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

Spring 2009 Exam 1

Total quiz is 30 points. Each question is worth three points. Each sub question is worth an equal share of these three points.

1. Circle to indicate whether the statement is true or false.

|  |  |
| --- | --- |
| **Statement** | **Is the statement True or False?** |
| The Harrod Domar model assumes there are diminishing marginal returns to capital in the production of output. | True or False |
| Sen identifies one of the main themes of the first generation of development economics the contention that structural adjustment and income growth are complementary objectives. | True or False |
| Neutral technological progress leaves unchanged the marginal rate of technical substitution for a given input bundle, but changes the amount of output produced using that input bundle. | True or False |
| According to the theory of comparative advantage, every country has to have a comparative advantage in the production of at least one commodity. | True or False |
| The ‘Prebisch-Singer’ hypothesis is based on the argument that the income elasticity of demand for manufactured goods is lower than the income elasticity of demand for primary products. | True or False |
| A ‘steady state’ outcome in a dynamic model is a type of equilibrium that is characterized by there being no force internal to the model that leads to further change in the state variables. | True or False |
| Solow designed his model to explain the cross country evidence suggesting there is ‘conditional convergence’ across countries in income per capita over time. | True or False |
| The value of exports of goods and services is a component of the current account. | True or False |

1. Growth theories.
	1. Using the notation on this graph, use the space below the graph to contrast an improvement in output per worker that results from factor accumulation from an improvement in output per worker that results from technological progress where k is capital per worker on the x axis, output per worker is defined as $y=∝k^{β}$ on the y axis, n is population growth rate, δ is the depreciation rate, and s is the savings rate.
	2. Explain using the notation on the graph Solow’s argument about what could and what could not explain long run growth in an economy (in terms of the model you are explaining what could lead to constant growth in y over time).

3) Match the model / theory to the assumption or implication.

|  |  |  |  |
| --- | --- | --- | --- |
| Model |  | Write the number of the model | Assumption or implication |
| 1) O – Ring |  | Technological progress is treated as a variable to be explained, rather than a fact exogenous to the model. |
| 2) Romer growth |  | Profits obtained in the manufacturing sector will be reinvested in this sector, thus increasing capital stocks and generating more employment. |
| 3) Lewis Model |  | Coordination may be needed to assure that industrialization will occur across multiple sectors of the economy for certain wage rates. |
| 4) Big Push |  | Higher quality workers will choose to work with other higher quality workers, leaving lower quality workers to work together. |
| 5) Harrod-Domar |  | Primary product exporting economies will experience unfavorable changes in their commodity terms of trade over time due income elasticities of demand. |
| 6) Comparative Advantage |  | The marginal propensity to save is a critical determinant of the growth in national income over time. |
| 7) Infant industry |  | Well being can be improved by specialization and trade without using any new resources. |
| 8) Prebish – Singer |  | Tariff protection will be needed to allow the domestic industry to develop forward and backward linkages, thus becoming more efficient over time. |

1. There are four workers in the economy who differ in their labor quality as defined by their ‘q’ value. Q is defined on a scale of [0,1] with higher q being higher quality. Worker one has q=1, worker two has q=0.7, worker three has q=0.5, and worker four is q=0.2. Production takes place using two workers, with output of combining workers i and j defined by .

a) Fill in the following

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Combination 1 | Resulting output 1 | Combination 2 | Resulting output 2 | Total ouput (1+2) |
| (1, 0.7) |  | (0.5, 0.2) |  |  |
| (1, 0.5) |  | (0.7, 0.2) |  |  |
| (1, 0.2) |  | (0.7, 0.5) |  |  |

1. Say production can be increased by paying for training that will increase the q of a given worker. The cost of this training, c, can be expressed in terms of output y. Training that costs c raises the skills of a worker as represented by a 0.15 increase in their q value. As you may recall from class, training will be given to the lower q worker in a given pair so you can just focus on that.
2. If the cost of training is below what level of c will a firm decide to pay for increasing the skill level of the 0.7 worker in a (1, 0.7) pairing?
3. If the cost of training is 0.1 does it make sense to train the q=0.2 person in the (0.5, 0.2) pair if the training raises the skills of this worker by 0.15 to 0.35? Why or why not?
4. Contrast your answers to (i) and (ii) to illustrate why the O-ring theory can be used to explain a lack of ‘convergence’.
5. Consider the following set of figures taken from the textbook and answer the questions below.
6. What is the name usually given to this model?
7. What qualitative change in the economy of a country is this model designed to describe?
8. How does the model describe the economic forces that lead to the increase in the capital stock from KM1 to KM2?
9. Exchange rates.
	1. Illustrate on a supply and demand for foreign currency graph the impact of an overvalued official exchange rate.
	2. In a country with an overvalued official exchange rate, are importers or exporters in the country likely to be harmed by the exchange rate policy? Explain briefly.

1. Landlockia workers can produce 11 units of dried fish per unit of labor and 15 units of millet per unit of labor. Neighboring Costalia workers can produce 10 units of dried fish and 12 units of millet per unit of labor.
	1. Write out the production functions for each good in each of the two countries with units of output as a function of units of labor.

|  |  |  |
| --- | --- | --- |
|  | Dried Fish | Millet |
| Landlockia |  |  |
| Costalia |  |  |

* 1. If there are 100 laborers in Landlockia and 100 in Costalia, describe the level of production of each commodity in each country in autarky if each country divides up their labor force with half of the work force allocated to each commodity.

|  |  |  |
| --- | --- | --- |
|  | Dried Fish | Millet |
| Landlockia |  |  |
| Costalia |  |  |
| TOTAL |  |  |

* 1. Illustrate by moving 9 of Landlockia’s workers and 10 of Costalia’s workers to the commodity for which they have comparative advantage how it is possible to increase total production of the two goods without using any new resources.

|  |  |  |
| --- | --- | --- |
|  | Dried Fish | Millet |
| Landlockia |  |  |
| Costalia |  |  |
| NEW TOTAL |  |  |

8) Illustrate the following:

1. Place a tariff on the imported commodity such that the selling price with the tariff included is 4. Show the level of domestic supply, the level of international supply, and the tax revenue generated. Y axis is price, x axis is quantity.



1. Illustrate on the production function the impact of technological progress, with output on the y-axis and the input on the x-axis.



9) Define:

* 1. The Human Development Index.
	2. Dumping.
	3. An “import substitution industrialization” strategy.
	4. Transfer pricing.

10) Williamson described ten elements of the Washington Consensus. Five are on the list below. Circle those that were elements of the Washington Consensus as described by Williamson.

* + 1. Donor policy should be aimed at allocating aid to those who show a commitment to ruling justly, promoting economic freedom, and investing in people.
		2. Governments should undertake privatization of state owned assets.
		3. Government plans should be designed to coordinate participation of bilateral, multilateral, NGO, government, and civil society institutions.
		4. Development strategy should be country driven and participatory.
		5. Governments should undertake tax reform that broadens the tax burden but lowers tax rates.
		6. Developing countries should undertake deregulation to abolish barriers to entry and exit.
		7. Competitive exchange rate policies should be adopted.
		8. Developing countries should implement plans that are comprehensive and results-oriented, and focuses on outcomes that will benefit the poor.
		9. Integrated rural development will lead to the realization of the millennium development goals.
		10. Government policy should be based on fiscal discipline, controlling inflation, and balancing budgets.