

Name \_\_\_\_\_  
S.S.# \_\_\_\_\_

**AED ECON. 597.01**  
**INT. STD. 597.01**  
**Sample**  
***Second Midterm Exam***

**I. True/False (50 points).**

- \_\_\_\_\_ 1. The success of the Green Revolution in Asia is an illustration of the ability of humankind (as predicted by Condorcet and by H. Kahn) to mobilize technological change in order to overcome pessimistic Malthusian trends.
- \_\_\_\_\_ 2. The World Food Conference convened by FAO in Rome in the mid-1970s recommended every country to pursue self-sufficiency in food production as the most effective means to prevent the materialization of famine threats in the developing world.
- \_\_\_\_\_ 3. Between the mid-1970s and the mid-1990s, due to significantly rapid population growth around the world, (average) per capita food production decreased.
- \_\_\_\_\_ 4. The complexity of the food problem is illustrated by the perplexing juxtaposition of global food adequacy with widespread hunger.
- \_\_\_\_\_ 5. The most important change in thinking about the food problem since the 1970s has been the realization that hunger has nothing to do with poverty.
- \_\_\_\_\_ 6. *Capital fundamentalism* means that, in the 1950s, policymakers in developing countries were optimistic about the ability of markets to promote economic development.
- \_\_\_\_\_ 7. Both the allocation of resources for the production of food and decisions about the rate of use of environmental services are mostly determined by market forces.
- \_\_\_\_\_ 8. Views in the 1950s about a *vicious circle of poverty* in the developing countries attributed their low levels of income to their dependence on flows of foreign capital.
- \_\_\_\_\_ 9. Only the termination of capitalistic economic growth will make it possible to solve the world's problems of food security, population growth, and environmental degradation without cost.

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- \_\_\_\_\_ 10. The strategy of import-substitution industrialization adopted by most developing countries after World War II was based on the belief that economic growth requires the simultaneous development of the manufacturing and agricultural sectors of the economy.
- \_\_\_\_\_ 11. The poorer the country, usually the more the proportion of the GDP contributed by the agricultural sector exceeds the proportion of the labor force employed in agriculture.
- \_\_\_\_\_ 12. The relative importance of non-agricultural sectors of economic activity usually cannot increase unless the productivity of labor in agriculture increases.
- \_\_\_\_\_ 13. Because the largest future absolute increases in the world's population will occur in Asia, the most serious future food security problems will be observed in Asia too.
- \_\_\_\_\_ 14. With rapid economic growth and rising incomes in the developing countries, the income elasticity of the demand for energy will exceed the income elasticity of the demand for food.
- \_\_\_\_\_ 15. A generalist rural household that produces its own food is able to eat better than a specialized farmer who sells his crop in the market.
- \_\_\_\_\_ 16. One reason why import substitution industrialization policies were not successful in most developing countries is that policymakers focused on *what* (which good) was being produced rather than focusing on *how* it was being produced.
- \_\_\_\_\_ 17. For the transition from traditional to modern agriculture, the inputs needed to increase the productivity of labor must come from the farm-households themselves (*self-help*) rather than being brought from outside .
- \_\_\_\_\_ 18. One of the important consequences of the Green Revolution was that the growth of cropland area became the most important determinant of the annual rate of growth of the food output.
- \_\_\_\_\_ 19. A more limited availability of water (limited access to irrigated areas, salinization, water logging, and the elimination of subsidies on water use) is one of the most important explanations of the more slow increases in cereal yields in recent years compared to the earlier stages of the Green Revolution.

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- \_\_\_\_\_ 20. The most important source of deforestation in developing countries is excessive logging by multinational corporations.
- \_\_\_\_\_ 21. Economic growth and technological progress, *per se*, neither cause nor remedy environmental degradation.
- \_\_\_\_\_ 22. According to D. Southgate, the accumulation of human capital and better policies that allow households to earn higher incomes is the most powerful way to protect environmental wealth.
- \_\_\_\_\_ 23. The Bruntland Commission was right in its belief that it is possible to meet the needs of the present generation without compromising the ability of the future generations to meet their own needs.
- \_\_\_\_\_ 24. Society must be equally concerned about the stock of resources that will still be available 20 years from now and the stock of resources that will still be available 80 years from now.
- \_\_\_\_\_ 25. Because social time horizons should be longer than individual time horizons, society (and government, as a representative of society) must come up with mechanisms that induce a longer perspective in decisions about the rate of use of natural resources.

