Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. 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 12-point question should take 6 minutes. I can give some extra time, but not much.

1) (10 points) Answer EITHER Part A OR Part B.
A) Is GDP a stock or a flow? Explain your logic.
B) Is GDP or GNP a better measure of how well off a country is? Explain your logic.

2) (14 points) Answer EITHER Part A OR Part B.
A) Explain why the natural rate of unemployment went up when women entered the workforce.
B) All statistics have problems with their definition which makes them less useful than we would like. Explain two reasons why the unemployment rate is not as useful as we would like it to be.

3) (14 points) Both Modigliani's Life-Cycle model and Friedman's Permanent Income Hypothesis have real-world problems. For EITHER *borrowing constraints* OR *durable goods*, explain how that causes those theories problems. So, for example, your answer might start out like, "These two models assume ... about borrowing constraints, but in reality it is... "

4) (16 points) Answer EITHER Part A OR Part B.
A) Explain $c_1 = y_1 + (y_0 + a_0 - c_1)(1+r)$
B) Explain PI = NI + TR + INT - retained earnings - direct business tax.

5) (18 points) Answer EITHER Part A OR Part B.
A) Draw the graph for Modigliani's Life-Cycle model. Illustrate the effects of a one year tax cut. Explain why your curve(s) changed as drawn. What happens to consumption and saving this year. Explain how your graph shows that.
B) Draw the inter-temporal budget constraint. Illustrate the effects of an expected increase in future income. Explain why the curve moved as drawn. Use your graph to determine what happens to current consumption and current saving. Explain how you reached your conclusion.

6) (16 points) Answer EITHER Part A OR Part B.
A) What happens to the unemployment rate when a person has been unemployed for so long, they quit working? Which type of unemployment is that? Explain your logic for both parts.
B) Draw the S/I diagram. Illustrate the effects of a decrease in the depreciation rate. Explain why the curve(s) moved as drawn. What happens to the levels of saving and investment and the interest rate?

7) (30 points) Answer EITHER Part A OR Part B.
A) Draw the production function with labor on the axis. Also draw the labor supply/demand diagram. Illustrate the effects of people expecting a future tax increase. Explain why the curve(s) moved as drawn. Find the new level of employment, real wage, and real GDP. Explain how you found the real GDP.
B) Draw the production function with labor on the axis. Also draw the labor supply/demand diagram. Illustrate the effects of an increase in the amount of capital. Explain why the curve(s) moved as drawn. Find the new level of employment, real wage, and real GDP. Explain how you found the real GDP.

8) (32 points) Answer EITHER Part A OR Part B.
A) Draw both the MPK^f/uc_K diagram and the S/I diagram. Illustrate the effects of a decrease in government spending assuming Ricardian Equivalence does not hold. Explain why the curves moved as drawn. What happened to the levels of S, I, r, and uc_K?
B) Draw both the MPK^f/uc_K diagram and the S/I diagram. Illustrate the effects of a decrease in corporate tax rate. Explain why the curves moved as drawn. What happened to the levels of S, I, r, and uc_K?