

Place your name on the back of this sheet of paper and nowhere else. Staple your answers on the front of this sheet of paper. Failure to follow these directions will cost you 1 point. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type it will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

- 1) (15 points) Explain $c^* = f(k^*) - (n + d)k^*$. Note in this chapter, it is extremely important to distinguish between upper case letters and lower case letters.
- 2) (10 points) Suppose the GDP grew at a rate of 5%, the capital stock grew at a rate of 4%, and the labor force grew at a rate of 3%. What percent did the technology improve? Explain your logic and show all work.
- 3) (20 points) Draw the Solow Growth Model diagram. Illustrate the effects of an increase in depreciation rate. Explain why the curve(s) moved as drawn. What happens to the steady-state capital-labor ratio and output per worker?
- 4) (15 points) Draw the Solow Growth Model diagram. Start with the country having a capital-labor ratio which is smaller than the steady-state equilibrium rate. Explain what causes the country to move to steady-state equilibrium.
- 5) (25 points) The Solow Growth Model concludes that in the right situation, the GDP per capita will converge between all countries. Explain how that conclusion is reached. Why do we not see that occurring?
- 6) (15 points) Given the Solow Growth Model and the national savings rate, do you think the USA will be an economic powerhouse in 50 years? Explain your logic.