  - A) A monopolist has market power while a perfect competitor does not.
  - B) Monopoly profits can continue to exist in the long run, because the monopoly produces more and charges a higher price than a comparable perfectly competitive industry.
  - C) A monopoly will charge a higher price and produce a smaller quantity than a competitive market with the same demand and cost structure.
  - D) Unlike a perfectly competitive firm, a monopoly can make positive economic profits in the long run.
  
2. Mr. Porter sells 10 bottles of champagne per week at a price of \$50 per bottle. He can sell 11 bottles per week if he lowers the price to \$45 per bottle. The quantity and the price effects on total revenue would be, respectively:
  - A) an increase of \$450 and a decrease of \$500.
  - B) an increase of \$495 and a decrease of \$550.
  - C) an increase of \$45 and a decrease of \$50.
  - D) an increase of 1 bottle and a decrease of \$5.
  
3. A natural monopoly is one that:
  - A) has economies of scale over the entire relevant range of output.
  - B) is based on control of something occurring in nature (such as diamonds).
  - C) monopolizes a natural resource such as a mineral spring.
  - D) typically has low fixed costs, making it easy and “natural” for it to shut out competitors.
  
4. One government policy for dealing with a natural monopoly is to:
  - A) impose a price floor to eliminate the deadweight loss.
  - B) impose a price ceiling to eliminate any economic profit.
  - C) break it up into smaller firms.
  - D) do all of the above.
  
5. If a monopolist can engage in perfect price discrimination, then:
  - A) it produces at the socially efficient level.
  - B) consumer surplus is reduced to zero.
  - C) each consumer is charged the highest price that he or she is willing to pay.
  - D) all of the above are true.

6. In a perfectly competitive industry, a binding price ceiling will \_\_\_\_\_, but in a monopolistic industry, a price ceiling will \_\_\_\_\_ as long as it remains above marginal cost.
- reduce quantity-supplied and the deadweight loss; increase quantity and the deadweight loss.
  - increase quantity-supplied and create a deadweight loss; increase quantity and reduce deadweight loss.
  - reduce quantity-supplied and create a deadweight loss; reduce quantity and the deadweight loss.
  - reduce quantity-supplied and create a deadweight loss; increase quantity and reduce deadweight loss.
7. Suppose a monopoly can separate its customers into two groups. If the monopoly practices price discrimination, it will charge the lower price to the group with:
- the higher price elasticity of demand.
  - the lower price elasticity of demand.
  - the fewer close substitutes.
  - The answer cannot be determined with the information given.
- 7(b). Assuming marginal cost is constant, draw graphs showing price discrimination for the two groups, and the profit-maximizing price and quantity for each. (4 points)
8. In the classic prisoners' dilemma with two accomplices in crime, the Nash Equilibrium is for:
- both individuals to not confess.
  - both individuals to confess.
  - one to confess and the other not confess.
  - This game does not have a Nash Equilibrium.
- 8(b). Create a payoff matrix for prisoners X and Y, using only payoffs of 0, -1, -2, and -3. (4 points)
9. If there are two gas stations in the town of Gerlach, then the gasoline industry in Gerlach is probably best characterized as:
- monopolistic competitive.
  - monopolistic.
  - oligopolistic.
  - Perfect competitive.
10. If Bruno's Gas and Frank's Fuel are the only two firms providing gasoline in Gerlach, and they decide to form a cartel to raise the price of gasoline. The total industry profits are highest when \_\_\_\_\_, and Bruno's profits are highest when \_\_\_\_\_.
- Neither firm cheats on the agreement; neither firm cheats on the agreement
  - Neither firm cheats on the agreement; Bruno cheats on the agreement and Frank does not cheat
  - both firms cheat on the agreement; Bruno cheats on the agreement and Frank does not cheat
  - both firms cheat on the agreement; both firms cheat on the agreement
11. Bruno summarizes his pricing strategy as: "I'll do to Frank what Frank did to me last time." This is an example of:
- a tit-for-tat strategy.
  - a dominant strategy.
  - an irrational strategy.
  - a Cournot strategy.

