

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 some extra time.

1) (12 points) Answer EITHER Part A OR Part B.

A) Why is the poverty gap important?

B) Why should the government give conditional cash transfers rather than just give money?

2) (14 points) For EITHER *laws restricting firing of employees* OR *licences & permits*, state what that is and explain how it would hurt the growth of the economy.

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

A) What is the *gross enrollment rate*? How can it be over 100%? Explain your logic.

B) What is the difference between *schooling* and *education*?

4) (14 points) Answer EITHER Part A OR Part B.

A) What is meant by the *dependency ratio*? Is a large ratio good or bad for the economy? Explain your logic.

B) What did Malthus predict? What was the flaw in his logic? Explain your logic.

5) (14 points) The book lists several things which affect the fertility rate. For EITHER the creation of a retirement system like Social Security, OR an increase in opportunities for women outside of the home, explain how that will affect the fertility rate and explain why it will have that effect.

6) (18 points) As we said in class many times, Uganda has a median age of 17. Draw EITHER what you would expect the population pyramid to look like OR what you would expect the mortality pyramid to look like based solely on that one number. Explain why it takes that shape. Make sure you state which one you are drawing.

7) (24 points) Answer EITHER Part A OR Part B.

A) Two of the rows from the calculation of the life expectancy for a fictitious country is created below.

Fill in the blanks. Show all work. For the entry in Column 4, you cannot directly calculate it, but you can give an estimate. State how you got the estimate.

Age	1 Proportion dying in interval	2 Number living at the beginning of interval	3 Number dying during the age interval	4 Person- years lived in age interval	5 Person- years live here and in future years	6 Years of life remaining
55-60	0.1	70,000				
60-65	0.2		12,600	283,500	1,068,500	16.96

B) Suppose that a country has 60% of people die before the age of 1 and the rest die at the age of 80.

What would the average life expectancy be? Explain your logic and show any calculations. What would be the average life expectancy of a 10 year old person? Explain your logic and show any calculations.

Why did the life expectancy change so much? What would be the average life expectancy of a 20 year old person? Explain your logic Why did it change the way it did from 10 to 20? Explain your logic.

8) (26 points) Answer EITHER Part A OR Part B. **You will want to check out the next question before doing this question.**

8) (26 points) Answer EITHER Part A OR Part B. **You will want to check out the next question before doing this question.**

A) Suppose a factory will take two years to build at a cost of \$500 per year. That cost includes \$100 of foreign exchange and \$300 of labor. Over the next five years, it will bring in \$400 of profits per year. Those profits include \$200 per year of foreign exchange coming into the country and paying workers \$250 per year. After five years, they can sell the factory for \$200. Do NOT set up the calculation for the net present value for the company. Suppose the shadow price of labor is 80% of the market wage and the shadow price of the foreign exchange is 30% higher than the official exchange rate. Set up the calculation for the social NPV if the interest rate is 10%. Briefly explain how you got the numbers. Do NOT do the calculation.

B) Suppose that a secondary education takes four years. It costs the students \$500/year to go to school and the government \$400/year per student. The student could be earning \$3000/year if they go to work straight out of primary school. If they go to school for the four years, they can make \$4000/year. Suppose the positive externalities of the student going to school is \$100/year for each year the student works. Suppose their current age is 14 and regardless of whether they go to secondary school, they will work through age 65 and retire at age 67. Do NOT set up the calculation for their private return. Set up the calculation which would give you the return to society. State how you got each number. Without doing the calculation, explain how you use the equation to determine the social rate of return.

9) (14 points) **If you did Part A on Question #8, then do Part A here. If you did Part B on Question #8, then do Part B here.**

A) Which type of education normally gives a bigger social return in a developing country, primary or tertiary? Explain your answer giving two reasons.

B) In Question #8, Part A, we said that the shadow price of labor is lower than the actual price. Why is that true? Would this mean the return to society is going to be less than or greater than the private return? Assume no foreign exchange is allowed. Explain your logic.