

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 150 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because of the class which follows yours.

1) (12 points) For EITHER the explanation in Part A OR the explanation in Part B, explain how that is an economic reason for government intervention in the market. There is no need to draw a graph for any part.

- A) Positive externalities.
- B) Infant industry.

2) (14 points) Answer EITHER Part A OR Part B.

- A) If you could spend \$1010 today to start a new company. The interest rate you would borrow at would be 10%. You would earn \$550 profits next year and \$605 profits the year after that. Would you be willing to do that? Explain your logic and show the mathematical calculations you did.
- B) According to the book, Nigeria has a savings rate of 23% and Mexico has a savings rate of 17%. Nigeria's depreciation of made capital is 3% while Mexico's is 12%. Nigeria's depreciation rate of natural capital is 17% while Mexico's is 12%. Which country has the more sustainable growth? In other words, which country has a larger net savings. Show all work and briefly explain your logic.

3) (14 points) Answer EITHER Part A OR Part B.

- A) Draw the diagram of *proportion of population without potable water* as a function of real GDP per capita. Explain why it takes that shape.
- B) Draw the diagram of *urban concentration of particulate matter* as a function of real GDP per capita. Explain why it takes that shape.

4) (16 points) For EITHER the condition in Part A OR the condition in Part B, explain why that condition is important for a successful transition from a socialist based economy to a market based one.

- A) Relative prices must reflect relative scarcities in the economy.
- B) Most goods must be bought and sold through market mechanisms.

5) (16 points) Answer EITHER Part A OR Part B.

- A) Should income redistribution come before growth or after growth? Pretend that they could not occur at the same time. Explain your logic.
- B) Why might you want to have both income redistribution and growth occur at the same time?

6) (28 points) Answer EITHER Part A OR Part B.

- A) Draw the MAC/MEC diagram. Explain why the curves look as drawn. Why is the intersection the socially optimal place to be?
- B) Draw two MAC curves for companies with different abatement costs. Use it to prove that a tax is better than fixed quotas for solving the pollution problem. Will tradable permits work as well as a tax? Prove your conclusion.