12. Toby operates a small deli downtown. The deli industry is monopolistically competitive. If some delis leave the industry, Toby's \_\_\_\_\_ curve will shift \_\_\_\_\_.
- marginal cost; left
  - marginal cost; right
  - demand; left
  - demand; right
13. Suppose a monopolistically competitive firm is in long-run equilibrium. Then: 13(b) Show the Demand, MR, MC, and ATC curves for this firm. (4 points)
- price equals marginal revenue.
  - price equals marginal cost.
  - price is greater than average total cost.
  - all of the above are true.
  - none of the above are true.
14. The restaurant industry is characterized by excess capacity. This means:
- restaurants are producing more than their profit-maximizing level.
  - the profit-maximizing level is less than the level that minimizes average total costs.
  - the restaurants are producing less than their profit-maximizing level.
  - the quantity of restaurant meals supplied exceeds the quantity of restaurant meals demanded.
15. The broccoli market is perfectly competitive. This means that the price of broccoli is \_\_\_\_\_ than the price would be if the market was monopolistically competitive, and broccoli output is \_\_\_\_\_ than if it was monopolistically competitive.
- lower; greater
  - lower; less
  - greater; less
  - greater; greater
16. Monopolistic competitors often hire a celebrity spokesperson to advertise their product. One explanation for why such advertising works is that:
- celebrities are better informed about the relative merits of different products than the rest of us.
  - consumers assume that the celebrity has researched the product and that the claims being made on his or her behalf are true.
  - the fact that a firm is willing to pay the large fees associated with celebrity advertising signals consumers that it is a major company, and that it is therefore likely to have a reliable product.
  - None of the above
17. Lower wages in China reflect \_\_\_\_\_ labor productivity in China. If the United States has a comparative advantage in high-tech industries, then if these industries moved to China, their average total production costs would be \_\_\_\_\_ in China than in the United States.
- lower; higher
  - lower; lower
  - higher; higher
  - higher; lower
18. Suppose that wages were so much lower in China than in the United States, that China could produce everything more cheaply. Thus, unless China's government intervened in China's foreign exchange market, we would expect:
- China's currency would appreciate, but the U.S. price of Chinese goods would be unchanged.
  - China's currency would depreciate, and Chinese goods would become cheaper.
  - China's currency would appreciate, and Chinese goods would become cheaper in the U.S.
  - China's currency would appreciate, and Chinese goods would become more expensive in the U.S.

19. In a single growing season, the country of Pastoral can raise 100 tons of beef or produce 900 bushels of wheat. In the same growing season, the country of Bucolic can raise 50 tons of beef or produce 800 bushels of wheat. We then know that:
- Pastoral has the comparative advantage in raising beef.
  - Pastoral has the comparative advantage in growing wheat.
  - Bucolic has the comparative advantage in raising beef.
  - Bucolic has the absolute advantage in raising beef.
- 19(b). Draw PPFs for the countries of Pastoral and Bucolic, with wheat on the horizontal axes. Find the slopes, and show the production points where each specializes according to its comparative advantage. (4 points)
20. If the United States placed larger tariffs on all textiles, then:
- producer surplus would increase.
  - consumer surplus would decrease.
  - Total surplus would decrease.
  - all of the above are true.
21. Suppose that an individual is risk-averse. If this individual's utility function is depicted in a graph, with income measured on the horizontal axis and "utils" on the vertical axis, the graph would be:
- an upward-sloping straight line through the origin.
  - an upward-sloping curve with a steadily decreasing slope (i.e., a curve that is concave from below).
  - an upward-sloping curve with a steadily increasing slope (i.e., a curve that is convex from below).
  - an upward-sloping straight line with a positive vertical intercept.
- 21(b) Graph this utility function.
22. Risk-averse individuals are willing to pay a premium that is \_\_\_\_\_ their expected claims.
- less than
  - equal to
  - greater than
  - the inverse of
23. An individual is considering buying shares in two different companies, A and B. For every \$1,000 he invests in A, there is a 40% probability that his investment will be worth only \$800 and a 60% probability that it will be worth \$1,200. The corresponding risk for investment in B is identical but independent. The probability that he will make a loss (i.e., that his investment will be worth less than \$1,000) is \_\_\_\_\_ if he invests \$2,000 in either A or B, and is \_\_\_\_\_ if he invests \$1000 each in A and in B.
- 40%; 40%
  - 40%; 16%
  - 80%; 20%
  - 40%; 80%



