Final. Spring 2020

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) Describe how to construct a Lorenz curve that illustrates the degree of income inequality in a population.

1. Describe how you can derive a Gini coefficient from the information contained in a Lorenz curve.
2. What is meant by the statement that the Gini coefficient meets the principle of scale independence?

2) True or False (3 points)

|  |  |
| --- | --- |
| Statement | **BOLD** whether the statement is true or false |
| “Bread and Circuses” is the name of the joint efforts of the World Food Program and UNESCO to improve food security in North Korea. | True False |
| World population is currently growing at a faster annual rate than it has ever grown in human history. | True False |
| At the primary school level, girls’ enrollment rate has been increasing over the past ten years for developing countries. | True False |
| The share of GDP from agriculture, forestry, and fishing has been declining for the past 50 years in developing countries. | True False |
| In developing countries the share of the labor force in agriculture, forestry, and fishing is usually higher than the share of GDP from agriculture, forestry, and fishing. | True False |
| The total fertility rate reports the number of births per year per 1000 females in the population. | True False |
| Current estimates of global population are in the 14-15 billion range. | True False |
| Remittances flowing out of a country are considered part of that country’s Official Development Assistance (ODA) as defined by the OECD. | True False |
| The United States is currently the largest donor of ODA in the world in terms of the total amount given per year. | True False |
| The United States currently allocates 11.5% of GNI to ODA. | True False |
| The Poverty Reduction Strategy adopted by the World Bank is one of the components Williamson identifies as part of what he first called the ‘Washington Consensus’. | True False |
| Migration models based on expected income provide an explanation for why rural to urban migration persists in spite of existing urban unemployment. | 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 of children 6 to 59 months old can be used as a measure of 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 and future births are 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 | 30 |  |  |  |
| *Female Population* | *90* |  |  |  |
| *Total population* | *180* |  |  |  |

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 | 15 |  |  |  |
| *Female Population* | *90* |  |  |  |
| *Total population* | *180* |  |  |  |

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 | $0.05 |
| 2 | $0.15 |
| 3 | $0.90 |
| 4 | $1.40 |
| 5 | $1.95 |
| 6 | $2.05 |
| 7 | $2.75 |
| 8 | $3.75 |
| 9 | $4.45 |
| 10 | $14.55 |

TOTAL INCOME $32.00

a) What is 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 $1.90 per person per day?

TPG=

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APG=

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AIS=

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

NAIS=

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

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

Highest=

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Lowest=

c) If we start from the income figures in the table and then take $0.10 from person 5 and give it to person 4, does this change the headcount index and if so by how much?

If we start with the income figures in the table and then take $0.55 from person 3 and give it to person 4, does this change the headcount index and if so by how much?

5) Debating points (3 points)

a) Provide two arguments why increasing girls’ education is a benefit for a developing country.

b) Provide two arguments why the existence of an informal sector is helpful for the economy of a developing country.

c. Identify two ways in which land reform and redistribution could increase economic growth.

6) Health (3 points).

a) Contrast the idea behind a disability adjusted life year to a mortality rate as a way of measuring health outcomes.

1. Explain how government expenditures on health based on DALY evidence of health priorities might differ from health expenditures priorities that are based on mortality rates.

7) Education (3 points)

a)True or False

|  |  |
| --- | --- |
|  | **BOLD** whether the statement is true or false |
| The gender gap in primary education in developing countries has been decreasing since 1970. | True False |
| The Sustainable Development Goals have indicators that measure the quality of education. | True False |
| The primary school female to male enrollment ratio is currently less than 40 girls to 100 boys in developing countries. | True False |
| The “educational Kuznets curve” describes how inequality in education first increases as enrollment increases before decreasing after reaching a critical threshold. | True False |
| The primary school enrollment ratio has declined from 1970 to now overall in developing countries due to population growing more rapidly than spaces in classrooms have been provided. | True False |
| Educational outcomes are one of the components of the Human Development Index. | True False |

b) Explain in words the benefit cost graph presented in class that outlines the decision to go to work following completion of primary school compared to the decision to go to secondary school and then enter the work force.

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 an example of an agricultural technology and/ or policy that might contribute to improved productivity in this agrarian system.

9) Population issues 2. (3 points)

a) Describe in words the different stages of the demographic transition and note the implication for population growth rates in each stage.

b) Explain why the rates you described change at different times and in the order you described.

c) What is meant by ‘the replacement rate’, what kind of rate is it, and what is the usual value associated with a replacement rate?

d) Describe in general terms the approach taken to analyzing population growth using microeconomic models of the demand for children.

10) Environment and Development. (3 points)

a. What is adjusted net savings / genuine savings?

b. How is this different from the s we used in the Solow growth model?

1. What is the conceptual difference between weak sustainability and strong sustainability?

Extra Credit (get them all, get 1 bonus point).

Fun with Acronyms: Write out what the acronym stands for

|  |  |
| --- | --- |
| PRSP |  |
| FGT |  |
| ICOR |  |
| IFPRI |  |
| IBRD |  |