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**II. MULTIPLE CHOICE (30 points).** Read all the options before answering.

26. Which of the following comparative statements is (are) true:
- a. On a daily per capita basis, converted into calories, the world's output of basic grains is lower than a reasonable estimate of daily per capita calorie requirements for human survival.
  - b. The average basic grain yield (metric tons per hectare) is higher in the developing countries than in the industrialized nations (there are no yield reserves left).
  - c. Compared to the mid-1970s, in the mid-1990s there were less chronically undernourished people (in absolute numbers) in the world.
  - d. All of (a), (b) and (c) above are correct.
  - e. None of (a), (b) and (c) above is true.
27. Which of the following recommendations was not made at FAO's World Food Conference in Rome in the mid-1970s:
- a. That developing countries adopt policies to reduce the rate of population growth.
  - b. That developing countries allow the allocation of their resources to the domestic production of food according to international border prices.
  - c. That developing countries adopt food security policies based on self-sufficiency.
  - d. That international reserves be held to address threats of famine in countries with critical food deficiencies.
  - e. All of (a), (b), (c) and (d) above are correct.
28. A country will achieve a socially-optimum allocation of resources and have more access to food when:
- a. Food security policies do not make distinctions about whether food is imported or domestically produced.
  - b. Food security policies pay more attention to household income-generating capacities than to household self-consumption opportunities.
  - b. Food security policies rely on the country's comparative advantages.
  - c. Only (b) and (c) above are correct.
  - d. All options (a), (b) and (c) above are correct.

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29. Concerning the availability of food:
- a. For the world's availability of food as a whole, trade in cereals is not an option.
  - b. Intra-household allocations of food rely on non-market forces.
  - c. The ability to buy food is important for both farmers and non-farmers.
  - d. Only (b) and (c) are true.
  - e. All of (a), (b) and (c) above are true.
30. Which of the following factors was not influential among developing countries following World War II:
- a. The end of colonialism and the strengthening of nationalism.
  - b. Distrust about the imperialistic motivations of the Marshall Plan.
  - c. Optimism about government planning being able to accelerate the rate of economic growth.
  - d. Only (a) and (c) are true.
  - e. All of (a), (b) and (c) above are true.
31. The strategy of import substitution industrialization adopted by most developing countries after World War II:
- a. Introduced policies that reduced the incomes of farmers when compared to the incomes of the urban population.
  - b. Resulted in a unimodal distribution of income.
  - c. Contributed to the creation of an urban *enclave* and did not contribute to a reduction of the fragmentation of the domestic economy.
  - d. Only (a) and (c) are true.
  - e. All of (a), (b) and (c) above are true.

32. According to T. W. Schultz, peasant farmers in low-income countries:
- Earn low incomes because they are inefficient in the allocation of the resources at their disposal.
  - Adopted the new practices of the Green Revolution without influence from outside.
  - Are not interested in opportunities to improve the productivity of their labor.
  - All of (a), (b) and (c) above are true.
  - None of (a), (b) and (c) above is true.
33. Important consequences of the Green Revolution include:
- Rapid adoption of the new agricultural technologies, because the new modern varieties showed less variance of yields than the old traditional varieties.
  - Larger benefits to producers of wheat than to producers of rice, because the most important determinant of the adoption of the new varieties of rice were tractors.
  - Limited benefits to consumers, because most of the subsidies granted by the government to promote the Green Revolution were given to producers.
  - All of (a), (b) and (c) above are true.
  - None of (a), (b) and (c) above is true.
34. Concerning the influence of externalities on the socially-optimum level of output:
- Output is overexpanded when there is a positive externality, because private benefits are higher than social benefits.
  - Output is underexpanded, when there is a negative externality, because social costs are higher than private costs.
  - Output is overexpanded, when there is a negative externality, because private benefits are greater than social benefits.
  - Output is underexpanded, when there is a positive externality, because private costs are lower than social costs.
  - None of the answers (a), (b), (c) and (d) above is correct.

