

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 much.

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

A) Biden's "Inflation Reduction Act" and the "Build Back Better Act" involved a lot of spending on infrastructure. Given the Endogenous Growth Theory equation, will that help or hurt our economy in the long-run? Explain your logic.

B) According to the quantity theory of money, what are the long-run and short-run effects of an increase in the money supply. Explain your logic.

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

A) For the *ratio of consumer debt to personal income*, determine if the variable is pro-cyclical, counter-cyclical, or acyclical. Explain your logic. Also determine if it's leading, lagging, or roughly coincident. Explain your logic.

B) Why does an increase in the price level move the real money supply but not the real money demand? Explain your logic.

3) (12 points) I decided to go easy on you and ask you to explain one of two equations you asked for the review. Explain EITHER the equation in Part A OR the equation in Part B.

A)  $r = (i - \pi^e) / (1 + \pi^e)$  including why  $\pi^e$  appears twice.

B)  $c = f(k) - (n + d)k$ . Explain both  $k$  terms. This is from the Solow Growth Model.

4) (14 points) Answer EITHER Part A OR Part B OR Part C. (Yes, 1 of 3.)

A) Use the equation for the Friedman's Permanent Income Model to explain the effect of a temporary tax cut. Explain how you reached your conclusion.

B) Use Okun's Law to explain why normally, the unemployment rate is leading before a recession and lagging after the recession.

C) Explain two problems with calculating the unemployment rate.

5) (16 points) Answer EITHER Part A OR Part B.

A) According to what I saw online last week, all of the 10 countries with the fastest growing populations are in Africa and most African countries have a much higher population growth rate than the rest of the world, especially Europe. Draw the Solow Growth Model graph which will compare Africa to Europe, assuming everything else in the graph is the same in the two continents. Given your diagram, do you expect Africa to do better than Europe in the future? Explain your logic.

B) Draw the Solow Growth Model diagram with the country starting to the left of equilibrium. Explain how the country will slowly move to the equilibrium.

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

A) Draw the labor supply/labor demand diagram. According to what I heard on the radio the other day, the labor force participation rate has decreased this year. Illustrate the effects of that on the graph. Explain why the curve(s) moved as drawn. What happens to the real wage and  $\bar{N}$ ?

B) Draw the  $MPK^f/uc_k$  diagram. According to what I heard on the radio the other day, the labor force participation rate has decreased this year. Illustrate the effects of that on the graph. Explain why the curve(s) moved as drawn. What happens to desired amount of capital and the user cost of capital?

7) (18 points) Answer EITHER Part A OR Part B.

A) Draw the inter-temporal budget constraint. Assume that we are starting at the point that we are neither borrowing nor lending. Illustrate the recent increase in the interest rates. Explain why the curve moved as drawn. What happens to the amount of consumption this year, consumption next year, and saving this year? State how you reached those conclusions. **I will give a bonus point** if you use indifference curves to prove your point.

B) Draw an S/I diagram for a small open economy with a KFA deficit. State how you can tell that it has a KFA deficit. Illustrate the effects of an increase in government spending without Ricardian Equivalence. Explain why the curve(s) moved as drawn. Will crowding out occur in this case? Explain your logic.