30. In the absence of government action, polluters will pollute up to the point at which the marginal social benefit of pollution is:
- equal to the marginal social cost of pollution.
  - zero.
  - maximized.
  - greater than the marginal social cost of pollution.
31. There are two plants (*A* and *B*) in an industry. To reduce pollution, the government has imposed environmental standards forcing each plant to cut emissions by 60%. At the emissions standard, the marginal social benefit of pollution for Plant *A* is \$500 and the marginal social benefit of pollution for Plant *B* is \$125. The same level of pollution can be achieved at a lower cost by:
- forcing Plant *A* to reduce emissions and allowing Plant *B* to increase emissions.
  - allowing both plants to pollute more.
  - forcing both plants to reduce emissions.
  - allowing Plant *A* to pollute more and Plant *B* to pollute less.
32. Which of the following statements about environmental standards and emissions taxes is correct?
- An emissions tax is a more efficient way to reduce pollution than an environmental standard, because an emissions tax leads to an equalization of the marginal benefit of pollution from all sources.
  - An environmental standard is a more efficient way to reduce pollution than an emissions tax, because an environmental standard can be structured to lead to an equalization of the reduction in pollution from all sources.
  - If an emissions tax and environmental standards lead to the same total reduction in pollution, then they will also lead to the same reduction in pollution by individual polluters.
  - It is easy to set emissions taxes at the “correct” level, since the relationship between emissions taxes and the reduction in emissions that they will induce has been extensively studied and is well-known.
33. When an activity like education generates a positive externality, the:
- marginal cost of production is below the market demand curve.
  - market demand curve is above the marginal social benefit curve.
  - market demand curve is below the marginal social benefit curve.
  - market will produce more than the efficient level of output.
34. If left totally to the free market, the amount of police protection provided in a city would be \_\_\_\_\_ than it is now, and free-riders would pay \_\_\_\_\_ for police protection.
- |                         |                  |
|-------------------------|------------------|
| A) less; a higher price | C) more; more    |
| B) less; nothing        | D) more; nothing |
35. Common resources tend to be overused because:
- individuals tend to ignore the cost their use of the resource has on others.
  - the individual marginal cost is greater than the marginal social cost.
  - common resources are nonrivalrous and nonexcludable.
  - property rights are well defined and enforceable.
  - the marginal cost of allowing one more unit of consumption is zero.
36. A good is most likely to be artificially scarce if:
- it is nonexcludable and nonrivalrous.
  - the seller is a monopolist.
  - it is nonexcludable but rivalrous.
  - it is excludable but nonrivalrous.
37. The problem created by artificially scarce goods is similar to that of:
- externalities.
  - an oligopoly.
  - a natural monopoly.
  - Price discrimination.

38. A tax system achieves “tax efficiency” when:
- A) the people who bear the burden of taxes are those who use the service.
  - B) it minimizes the costs to the economy of tax collection.
  - C) Those with higher incomes pay a higher tax rate.
  - D) Those with higher incomes pay more taxes, but at a lower tax rate.
  - D) Both b and c
39. A lump-sum tax, such as the fee for a driver's license, does not take into consideration:
- A) efficiency.
  - B) the benefits principle.
  - C) the ability-to-pay principle.
  - D) the tax base.
40. In 2004, the Social Security tax was only levied on incomes up to \$87,900. Which of the following statements about this tax is correct?
- A) A worker with an annual income of \$200,000 and one with an annual income of \$100,000 would pay the same dollar amount of payroll tax.
  - B) A worker with an annual income of \$50,000 and one with an annual income of \$100,000 would pay the same dollar amount of payroll tax.
  - C) The top 20% of income earners earned over 50% of total U.S. incomes in 2001, and they paid approximately 60% of the total payroll taxes collected that year.
  - D) The percentage of income paid in payroll taxes would be the same for a worker with an annual income of \$50,000 and a worker with an annual income of \$100,000.
41. An efficient way to finance the provision of city services (such as street cleaning) would be to charge all city residents a lump-sum tax. Such a tax would be:
- A) progressive.
  - B) regressive.
  - C) proportional.
  - D) This question can't be answered without knowing the amount of the tax.
42. U.S. federal taxes income are generally \_\_\_\_\_ and state and local taxes are generally \_\_\_\_\_.
- A) progressive; progressive
  - B) regressive; progressive
  - C) progressive; regressive
  - D) regressive; regressive
43. From 1960 to 2003, federal spending as a percentage of GDP:
- A) doubled.
  - B) tripled.
  - C) decreased.
  - D) remained about the same.
44. Compared to the seven largest economies in the world, U.S. government spending as a percentage of GDP in 2002 was:
- A) the largest of the seven countries.
  - B) the smallest of the seven countries.
  - C) the second largest of the seven countries.
  - D) the third smallest of the seven countries.
45. The characteristic cost structure of information goods involves \_\_\_\_\_ and \_\_\_\_\_.
- A) High fixed cost; low marginal cost
  - B) Low fixed cost; high average total cost
  - C) High fixed cost; low average total cost
  - D) Low fixed cost; high marginal cost

