Write your name on the cover of the test booklet and nowhere else. Failure to follow these directions will cost you 1 point. The test has 150 points (to be scaled up to 210 points) and is scheduled to take 75 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 14-point question should take 7 minutes. I will give some extra time, but not a lot.

1) (10 points) Answer EITHER Part A OR Part B.
A) Use the growth equation to calculate productivity growth if GDP grew 3.5%, capital grew 5%, labor employed grew 2%, the output elasticity of capital is 0.3 and the output elasticity of labor is 0.7. Show all work and **briefly** explain how you calculated it.
B) Productivity is hard to measure. How does Solow measure it? Why does he do it that way?

2) (12 points) Answer EITHER Part A OR Part B.
A) Explain the "twin deficits." How can one cause the other?
B) In the USA for the year 2005, were $S_{priv.}$ and $S_{gov.}$ large, small, or negative? Given that, what would you expect for the capital-financial account for the USA? Explain your logic.

3) (16 points) For EITHER the variable "A" OR the variable "s," explain why it is important for the government to try to change the variable. Then explain how you would change it if you were the President of the USA. Explain why your policies would have the desired effects.

4) (16 points) Answer EITHER Part A OR Part B.
A) Why aren't credit cards part of the money supply? How does using them affect the money supply? Explain your logic.
B) How does an increase in the price level affect money demand? Why does it have that effect? How does an increase in the inflation affect money demand? Why does it have that effect?

5) (16 points) Answer EITHER Part A OR Part B.
A) Which definition of money, M1, M2, or M3 should best fit our theories as to how the money supply affects the GDP? Explain your logic. Why doesn't that definition currently fit our GDP well?
B) Suppose bonds became more liquid. What would that do to the demand for money? Ceteris paribus, what would happen to the inflation rate?

6) (18 points) Answer EITHER Part A OR Part B.
A) Draw the per-worker savings and investment diagram, a.k.a. the diagram for the Solow growth model. Use the diagram to explain why the model predicts the convergence of the capital-labor ratios over time.
B) Draw the per-worker savings and investment diagram, a.k.a. the diagram for the Solow growth model. Use the diagram to explain it is important for economic development to have a small population growth rate.

7) (18 points) Answer EITHER Part A OR Part B.
A) Draw a S/I diagram for a small open economy with a **current account deficit**. Draw an increase in the MPK^f. Explain how you know the small country has a current account deficit, why the curve(s) moved as drawn, and what happens to the current account deficit.
B) Draw a S/I diagram for a small open economy with a **capital-financial account surplus**. Draw an

increase in the tax rate on corporate profits. Explain how you know the small country has a capital-financial account surplus, why the curve(s) moved as drawn, and what happens to the capital-financial account surplus.

8) (20 points) Answer EITHER Part A OR Part B.

A) Explain $\frac{\Delta Y}{Y} = \frac{\Delta A}{A} + a_K \frac{\Delta K}{K} + a_N \frac{\Delta N}{N}$, including why a_K and a_N are not equal to one. You can treat the change in a variable divided by that variable as one variable if you define it first.

B) Explain both $\frac{\Delta Y}{Y} = sA - d$ and $\frac{M^d}{P} = L(Y,i)$. Treat the left-hand side of each equation as one variable and explain all three variables in the first equation and both variables in the second equation.

9) (24 points) Answer EITHER Part A OR Part B.

A) Draw the S/I diagram for a large country and the rest of the world where the large country has a **current account surplus**. Illustrate a positive supply shock. Explain how you know the large country has a current account surplus, why the curve(s) moved as drawn, and what happens to the current account surplus.

B) Draw the S/I diagram for a large country and the rest of the world where the large country has a **capital-financial account deficit**. Illustrate a decrease in government spending. Explain how you know the large country has a capital-financial account deficit, why the curve(s) moved as drawn, and what happens to the capital-financial account deficit.