Fall, 2007   Environmental Economics   Phil Graves
1st Midterm, A   EC3545   U. of Colorado

1) The existence of "scarcity" implies that
    a) environmental goods, unlike ordinary goods, have no opportunity costs.
    b) poverty will always exist.
    c) more environmental goods can be produced only by giving up other goods.
    d) All of the above are true.
    e) only a) and c) are true.
2) If the demand and supply curves accurately represent the social marginal benefit and the
marginal social cost of production for a private good
    a) the equilibrium price and quantity exchanged will be efficient, but not necessarily
        equitable.
    b) the equilibrium price and quantity exchanged will be equitable, but not necessarily
        efficient.
    c) producing more than the equilibrium quantity can make society collectively better off,
        since there will still be positive marginal benefits at the equilibrium quantity.
    d) All of the above are true.
    e) only a) and c) are true.
3) A perfectly functioning market will result in an equilibrium price and quantity that
    a) maximizes consumer surplus in the long run when supply curves are flat.
    b) maximizes producer surplus in the long run when supply curves are flat.
    c) maximizes producer surplus in the long run when demand curves are flat.
    d) maximizes the sum of consumer and producer surplus in the short run.
    e) both a) and d) are true.
4) The goal of the economist is to have environmental goods produced by a society at levels that
    a) are politically popular.
    b) are set where marginal benefits to society exceed marginal costs to society by the
        largest amount..
    c) steadily decrease over time.
    d) are sustainable.
    e) none of the above.
5)Which, if any, of the following statements was argued to be true in class?
    a) Imports harm producers by less than they help consumers.
    b) Exports help consumers by more than they harm producers.
    c) International trade lowers wealth, hence results in lower environmental and labor
        standards.
    d) Imports harm workers producing those goods domestically, and that harm can often be
        larger, in dollar terms, than the consumer benefits from lower prices.
    e) Only a) and b) are true.

6) Benefit-cost analysis of environmental projects was argued to have certain properties. Which answer is most accurate?

     a) A properly conducted B-C analysis with a positive NPV yields an efficient project, and efficient projects are always desirable if they are also equitable.

     b) A properly conducted B-C analysis always produces an equitable project, though on efficiency grounds it may be undesirable.

     c) Discounting returns from environmental projects was argued to be faulty, inefficiently biasing decisions away from projects with large, but distant returns.

     d) Discounting returns from environmental projects was argued to be equitable, though perhaps not always efficient.

     e) None of the above are accurate.

7) Which of the following statements were argued in class to be true?

     a) At the economist's social optimum (when externalities are fully internalized), one would generally expect to have eliminated ongoing environmental damages.

     b) At the economist's optimal environmental quality, marginal benefits exceed marginal costs of clean-up by the maximum amount.

     c) Environmental trade-offs (costs and benefits) are inevitable, hence should be considered, from the perspective of efficiency, in environmental policy decisions.

     d) To obtain market demands for ordinary private goods, individual demands are added vertically.

     e) both a) and c) are true.

8) Environmental policy, like any policy, involves both efficiency and equity. Which of the following are *correct* statements about these concepts?

     a) Efficient actions have costs greater than benefits while equitable actions have benefits greater than costs.

     b) Equity has to do with whether benefits are greater than costs while efficiency has to do with how those benefits and costs are distributed among people.

     c) Policies can be inefficient yet be socially desirable on equity grounds.

     d) Engineers and economists use "efficiency" in the same way, as for example in energy efficiency ratings of heaters.

     e) Statements a) and c) are correct.

9) In class discussion of endangered species, for example elephants, which of the following was seen as the single most important reason for their disappearance?

     a) the greed of mankind in consuming the elephants to the point of extinction.

     b) the small size of the penalties against elephant poachers.

     c) the ineffectiveness of existing policies in lowering the value of ivory, hence reducing poaching.

     d) lack of effective property rights that would allow the growing scarcity value of the elephants to get reflected in use decisions.

     e) insufficient numbers of offspring and the large/older breeding size of elephants.

10) *Pure Public goods* are goods that:
   a) are provided by government, as for example a school lunch.
   b) have properties that result in over-provision by private markets.
   c) have the properties of being non-rivalrous and non-excludable.
   d) have the properties of being both rivalrous and excludable.
   e) Both b) and c) are required to accurately describe pure public goods.

11) Multinationals operating in developing countries were argued in class to:
   a) behave more like companies in their host country than in their origin country.
   b) behave more like companies in their origin country than in their host country.
   c) do great environmental harm in the poor countries they operate in.
   d) pay lower wages than those paid by domestic companies in poor countries.
   e) none of the above were argued to be true.

12) In class it was argued that air and water pollution, endangered species, rainforest destruction, the "freshman 10," cutting across the grass on C.U.'s campus, and so on are fundamentally similar. What is the feature that these problems have in common?
   a) mankind's greed is the common element.
   b) a negative externality is the common element.
   c) a missing market is the common element.
   d) immoral behavior is the common element.
   e) both b) and c) are correct.