46. The economic argument for patent protection of life-saving drugs is that:
- government intervention may be necessary to enforce superior standards.
  - monopolization should always and everywhere be prevented.
  - a temporary monopoly provides an incentive that encourages research and innovation.
  - Most new inventions are actually public goods.
47. Network externalities exist when the value to the consumer of a good rises as the number of people who use the good:
- increases.
  - decreases.
  - remains constant.
  - None of the above.
48. When VCRs were first produced, two different systems were available: VHS and Betamax. VHS eventually dominated and Betamax disappeared. This was because:
- VHS was unambiguously the better system.
  - consumers chose VHS because most of the videocassettes available for rental were VHS.
  - consumers chose VHS because the majority of other consumers were choosing VHS.
  - Both b and c.
49. The United States lags behind Europe in cell-phone technology because:
- Europe subsidized cell-phone research and the United States did not.
  - Europe adopted a common standard for digital-cellular phones and the United States did not.
  - the United States allowed no imports of cell phones.
  - the United States heavily taxes producers of cell phones.
50. Which of the following will not cause a change in demand?
- Change in income.
  - Change in the number of buyers.
  - Change in the good's own price.
  - Change in the price of related goods, such as complements and substitutes.
  - Change in expectations of future prices.

For 51-52, suppose the government imposes a tax on a specific type of market transaction, such as the sale of an automobile.

51. Buyers will pay relatively less of the tax if:      51(b) Show the effects of this tax on the market.
- a sales tax is charged to the seller, instead of to the buyer.
  - both supply and demand are more elastic.
  - both supply and demand are less elastic.
  - demand is relatively more elastic than supply.
  - supply is relatively more elastic than demand.
52. The deadweight loss from the tax will:
- rise proportionately with the tax.
  - rise more than proportionately with the tax.
  - rise with the tax, but at a decreasing rate.
  - rise to a maximum, and then fall as the tax keeps rising.
53. If government wants to maximize the revenue from a tax, it should levy taxes on products where demand is:
- unit elastic
  - downward-sloping
  - elastic
  - inelastic

54. If two goods are substitutes and the price of one good decreases, then the demand for the other will
- A) decrease.
  - B) increase.
  - C) not be affected.
  - D) not change, but quantity-demanded will fall.
  - E) not change, but quantity-demanded will rise.
- 54(b) Show this change in demand.

For questions 55 and 56, consider the market for legal pharmaceutical drugs in a large city. Assume that these prescribed drugs are normal goods and the price elasticity of demand for drugs is 1.20.

55. Suppose the wage for pharmacists' labor goes up. The equilibrium price is expected to \_\_\_\_\_, the equilibrium quantity is expected to \_\_\_\_\_, and total consumer expenditures on drugs are expected to \_\_\_\_\_.
- A) increase; decrease; decrease
  - B) increase; decrease; increase
  - C) decrease; decrease; decrease
  - D) decrease; increase; increase

56. Suppose instead that consumer income rises. The equilibrium price is expected to \_\_\_\_\_, the equilibrium quantity is expected to \_\_\_\_\_, and total consumer expenditures on drugs are expected to \_\_\_\_\_.
- A) increase; decrease; decrease
  - B) increase; decrease; increase
  - C) increase; increase; increase
  - D) decrease; decrease; decrease

56(b). Use a supply and demand diagram to show how the market is affected above if pharmacists' wages rise and consumer income rises simultaneously (*4 points*).

