Final. Spring 2010

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Economics of Development

Each question is worth the total number of points in parentheses; sub-questions are allocated an equal share of the total points per question. Final is worth 30 points.

1) Inequality. (3 points)

a) Draw a Lorenz curve for the distribution of income in a country. Be sure to label the axes.

1. Draw another Lorenz curve that has a more unequal distribution than the one in (a).

c) Describe how to compute the Gini coefficient for each of these two Lorenz curves, and argue whether the coefficient in (b) will be greater than (a) or vice versa.

2) True or False (4 points)

|  |  |
| --- | --- |
| Statement | Circle whether the statement is true or false |
| The majority of people in the developing world live in urban areas.  | True False |
| The majority of people in the developing world’s labor force are employed in agriculture.  | True False |
| The majority of GDP in the developing world comes from the agricultural sector. | True False |
| Psacharopoulos reported the private internal rate of return to primary education in Latin America was lower than a standard discount rate of 10%. | True False |
| The world population growth rate has slowed since reaching a peak in 1960-1980. | True False |
| Total world population is expected to peak at 43 billion in 2200 | True False |
| The United States allocates over 2% of GNP to overseas development assistance. | True False |
| The Poverty Reduction Strategy adopted by the World Bank is intended to coordinate participation of bilateral, multilateral, NGO, Government, and civil society activities. | True False |
| The informal sector is the organized, regulated, registered sector of the economy. | True False |
| Urban giantism describes the phenomena that the largest city in developing countries tends to hold the largest share of the national population who suffer from overnutrition. | True False |
| The evidence from the WHO presented in class reported that malnutrition is a contributing factor to over half the deaths of children under five in developing countries. | True False |
| The mid upper arm circumference (MUAC) of adults does not change much from age 10-65, making it a good measure of current adult undernutrition. | True False |

3) Population issues (3 points)

a) Fill in the following table. Fr stands for the total fertility rate of the associated age cohort during their reproductive years. Assume future youth cohorts will have a total fertility rate of 2. Total population is for males and females; assume 50% of the population is female. The number in each cell of the table in rows a,b, and c should describe the number of females in each cohort in a given generation.

Country A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Generation 1 | Generation 2 | Generation 3 | Generation 4 |
| a.Pre-reproductive cohort, Fr=2 |  |  |  |  |
| b. Reproductive cohort , Fr=2 |  |  |  |  |
| c.Post reproductive cohort, Fr=2 | 200 |  |  |  |
| *Female Population* | *600* |  |  |  |
| *Total population* | *1200* |  |  |  |

Country B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Generation 1 | Generation 2 | Generation 3 | Generation 4 |
| a.Pre-reproductive cohort, Fr=2 |  |  |  |  |
| b.Reproductive cohort , Fr=3 |  |  |  |  |
| c.Post reproductive cohort, Fr=4 | 100 |  |  |  |
| *Female Population* | *600* |  |  |  |
| *Total population* | *1200* |  |  |  |

Describe how your findings on total population by the fourth generation illustrate the concept of **the hidden momentum of population growth**.

4) Poverty measures. (3 points)

|  |  |
| --- | --- |
| Person number | Income per day |
| 1 |  $0.25 |
| 2 |  $0.85 |
| 3 |  $0.90 |
| 4 |  $0.95 |
| 5 |  $1.15 |
| 6 |  $2.60 |
| 7 |  $2.95 |
| 8 |  $3.55 |
| 9 |  $4.75 |
| 10 | $13.55 |

TOTAL INCOME $31.50

1. Calculate the total poverty gap, the average poverty gap, the average income shortfall, and the normalized average income shortfall if the poverty line is defined as $1 per person per day?

TPG=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

APG=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AIS=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NAIS=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) If we take $0.10 from person 5 and give it to person 4, does this reduce the headcount index and if so by how much?

If we take $0.10 from person 3 and give it to person 4, does this reduce the headcount index and if so by how much?

c) What share of total income is held by the highest quintile and what share is held by the lowest quintile?

Highest=

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lowest=

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) Debating points (3 points)

a) Provide two arguments why population growth in a developing country is a problem.

b) Provide two arguments why the existence of an informal sector is not beneficial to a developing country.

c. Provide two arguments why educating girls in developing countries is an important part of an overall development strategy.

6) Health (3 points).

a) Explain the idea behind a disability adjusted life year.

1. Explain the childhood malnutrition interpretation of the finding that taller adults are paid higher wages.

7) Education (3 points)

|  |  |
| --- | --- |
|  | Circle whether the statement is true or false |
| The ‘missing women mystery’ asks why the share of primary school teachers who are female is lower than that of males. | True False |
| In general, as the average years of education in a developing country goes up, the education Gini goes down. | True False |
| The “educational Kuznets curve” describes how educational quality first decreases as primary enrollment increases before increasing after reaching a critical threshold. | True False |
| The primary school enrollment ratio has declined from 1970 to now in Asia due to population growing more rapidly that spaces in classrooms have been provided. | True False |
| Achieving universal primary education is not one of the Millennium Development Goals. | True False |
| A country’s educational attainment is included as a component of the Human Development index for that country. | True False |

8) Agriculture. (3 points)

a) Describe the three main types of agrarian systems found in the developing world and note in which geographic region each one is most commonly found.

b) Chose one of these agrarian systems. Provide two reasons why a land reform program might contribute to improved productivity in this agrarian system.

9) Environment and Development. (3 points)



1. What is this figure illustrating?
2. How is the estimate of step four done?
3. How do we interpret a negative value for intangible capital?
4. Overall for the world, is the highest share of wealth found to be produced capital, natural capital, or intangible capital?
5. Match the literature to the statement

|  |  |  |
| --- | --- | --- |
| A(Literature) | Write number of A that matches B here | B(Statement) |
| 1. Common Property Management |  | The present value optimal outcome of growth models that incorporate environmental stocks as a form of capital are ‘grim for far-distant generations’. |
| 2. Environmental Kuznets curve |  | As each user only takes into account the private costs associated with their decision rather than the full costs to all users, each individual acting in their own self interest leads us to a sub-optimal outcome in terms of total social welfare. |
| 3. Sustainable development |  | Environmental harm will first increase as income per capita increases before reaching a threshold, after which the environmental harm will begin to be reversed.  |
| 4. Environment and Vulnerability.  |  | Technology improvement in agriculture can be ‘land sparing’ and poverty reducing. |
| 5. Poverty-environment nexus. |  | The true savings rate in a country after accounting for investments in human capital, depreciation of produced assets, and the depletion and degradation of the environment. |
| 6. Adjusted net savings |  | Economic development can suffer setbacks from environmentally driven asset shocks. |

10) Poverty (2 points)

a. How do income poverty and asset poverty differ?

b. Describe a policy to reduce income poverty.

c. Describe a policy to reduce asset poverty.

1. Krishna’s paper presented the evidence in the table below concerning poverty dynamics. Pick **either** those who moved out of poverty (the 11% group) or those who moved into poverty (the 8% group) and describe his main findings as to the main causes people described for the movement of people in this group.

|  |  |  |
| --- | --- | --- |
|  | Poor 25 years ago | Not poor 25 years ago |
| Poor now | 18% | 8% |
| Not poor now | 11% | 63% |