

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 cannot give extra time because some students have a class after your class.

1) (12 points) Answer EITHER Part A OR Part B.

A) Explain why the NS curve slopes up.

B) Why does the unemployment rate underestimate the underutilization of labor?

2) (12 points) Explain why EITHER the SRAS curve OR the IS curve takes its shape.

1) (16 points) Answer EITHER Part A OR Part B.

A) Explain  $c^f = y^f + (y + a - c)(1+i)$  Or you can explain it in the form  $c_1 = y_1 + (y_0 + a - c_0)(1+I)$

B) Explain  $M^d = P * L(Y, r, \pi^e, i^M)$  "L" is just a function.

3) (18 points) Answer EITHER Part A OR Part B.

A) Draw the Solow Growth Model diagram. Illustrate an increase in the savings rate. Explain why the curve(s) moved as drawn. What happens to the equilibrium capital-labor ratio and output per worker?

B) Draw the S/I diagram for a small open economy with balanced trade and a balanced government budget. Use the diagram to explain how an increase in government spending will affect the trade balance.

4) (20 points) Answer EITHER Part A OR Part B.

A) Use the following data to calculate GDP, GNP, NNP, and NI. Consumers buy \$1000 worth of goods. Firms buy \$500 worth of machines. The government buys \$600 worth of services. We import \$200 worth of goods and export \$150 worth. We paid foreigners \$10 worth of interest and received \$12. Capital lost \$40 worth of value. Firms paid \$30 worth of business taxes and retained \$25 of earnings. Consumers paid \$120 worth of income tax. Show all work. If you need data which is not provided, assume it is zero. Some of these numbers are for calculating PI and DPI, but I am not asking you to calculate them.

B) Use the labor supply and demand diagram to illustrate the effects of an improvement in technology. Explain why the curve(s) moved as drawn. What happens to the amount of labor hired and the wage rate?

5) (22 points) Answer EITHER Part A OR Part B.

A) Draw the user cost of capital/ $MPK^f$  diagram. (You expected a swear didn't you.) Illustrate the effects of an increase in the depreciation rate of capital. Explain why the curve(s) moved as drawn. What happens to the desired amount of capital and the amount of investment? Explain your logic.

B) Draw the diagram for the Life-Cycle Model. Use it to prove that the second half of the final (where I ask you to show the effects of fiscal policy) may not actually be feasible. In-other-words, show that temporary expansionary fiscal policy may not solve the problems in the economy.