57. In a perfectly competitive economy, which is *not* true?
- A) All producers of any particular homogenous good would sell them at the same price, and this price would be equal to their marginal costs.
  - B) The marginal utility per dollar would be equal for all goods, for all consumers.
  - C) Wages for a particular type of labor would be equal for all workers, and this wage would equal to the value of their marginal products.
  - D) Anyone able to perform a particular job and willing to work at the market wage rate would be employed.
  - E) The marginal rate of substitution would be equal to the relative marginal products of labor and capital.
58. Austin's firm has a total fixed cost is \$3,600, he employs 20 workers, and pays each worker \$60. The average product of labor is 30, and the marginal product of the 20<sup>th</sup> worker is 20. What is the marginal cost of the last unit produced by the last worker Austin hired?
- A) \$60
  - B) \$3
  - C) \$20
  - D) \$2

59. Consider a perfectly competitive firm in the short run. Assume that it is sustaining economic losses but continues to produce. At the profit-maximizing (loss-minimizing) output, all of the following statements are correct *except*:
- A) price is equal to marginal cost.
  - B) marginal cost is less than average total cost.
  - C) marginal cost is less than average variable cost.
  - D) marginal cost is equal to marginal revenue.
60. A competitive firm operating in the short run is maximizing profits and just breaking even. Its costs include a monthly license fee of \$150 that is imposed by the state and must be paid for as long as the firm is in existence. The license fee is now reduced to \$100. In the short run, the profit-maximizing firm should:
- A) not change output.
  - B) increase price.
  - C) increase output.
  - D) reduce output.
61. Joseph consumes pizza and soda. He is currently consuming four units of pizza and two units of soda. The price of pizza is \$3 and the price of soda is \$1. If he is consuming the optimal consumption bundle and his marginal utility of pizza is 60, then his marginal utility of soda is:
- A) 10.
  - B) 20.
  - C) 30.
  - D) 60.
62. Karen consumes gasoline and other goods. A new excise tax on gasoline raises gas prices. However, the government pays Karen an income subsidy which is just enough for her to stay on her original (pre-tax) indifference curve. Her new optimal consumption bundle will:
- A) be more inefficient because there it is well known that gasoline consumption has a significant negative externality.
  - B) have less of other goods and more gas.
  - C) have the same amount of both goods as before.
  - D) have less gas and more of other goods.
  - E) This question can't be answered, since some essential information (such as Karen's income, the pre- and post-tax prices of gas, etc.) is missing.
63. Basic research meets the conditions for:
- A) a private good because open communication is essential.
  - B) a common resource because everyone benefits from it.
  - C) a pure public good because it is nonrivalrous in consumption and its benefits are nonexcludable.
  - D) an artificially scarce good because those who don't pay for it can't use it.
64. In a perfectly efficient free market economy, which is *not* true?
- A) All buyers and sellers in all markets are price takers, and goods are homogeneous.
  - B) All buyers and sellers in all markets have perfect information about the goods and services they are buying or selling.
  - C) The benefits of all transactions go only to buyers, and all long-run costs are paid for by the sellers or producers.
  - D) The distribution of income is determined by the distribution of resource ownership and the market prices for those resources, so that if ownership of higher-valued capital, labor, and other resources is unfairly distributed, income will also be unfairly distributed.
  - E) The net surplus value of current market goods is maximized at the expense of non-market goods such as the environment, especially in the long run.

**BONUS:** Write a brief summary of only one of the following four chapters in *The Economics of Public Issues*, by Miller, Benjamin, and North. Be sure to explain its key economic point(s) and its primary example(s). What class material or economic theory does this relate to?

Ch. 14: Heavenly Highway

Ch. 16: Contracts, Combinations, and Conspiracies

Ch. 26: Bye, Bye Bison

Ch. 28: Greenhouse Economics