Review Questions for Econ. 6535 Resource and Environmental Economics

Third Set

I. An Introduction to NR and Environmental Economics

Scarcity and limits to growth: To what extent does the finiteness of natural resources seriously limit long run growth?

1. Many people are concerned that long-run growth is limited by the fact that natural resource stocks are finite. Argue as effectively as you can that the market will mitigate natural resource scarcity such that growth will not be seriously limited. What assumptions form the basis of this conclusion. Now argue as effectively as you can that natural resource scarcity will severely limit long-run growth. What assumptions form the basis of this conclusion. You might want to utilize isoquant and isocost graphs in each answer.

Direct your two essays to an undergraduate econ major who has just completed intermediate micro theory

2. Argue that a change in the relative price of a natural resource is a good indicator of a change in the scarcity of that natural resource. Now argue that it is a bad indicator.

3. Define the term rent (resource royalty) within the context of nonrenewable natural resources. Does this concept of "rent" bear any relationship with the "rent" on a piece of land? Explain

4. Develop an economic argument that explains why there has historically been more recycling (particularly of buildings) in Europe than in the U.S. Does our tendency not to recycle imply that we are wasteful in the way we produce goods and services? As part of your answer, define wasteful production.

5. Individuals like Al Bartlett and models like those assumed in "Limits to Growth" reach the
conclusion that natural resource scarcity will lead to a sudden collapse of economic production. What assumptions would logically generate such a conclusion.

6. Assume that the price of a natural resource rises. Convince me that this will cause price rises in goods whose production is relatively intensive in the use of this natural resource. Reconcile your argument with the fact that the increase in the price of the natural resource will cause producers to substitute, if possible, away from this natural resource.

7. What, other than increased scarcity and/or increased market power, might explain the recent increases in the relative prices of some natural resources? Explain your answer.

8. What was Paul Elrich's critical mistake in his bet with Julian Simon?

9. Write a short essay (a page or two) discussing how one might measure the relevant stock of a specific natural resource. Assume that your sole audience is an undergraduate at C.U. who hasn't had any economics courses.

10. Define the following three concepts: state of technical progress, isoquants, and indifference curves. Use these three concepts in a discussion of the market's ability or inability to partially offset the impacts of increased scarcity.

11. Define the term rent (resource royalty) within the context of nonrenewable natural resources. In principles of microeconomics you learned that when a competitive firm is in competitive equilibrium its marginal cost of production equals the market price of the good it produces. For a competitive firm that extracts oil from a pool that it owns, in equilibrium will the marginal cost of extracting a barrel equal the market price of oil? Yes or No and explain.
12. Make sure you can define the following terms: production function, state of technical progress, technical efficiency, economic efficiency, isoquants, isocost curves, utility function, budget lines and indifference. Pick at least three of these terms and use them in a discussion of the market's ability or inability to partially offset the impacts of increased scarcity.