

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 some extra time, but not much.

1) (8 points) Answer EITHER Part A OR Part B.

A) Give an example of structural unemployment. Explain why it fits that definition.

B) What happens to M1 and M2 when you use a credit card to buy a new cell phone? Explain your logic.

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

A) One version of Okun's Law is $\Delta Y/Y = 3 - 2\Delta u$. Use that equation to explain why the timing of the unemployment rate is not classified as leading, lagging, or roughly coincident.

B) When President George W. Bush cut taxes in his first term, he sent everybody who had paid enough taxes \$500. Why did that have almost no impact on the GDP? Explain your logic.

3) (12 points) Explain EITHER the equation in Part A (from the Solow Growth Model) OR the equation in Part B (from the intertemporal budget constraint).

A) $c=f(k) - (n+d)k$ Make sure you explain the impact of both k terms.

B) $c_1 = (y_0 + a_0 - c_0)(1+r) + y_1$

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

A) Draw the labor supply/labor demand diagram. Illustrate the effects of an expected increase in taxes in the future. Explain why the curve(s) moved as drawn. What happens to the amount of labor hired and the real wage rate?

B) Draw the MPK^f/uc_K diagram. Illustrate the effects an increase in the depreciation rate. Explain why the curve(s) moved as drawn. What happens to the user costs of capital and the amount of desired capital?

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

A) Use the Solow Growth Model diagram to illustrate the effects of Japan's decrease in the population growth rate in the past two decades. Explain why the curve(s) moved as drawn. What happens to Japan's GDP per capita and their capital-labor ratio?

B) Write the equation for the Endogenous Growth Model. Use it to explain the long-term effects of President Trump's middle class tax cut. Use the equation to explain the long-run effects of President George W. Bush's tax on dividends. Make sure you state why the two tax cuts have different effects in the long run.

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

A) Use the graph of your choice to explain the neutrality of money.

B) For BOTH initial claims of unemployment benefits and the amount of consumer debt per person, determine if it is pro-cyclical, counter-cyclical, or acyclical. Also, determine if they are leading, lagging, or roughly coincident. Explain your logic for all four parts.

7) (20 points) Answer EITHER Part A OR Part B.

A) Use the following data to calculate GDP, GNP, NNP, NI, PI, and DPI. Consumers buy \$1200 worth of goods. Firms buy \$600 worth of machines. The government buys \$700 worth of services. We import

\$220 worth of goods and export \$170 worth. We paid foreigners \$10 worth of interest and received \$12. Capital lost \$40 worth of value. Firms paid \$120 dollars of sales tax and \$30 worth of business taxes. They retained \$25 of earnings. Consumers paid \$220 worth of income tax and received \$140 worth of Social Security payments from the government. Show all work. If you need data which is not provided, assume it is zero.

B) Draw the S/I diagram for a large country with a current account deficit. Explain how you know your diagram shows they have a current account deficit. Illustrate the effects of a positive supply shock in the rest of the world. Explain why the curve(s) moved as drawn. What happens to the world interest rate, the level of saving in both the large country and the rest of the world, the level of investment in both the large country and the rest of the world, and the large country's current account deficit.