Do Not Turn This Page Over Until You Are So Instructed!

This exam has 50 points. There are eight questions on the exam. Most of the questions are worth 5 points, but the last two are each worth 10 points.

Put your answers to the exam in a blue book.

You have **two hours** (that is, until **3:00pm**) to take this test.

Answer the questions using as much precision and detail as the time allows. Correct answers which are unsupported by explanations will not be awarded points.

Answer all of the following eight questions.

 [5 points] An article in Wikipedia (http://en.wikipedia. org/wiki/Stern_report) says in part:

The Stern Review on the Economics of Climate Change is a 700-page report released on October 30, 2006 by economist Nicholas Stern for the British government, which discusses the effect of global warming on the world economy....

The report attracted both praise and criticism; the most consequential criticisms are related to the low discount rate used to tackle this very long-term issue and the treatment of adaptation of future generations to a new global climate.

Its main conclusion is that the benefits of strong, early action on climate change considerably outweigh the costs....

Speculate on the relationship between: (a) Stern's "low discount rate;" and (b) his conclusion that strong action should be taken to curb climate change.

- 2. [5 points] In class, we discussed several ways that past or present government policies in some countries have made biodiversity loss worse. Explain one such policy.
- 3. [5 points] Give an example of a successful international treaty limiting pollution. State specifics, such as what pollutant was limited, what countries were involved, the name of the treaty if you recall it, and what you think is responsible for its success.
- 4. [5 points] Your book states, "A form of market failure prevalent in many developing countries is the lack of clearly defined and secure tenure over renewable resources, such as forests, fisheries and arable land."
 - (a) What does this sentence mean, as relates to forests and arable land? ("Arable" means "able to support the growing of crops.) You do not have to discuss fisheries.

- (b) What consequences does this market failure have for forests and arable land? You do not have to discuss fisheries.
- 5. [5 points] An article in *Wikipedia* entitled "Entropy" (http://en.wikipedia.org/wiki/Entropy) begins:

Entropy is a measure of how organized or disorganized a system is: "Gain of entropy eventually is nothing more nor less than loss of information."

An article in the *Journal of Chemical Education* by Frank Lambert in 1999 (http://entropysite.oxy.edu/shuffled_cards.html) states:

Shuffled Cards, Messy Desks, and Disorderly Dorm Rooms— Examples of Entropy Increase? Nonsense!

Discuss.

- 6. [5 points] If humans reproduced asexually, intergenerational transfers would presumably not involve any externalities, and would be efficient. What inefficiency arises due to sexual reproduction?
- 7. [10 points] Completely explain Figure 1. Insert labels on unlabeled important lines or points. Discuss efficiency using Figure 1, being as specific as possible.
- 8. [10 points] Use a graph to illustrate the inefficiency of a tariff. (You should include the domestic supply curve, the domestic demand curve, and a horizontal world supply curve.)