13) A number of assertions were made in class about the impact of international trade on the concerns of students of environmental economics. Which of the following was asserted to be true of international trade?
   a) International trade increases wealth, but only for exporting nations.
   b) International trade increases wealth, but only for importing nations.
   c) International trade increases wealth, regardless of whether a nation imports or exports.
   d) Rich countries benefit from trade, while poor countries generally do not.
   e) none of the above were argued to be true in class.

14) Which of the following discount (interest) rates, when employed in environmental decision-making, is *most* likely to result in the extinction of endangered species?
   a) a high positive discount rate.
   b) a medium positive discount rate.
   c) a low positive discount rate.
   d) a zero discount rate.
   e) any of the above, depending on circumstances.

15) Coase, in the Theorem named after him, argued that, under certain circumstances:
   a) Assignment of property rights does not matter on equity grounds–the fair outcome will happen anyway.
   b) Assignment of property rights matters on efficiency grounds–the efficient outcome only occurs when the rights to environmental damage are assigned to the damaged party.
   c) It will be very difficult to infer environmental damages, because of free-riding.
   d) A higher B/C ratio project should be rejected in favor of a lower B/C project.
   e) Under certain perhaps restrictive assumptions, who is assigned the property rights in an environmental resource does not alter the efficiency of the outcome.

16) Which of the following are true?
   a) Because of the (unpriced) scarcity value of fish, there is too much fishing from each boat.
   b) Because of the (unpriced) scarcity value of fish, there are too many fishing boats.
   c) Because of the (unpriced) scarcity value of fish, fishing is less profitable than it would otherwise be in the short run.
   d) Because of the (unpriced) scarcity value of fish, non-optimally low fishing rates occur.
   e) Only a) and b) are true.

17) Which of the following is a true statement regarding benefit-cost analysis?
   a) Benefit-cost analysis attempts to aggregate the preferences of each individual according to their dollar willingness-to-pay.
   b) Of two mutually-exclusive projects, Project A has a B/C ratio of 2, while Project B has a B/C ratio of 1.5. On efficiency grounds, Project A must always be preferred to Project B.
   c) Benefit-cost analysis can, on efficiency grounds, conclude that a project is inefficient, but that project could still be collectively viewed as making society better off.
   d) Only a) and c) are true.
   e) All of the above are true.

18) Economists take environmental problems as being synonymous with:
   a) faulty preferences for environmental goods versus ordinary goods.
   b) non-sustainability.
   c) the greed of mankind for goods involving pollution in their production externalities.
   d) negative externalities.
   e) both c) and d).

19) The novel argument that Graves discussed in class, and has been going around the country giving seminars on, regarding the valuation of public goods was that:

    a) It will be difficult to infer the value people place on public goods because they have an incentive to free ride in output markets, since they will get (or not) the good anyway.

    b) Dollars are philosophically inappropriate for use in benefit-cost analysis, since they are base/crass/inhumane, hence irrelevant to human welfare.

    c) The examination of the trade-offs between ordinary goods and environmental goods is appropriate in more situations than had been previously supposed.

    d) All benefits of providing public goods, not just a subset of them, should be incorporated in environmental standards.

    e) None of the above capture Graves' argument.

20) Which of the following is true about interest rates?

    a) The interest rate is the opportunity cost of future consumption in terms of foregone current consumption.

    b) Increases in the number of productive investment opportunities would result in lower interest rates.

    c) Increases in household saving rates would result in higher interest rates.

    d) Only b) and c) are true.

    e) All of a), b) and c) are false.

21) At a 10% interest rate, a dollar received in two years will be worth approximately what now?

    a) $1.21   d) $.91

    b) $1.10   e) $.83

    c) $1.00 exactly.

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23) Which, if any, of the following is true about *externalities*?

    a) externalities are uncompensated spillovers.

    b) externalities, without intervention, result in optimal levels of production.

    c) negative externalities result in under-production of the good in question.

    d) internalizing negative externalities will eliminate remaining environmental damage.

    e) All of the above are true.

24) We are trying to rank, in efficiency, two environmental projects:

    a) The one that pays back its cost most quickly should always be ranked highest.

    b) The one with present benefits most in excess of present costs should be ranked highest.

    c) Cost and benefits should not be considered in ranking environmental projects, unlike ordinary projects.

    d) The one with the highest benefit/cost ratio should ranked highest.

    e) All of the above are true.

25) The following projects are mutually exclusive, in that having any one precludes having the others. Given the information presented (PVC is "present value of costs" and NPV is "net present value"), which project would you prefer, on efficiency grounds?

     a) Project A   PVC = $1 million   NPV =   +$700,000
     b) Project B   PVC = $3 million   NPV =   +$300,000
     c) Project C   PVC = $4 million   NPV =   +$400,000
     d) Project D   PVC = $10 million NPV =   +$700,000
     e) Projects A and D above are the preferred projects and are equally good.

Version A (White):
1) C 2) A 3) E 4) E 5) A 6) A 7) C 8) C 9) D 10) C 11) B 12) E 13) C 14) A
15) E 16) E 17) D 18) D 19) E 20) E 21) E 22) A 23) A 24) B 25) E