Wilfrid W. Csaplar Jr., Ph.D.   Economics 302   Exam #1   2021/2/8

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 160 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.

1) (12 points) Explain EITHER the equation in Part A OR the equation in Part B.
A) $S_{GVT} = (T - TR - INT) - G$
B) $\Delta Y/Y = 3 - 2\Delta u$. In addition to explaining Δu, explain why the 3 is not 0 and why the 2 is not 1.

2) (10 points) Answer EITHER Part A OR Part B.
A) The book says that $r = i - \pi^e$. What is that equation ignoring? Why is that important?
B) In Question #1, is the saving a stock or a flow? Explain your logic.

3) (14 points) Answer EITHER Part A OR Part B.
A) There is one type of unemployment which may actually increase when the overall unemployment rate decreases. Which is it? Why might it increase when the overall unemployment rate decreases?
B) All statistics have a problem with their definition which will make the statistic less useful than we would like it to be. What are two problems with the unemployment rate statistic? Explain your logic.

4) (14 points) Answer EITHER Part A OR Part B.
A) Suppose you had already calculated NI and were about to calculate PI. What would you need to add and what would you need to subtract? Explain your logic including a statement of which part of society is receiving NI and which is receiving PI.
B) What are the *expenditure approach* and *income approach* to calculating GDP? Explain why they should give the same answer.

5) (16 points) Answer EITHER Part A OR Part B.
A) Draw the labor supply/labor demand diagram. Illustrate the effects of a tornado destroying a large number of factories including the machines inside. Explain why the curve(s) moved as drawn. What happened to number of people employed and the real wage rate?
B) Draw the labor supply/labor demand diagram. Illustrate the effects of improvement in technology. Explain why the curve(s) moved as drawn. What happened to number of people employed and the real wage rate?

6) (16 points) Answer EITHER Part A OR Part B.
A) Explain how borrowing constraints can cause problems for the permanent income hypothesis.
B) Draw the production function as a function of labor. Illustrate the effects of an increase in the amount of capital. Explain why the curve moved as drawn. **Without** drawing the labor supply/demand diagram, find where on the line the point moves to. Explain your logic.

7) (18 points) Answer EITHER Part A OR Part B.
A) Draw the diagram for Modigliani's Life-Cycle Model. Illustrate the effects of a bonus. Explain why the curve(s) moved as drawn.
B) Draw the inter-temporal budget constraint. Illustrate the effects of an increase in next year's income. Explain why the curve moved as drawn. What happens to the current consumption, next year's consumption, and this year's saving? Briefly explain your logic.