35. Among several advantages of the new high-yielding seed varieties introduced by the Green Revolution are:
- That they thrive in rainfed areas.
  - That the wind cannot easily tip over the much taller plants.
  - That their production, particularly in the case of rice, increases the demand for labor and the number of crops per year.
  - Both (a) and (b) are true.
  - None of the answers (a), (b) and (c) above is correct.
36. Differences in the patterns of environmental degradation among the developing countries and the industrialized nations are:
- That degradation in the industrialized nations comes mostly from *consumerism* while degradation in developing countries results from attempts to satisfy basic needs.
  - That the rate of growth of per capita consumption of non-renewable natural resources is higher in the developing countries than in the industrialized nations.
  - That the environmental consequences of choices in industrialized are more likely to have global impacts while the environmental consequences of choices in developing countries are more likely to have local effects.
  - Only options (a) and (c) above are correct.
  - All three options (a), (b) and (c) above are correct.
37. Excessive environmental degradation can be traced to *bad economics* when:
- Soils are degraded as a consequence of water subsidies that promote excessive irrigation and poor water management.
  - Inadequate education facilities and limited local opportunities for non-agricultural employment constrain rural households to depend on the cultivation of steep hill sides.
  - Homestead legislation induces potential owners to clear the land to be able to demonstrate *improvements*.
  - Only options (a) and (c) are true.
  - All options (a), (b), and (c) are true.

38. Concerning the concept of *sustainability*:
- a. An ecosystems definition is better than a physical definition for a single resource in order to evaluate the conservation implications of alternative choices about rates of use of a resource.
  - b. A definition that does not take into account the costs of choices and the institutional framework within which those choices are made will not lead to recommendation of the most appropriate policies to pursue conservation.
  - c. Most people agree about its desirability but few agree about *how* to achieve it.
  - d. Only options (a) and (c) are true.
  - e. All of (a), (b) and (c) above are true.
39. Government intervention clearly exacerbates environmental degradation when:
- a. The government adopts policies designed to achieve political objectives with a policy instrument that does not match the nature of the problem, and it distorts otherwise well-functioning markets.
  - b. The government promotes rapid economic growth and technological innovations, because these processes most of the time are bad for the environment.
  - c. The government does not provide the infrastructure, property rights, and institutional framework needed for the smooth performance of markets.
  - d. All of the above except (b) are correct.
  - e. All of (a), (b), and (c) above are correct.
40. Institutional frameworks will be needed to address environmental problems because:
- a. Intergenerational conflicts arise because the rates of discount used by private decision-makers in their choices about rates of use of resources are too low compared to reasonable social discount rates.
  - b. Intragenerational conflicts arise because the opportunity costs incurred in choices about environmental resources must always be absorbed by taxpayers.
  - c. International conflicts arise because the aspirations of the developing nations concerning their rates of income growth are incompatible with the preferences of the industrialized nations about the optimum rate of conservation.
  - d. The government must constraint the irrational choices typically made by individual consumers of natural resources.
  - e. All (a), (b), (c) and (d) above are true.

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**III. Analysis (20 points)**

41. Consider a closed economy (with no opportunity for international trade). The forces of the domestic supply and demand determine the equilibrium price and quantity produced of chemical fertilizer.

- a. In the attached graph indicate the level of the equilibrium price ( $P^*$ ) and the level of output of fertilizer consumed and produced ( $Q^*$ ).

The producer allows chemicals used in the production of fertilizer to drain into the river that runs through the property. Fill in the blanks:

- b. Production of chemical fertilizer generates a \_\_\_\_\_
- c. Because of this externality, the output of fertilizer is \_\_\_\_\_ compared to a socially-optimum level.
- d. The private costs in the production of fertilizer are \_\_\_\_\_ than the social costs of the production of fertilizer.
- e. Production of the socially optimum output of fertilizer will result in a \_\_\_\_\_ price of fertilizer for farmers.
- f. Production of the socially optimum output of fertilizer will result in a \_\_\_\_\_ price of food for consumers.

Add information to the attached graph to find the socially-optimum output of fertilizer in the graph.

- g. Indicate the socially-optimum level of output ( $Q^{**}$ ).
- h. Indicate the socially-optimum level of price ( $P^{**}$ ) for consumers.
- i. Indicate the socially-optimum level of private costs for the producer of fertilizer ( $MC^{**}$ ).
- j. At the socially-optimum level of output, social costs are equal to the difference between \_\_\_\_\_ and \_\_\_\_\_