Chapter 10 Practice Problems

Multiple Choice Questions

1) If the production of a good results in a positive externality, the government might be able to improve economic efficiency in this market by

   a) Eliminating private production of the good
   b) Imposing a tax on private producers
   c) Promoting the export of the surplus output
   d) Initiating antitrust action
   e) Granting a subsidy to private producers

2) There are negative externalities associated with the use of a freeway in a major city at rush hour because during this time

   a) Drivers slow down other drivers because the high traffic volume
   b) Drivers value their time more
   c) Government revenues from toll roads increase
   d) Revenues of bus companies increase
   e) Gasoline costs more

3) Which of the following is true of the marginal cost of providing a pure public good to one more consumer?

   a) It is positive.
   b) It is equal to zero.
   c) It is equal to the original cost of the good.
   d) It decreases as the number of consumers increases.
   e) It increases as the number of consumers increases.

4) Which of the following is the best example of a negative externality?

   a) An increase in the price of oil due to the imposition of environmental regulations
   b) An increase in the price of oil due to action taken by the Organization of Petroleum Exporting Countries (OPEC)
   c) A decline in oil stock prices as a result of bad management
   d) Oil leakages from drilling platforms in the Gulf of Mexico
   e) Declining restrictions on the importation of foreign-made cars
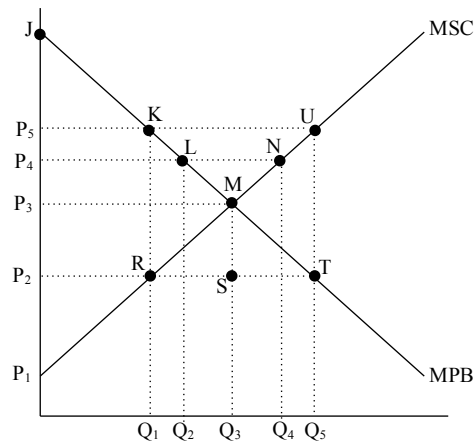

5) Private supply of public goods is most likely to result in

   a) Less than the efficient level of output, due to the free-rider problem
   b) Less than the efficient level of output, due to the problem of insufficient competition
   c) More than the efficient level of output, due to lower costs of private firms
   d) More than the efficient level of output, due to the existence of externalities
   e) An overuse of these goods

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6) Characteristics of a pure public good include which of the following?

   I.   Nonpaying consumers cannot be excluded from consuming the good.
  II.   Consumption by any one person does not reduce the availability of the good to others.
 III.   The amount consumed depends on the price paid.

   a) I only
   b) II only
   c) III only
   d) I and II only
   e) II and III only

7) The surgeon general has determined that smoking causes cancer and heart disease for both smokers and passive smokers, nonsmokers who breathe smoke-filled air. If cigarette prices are determined in a free market, which of the following will be true?

   a) The price of cigarettes will be too low and the quantity sold will be too high.
   b) The price of cigarettes will be efficient but the quantity sold will be too high.
   c) The market will be efficient because markets always equate marginal benefits and marginal costs.
   d) The price of cigarettes will reflect the marginal social benefit received by nonsmokers.
   e) The price of cigarettes will overstate the true social cost imposed on nonsmokers.

8) An increase in the marginal social benefit of consuming a public good should result in

   a) a decrease in public production of the good
   b) an increase in the optimal quantity of the good
   c) a decrease in the optimal quantity of the good
   d) a decrease in the social costs associated with producing the good
   e) a decrease in the social costs associated with consuming the good

9) An industry will produce more than the socially efficient level of output under which of the following conditions?

   a) The production or consumption of a good generates a positive externality.
   b) The production or consumption of a good generates a negative externality.
   c) The industry is a monopoly.
   d) The industry produces a public good.
   e) The industry produces a private good.

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Free-Response Questions

1) The graph above shows the perfectly competitive market for flowers in Country Alpha. In the graph the letters correspond to points, not areas. MPB denotes the marginal private benefit and MSC denotes marginal social cost.

    a) Using the labeling on the graph, identify the area representing each of the following at the market equilibrium.

       i)   The consumer surplus
       ii) The producer surplus

    b) Assume that the production of flowers creates a positive externality equal to (P₅-P₂). Using the labeling on the graph, identify the socially optimal quantity.

    c) Assume that the government imposes a subsidy of (P₅-P₂) to correct for the negative externality. Using the labeling on the graph, identify the area representing each of the following.

       i)   The consumer surplus
       ii) The deadweight loss

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2) Suppose research shows that the more college education individuals receive, the more responsible citizens they become and the less likely they are to commit crimes.

   a) Draw a correctly labeled graph for the college education market and show each of the following.

      i) Private market equilibrium quantity and price of college education, labeled Q_M and P_M, respectively
      ii) Socially optimal quantity of education, labeled Q_S
      iii) Deadweight loss at the market equilibrium, completely shaded

   b) Assume that the government imposes an effective (binding) price ceiling on the price of college education.

      i) Show the price ceiling on your graph in part (a), labeling the price ceiling P_C.
      ii) Does this price ceiling increase, decrease, or have no impact on the deadweight loss in this industry? Explain.

   c) Assume that instead of the price ceiling, the government grants each student a subsidy (opposite of a tax; acts as a government incentive) for each unit of college education purchased. Will the new equilibrium quantity of college education purchased be greater than, less than, or equal to Q_M from part (a)?

3) Vaccinations for contagious diseases benefit the consumers as well as others in the community. Assume that vaccines are produced in a competitive market.

   a) Draw a correctly labeled graph of supply and demand, and

      i) label the market price P_M, and label the market output Q_M.
      ii) label the socially efficient level of output Q_S.
      iii) shade the area of the deadweight loss.

   b) Is marginal social cost greater than, less than, or equal to marginal social benefit at the market output?

   c) How will a tax on producers of the vaccines affect the deadweight loss that you identified in part (a) (iii)? Explain.