Final. Spring 2023

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

Each question is worth three points; sub-questions are allocated an equal share of the total points per question. Total exam is 30 points.

1) Agriculture.

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

b) What is the implication of the inverse relation between farm size and productivity for a program designed to redistribute land from large land holdings to smallholders?

2) Kuznets curves.

a) Draw the original Kuznets curve and label everything clearly.

1. Explain the logic behind the shape of this curve.
2. Explain how this was adapted to create the Environmental Kuznets Curve.

3) Demographic Transition.

a) Draw a figure illustrating the demographic transition and note the different stages.

b) Explain why the one rate you drew in (a) decreased before the other rate decreased.

c) Explain why there is concern that a country could get stuck in stage 2 of the transition.

4) Inequality.

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.

5) Environmental Issues.

1. What is the difference between ‘strong’ sustainability and ‘weak’ sustainability?
2. Briefly explain the adjustments made to the value of gross saving to arrive at a measure of genuine savings in the World Bank’s *Where is the Wealth of Nations?*.

6) True or False

|  |  |
| --- | --- |
| Statement | Circle whether the statement is true or false |
| There is a positive correlation between income per capita and the share of the population that lives in urban areas in cross sectional comparison of countries. | True False |
| The finding that taller people were paid higher wages in the informal sector in Brazil was explained by the theory of “Urban Giantism”.  | True False |
| The world population growth rate over the past decade is the highest ever experienced in human history. | True False |
| The share of female employment in agriculture is higher than the male share of employment in agriculture in developing countries. | True False |
| The informal sector is not present in rural areas.  | True False |
| The value of military equipment transferred from OECD countries to developing countries is included in the OECD measure of official development assistance (ODA). | True False |
| Estimates of current global population are in the 14-14.2 billion people range. | True False |
| Overnutrition is a kind of malnutrition. | True False |
| The United States is the largest donor of ODA of any country in the world in terms of ODA as a share of Gross National Income. | True False |
| Per Capita food production is decreasing by around 1% per year overall for the world. | True False |
| The majority of the world’s population lives in countries characterized by the World Bank as ‘developing countries’.  | True False |
| “Bread and Circuses” was the name of a World Bank program to assist highly indebted poor countries reduce their debt burden. | True False |

7) Hidden momentum of population growth

a) Fill in the following tables. Fr stands for the total fertility rate of the associated age cohort during their reproductive years. Assume all future youth cohorts will have a total fertility rate of 2 in their reproductive years. 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=3 |  |  |  |  |
| c.Post reproductive cohort, Fr=4 | 1000 |  |  |  |
| *Female Population* | *6000* |  |  |  |
| *Total population* | *12000* |  |  |  |

Country B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Generation 1 | Generation 2 | Generation 3 | Generation 4 |
| a.Pre-reproductive cohort, Fr=2 |  |  |  |  |
| b.Reproductive cohort , Fr=4 |  |  |  |  |
| c.Post reproductive cohort, Fr=6 | 600 |  |  |  |
| *Female Population* | *6000* |  |  |  |
| *Total population* | *12000* |  |  |  |

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

8) Poverty measures.

|  |  |
| --- | --- |
| Person number | Income per day |
| 1 | $0.09 |
| 2 | $0.54 |
| 3 | $0.78 |
| 4 | $1.26 |
| 5 | $1.35 |
| 6 | $1.86 |
| 7 | $3.39 |
| 8 | $5.97 |
| 9 | $7.08 |
| 10 | $7.68 |

TOTAL INCOME $30.00

a) What is the headcount (H), the headcount index (HI), the total poverty gap (TPG), the average poverty gap (APG), the average income shortfall (AIS), and the normalized average income shortfall (NAIS) if the poverty line is defined as $1.90 per person per day?

H=

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HI=

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

TPG=

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

APG=

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

AIS=

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

NAIS=

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

b) If we take $1.00 from person 7 and give it to person 6, is there any change to the headcount index? Is there any change in the total poverty gap?

c) What share of total income is held by the highest quintile and what share is held by the lowest quintile (before the redistribution of part b – go to the table above to calculate)?

Highest=

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

Lowest=

9) Poverty Measures

a) What is the formula for the Foster Greer Thorbecke Poverty Measures?

b. Explain what aspect of poverty is measured when the parameter for alpha is 0, when it is 1, and when it is 2.

c. What is the difference between ‘structural poverty’ and ‘transitory poverty”?

10) Migration Models (3 points)

a) Describe the Harris-Todaro model of migration.

b) Explain how this model relies on the concept of expected wages.

c) Identify two policy implications of the model for a government which desires to reduce urban unemployment rates.

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

Fun with Acronyms: Write out what the acronym stands for

|  |  |
| --- | --- |
| NARS |  |
| MPS |  |
| CIMMYT |  |
| HIPC |  |
| ICOR |  |