Wilfrid W. Csaplar Jr., Ph.D.   Economics 260   Exam #2   2024/3/19

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 150 points (to be scaled up to 210 points) and is scheduled to take 75 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I can give extra time, but I won't give much.

1) (12 points) Answer EITHER Part A OR Part B.
A) What is the difference between adjusted net saving (ANS) and saving (S)? Explain why we would want to know what the ANS is.
B) What is the Hartwick Rule? Explain why it makes sense.

2) (12 points) Answer EITHER Part A OR Part B.
A) Is the shadow price of labor (not labour) greater or less than the market price of labor? Explain your logic. Would that increase or decrease the social return on a project? Explain your logic.
B) The shadow price of foreign exchange is generally higher than the actual foreign exchange rate. Explain how that could cause the social rate of return to be higher than the market return in some cases and lower than the market return in other cases.

3) (12 points) Answer EITHER part A OR Part B.
A) China requires that all FDI done in China be done with a Chinese company which has at least a 51% control of the factory. How would that affect FDI coming into the country? Explain your logic.
B) Poor countries' governments are often corrupt. How would that affect FDI coming into the country? Explain your logic.

4) (14 points) Answer EITHER Part A OR Part B.
A) Draw the most pessimistic Environmental Kuznets Curve. Explain why it takes its shape.
B) Draw the revised Environmental Kuznets Curve. Explain why it takes its shape.

5) (14 points) There are many problems with the education system in South Sudan, as can be seen by their literacy rate of 27% (WorldAtlas.com). Without knowing anything about South Sudan, what do you think one of their problems is? What could the government do to overcome it? Explain how that would work to increase the literacy rate.

6) (14 points) Answer EITHER Part A OR Part B.
A) In an International Rescue Committee's article from 2024/3/18 says, "Johns Hopkins Center for Humanitarian Health projects almost half of all children (46%) in Gaza aged 6 months to 5 years, approximately 140,000 young children – could suffer from acute malnutrition by August." What will that do to them in the future? Explain your logic. What will happen to the life expectancy in Gaza? Explain your logic.
B) What is HALE life expectancy? Why is it important? Explain one difficulty with calculating it.

7) (16 points) Answer EITHER Part A OR Part B.
A) Copy the table, on the next page, into your bluebook. Fill in the missing cells in the table. Show all work and write a one sentence explanation on how you got the numbers for each column.

Age	Proportion dying in the age interval	Number living at the beginning of age interval	Number dying during the age interval	Person-years lived in the age interval	Person-years lived in this and subsequent intervals	Years of life remaining (life expectancy)
<1	0.2	100,000				
1-5	0.1				4,800,000	

B) Draw the S/D diagram for a product like gasoline which creates pollution. Use it to prove that we will not produce the optimum amount of gasoline.

8) (16 points) Answer EITHER Part A OR Part B.
A) Some people think the world is entering a fourth epidemiological transition phase. What is it? How can DOTS reduce the probability that we enter that transition? Explain your logic.
B) Draw a typical mortality pyramid for a poor African country with a poor healthcare system. Explain why it looks as drawn.

9) (20 points) Answer EITHER Part A OR Part B.
A) For this question, assume you are choosing between working after graduation or getting a master's degree and then working. Also, assume you are graduating at the end of this semester. Suppose that a master's degree costs $30,000 a year and it takes two years to graduate. If you get the master's degree, you will then work for 46 more years. The salaries you would get are $109,000 per year without a master's degree and $128,000 per year with a master's degree:. Setup the calculation which could be used to determine the internal rate of return. Do not worry about doing the calculation. Explain why you put the numbers where you did and how you would use it to calculate the internal rate of return.
B) Suppose a project takes two years to build. It costs $2000 per year. After that, the project will make $800/year for 10 years. Then the building could be sold for $500. Suppose you want to get at least a 10% return. Setup the net present value calculation to determine whether the project would be worth doing. Briefly state why you put each number where you put it. Without doing the calculation, explain how you could determine whether or not the project is worth doing. Explain your logic.

10) (20 points) Answer EITHER Part A OR Part B.
A) The return on education for society includes one cost and one benefit which are not in the private return. What are they and why are they part of the societal return but not the private return? Some economists complain that relatively poor countries (like the lower-middle income country India), spend too much money on tertiary education. What is their logic?
B) For most countries, which type of education (primary, secondary, or tertiary) gives the greatest private return? Explain your logic. In the poorest countries, a different education gives the highest private return. Which level of education gives the greatest return there? Explain why that is the case.