Name:

## **QUIZ 3: Econ 102**

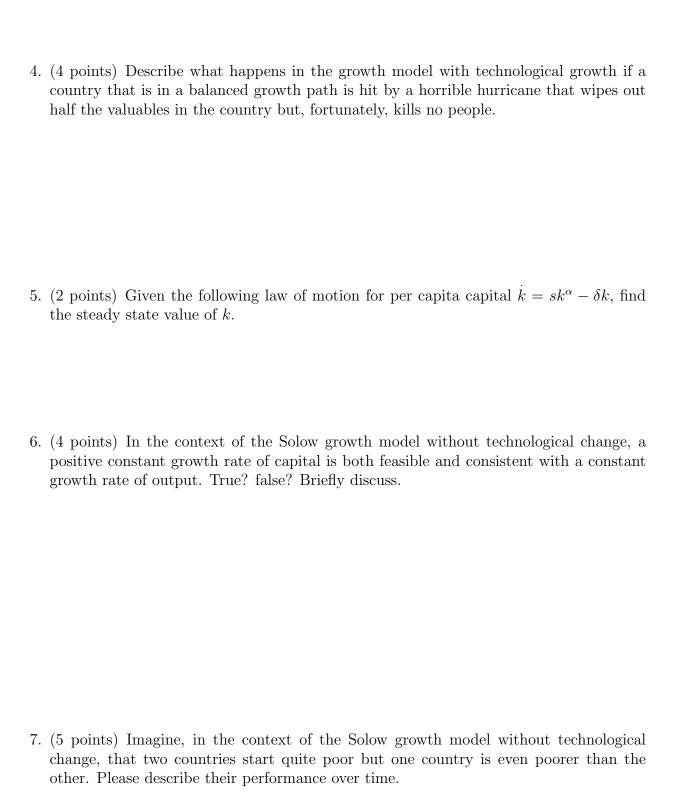
José-Víctor Ríos-Rull October 25, 2005

Please answer the following 10 questions for 50 points. Be as BRIEF as you can. You have 30 minutes.

1. (4 points) Define a balanced growth path and compare this definition with that of a steady state.

2. (8 points) Indicate whether and how could a Solow growth model with technological progress at a constant rate satisfy the Kaldor growth facts.

3. (4 points) Consider two countries. In both of them there is investment of 20% of output, in both of them depreciation is 7%. In country A population grows at 1% and in country B it grows at 2%. What does the Solow model predict about their long run output differences in the absence of technical change? What about the long run difference in capital.



8.	(4 points) Write a human capital accumulation equation where output is used and another where the only way to have more human capital is by studying more.
9.	<ul> <li>(9 points) Imagine that there are two countries. One of them has an output per capita 10 times larger than the other. Imagine that they have the same birth rate (2%), saving rate (20%), depreciation rate (10%) and capital share (1/3) and total factor productivity A.</li> <li>• Using the standard Solow model, write an expression for the ratio between the two rates of return of capital.</li> <li>• State why this may be puzzling.</li> <li>• If the production function were Y = K<sup>α</sup>H<sup>β</sup>L<sup>1-α-β</sup>, explain how differences in human capital could resolve this puzzle.</li> </ul>
10.	(6 points) The Solow growth model with exogenous technological change is capable of accounting for the performance in the last century of OECD countries. True? False? discuss.