

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 100 points (to be scaled up to 150 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I can give extra time, but not a lot.

1) (10 points) Answer EITHER Part A OR Part B.

- A) Why did we conclude in Exam #3 that the ratio of consumer debt to personal income was lagging?  
 B) Why does the IS curve slope down? Either explanation is acceptable.

2) (12 points) Answer EITHER Part A OR Part B.

- A) Explain why the velocity of M1,  $V_1$ , has not been stable since the 1970s.  
 B) What is one of the uses of money? Would M1 or M2 be better at that? Explain your logic.

3) (14 points) Answer EITHER Part A OR Part B.

- A) If I gave you NI and asked you to calculate PI, what information would you need? How would you use it? Why would you use it in that manner?  
 B) What are the four types of unemployment? For TWO of them, give an example of it and explain why it fits that category.

4) (16 points) Answer EITHER Part A OR Part B.

- A) Draw the  $MPK^f/uc_K$  diagram. Illustrate the effects of an increase in the depreciation rate. Explain why the curve(s) moved as drawn. What happens to the rental rate, the desired amount of capital, and the amount of investment?  
 B) Draw the labor supply/labor demand diagram. Illustrate the effects of a predicted increase in the future income tax rates. Explain why the curve(s) moved as drawn. What happens to the real wage and the quantity of labor?

5) (16 points) Explain EITHER the equation in Part A OR the equation in Part B.

- A)  $S_{PVT} = Y + NFP + TR + INT - T - C$   
 B)  $c_1 = (a_0 + y_0 - c_0)(1+r) + y_1$

6) (16 points) Answer EITHER Part A OR Part B.

- A) Draw the S/I diagram for a small country with a capital-financial account deficit. State how you know it is a deficit. Illustrate the effects of an increase in the future marginal productivity of capital. Explain why the curve(s) moved as drawn. What happens to the level of saving, level of investment, interest rates, and the deficit?  
 B) Draw the diagram for the Solow Growth Model. Often people say that things are not built as well as they used to be. Assuming that means there is a greater depreciation rate of capital, illustrate what has happened over time in the USA. Explain why the curve(s) moved as drawn. What happens to the equilibrium level of the capital-labor ratio and GDP per capita?

7) (16 points) Answer EITHER Part A OR Part B.

- A) What do Modigliani's Life-Cycle Model and the Friedman's Permanent Income Hypothesis conclude will be done with bonuses? Explain your logic. They reach the same conclusion with very similar logic, so you only need to explain one and you do not need a graph. Why do durable goods cause problems with that logic?  
 B) What is the equation for the Endogenous Growth Model? Given that model, would it be better for the government to reduce the tax rate on all income or reduce the tax rate on interest and dividends? Explain your logic.