

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't give extra time, but I won't give much.

1) (10 points) Explain EITHER my equation for the IS Curve  $Y = f(r)$  OR the book's equation for the IS Curve  $r = f(Y)$ .

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

A) In March and April of 2020, GDP fell, but it had been rising both prior to March and started rising again in May. Why was a recession declared? What part of the *Principles of Macroeconomics's* definition of a recession does it not fit?

B) Some economists say that we cannot use the data from before World War II to prove that the business cycles have become less severe. Explain their logic.

3) (16 points) Answer EITHER Part A OR Part B.

A) Look at the graph on the back of the exam. The shaded areas are recessions. Do you think the variable is pro-cyclical or counter-cyclical? Explain your logic. Is it leading, lagging, or roughly coincident? Explain your logic.

B) Do you think the variable, *average weekly hours of production employees in manufacturing seasonally adjusted*, is pro-cyclical or counter-cyclical? Explain your logic. Do you think it is leading, lagging, or roughly coincident? Explain your logic.

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

A) According to the Bureau of Labor Statistics, the current unemployment rate in the USA is 3.8%. Draw the SRAS/LRAS/AD diagram for that situation. State how your graph shows the unemployment rate on it. If the government does nothing, what will bring the economy back to full employment? Illustrate that on the graph and explain why the graph moves as drawn. What happens to the unemployment rate, inflation rate, and GDP?

B) Draw the IS/LM/FE diagram. Use it to explain the neutrality of money. Explain why the curve(s) move as drawn and why it is called "neutrality" of money.

5) (42 points) For EITHER the event in Part A OR the event in Part B, illustrate the effects of that event on the real MS/real MD, IS/LM/FE, and SRAS/LRAS/AD diagrams. Explain why the curves moved as drawn. What happens to the real interest rates, inflation rate, unemployment rate, and real GDP?

A) The government cuts its spending.

B) The Federal Reserve sells bonds. Assume the neutrality of money does not hold.



Hover over chart to view data.

Note: Shaded areas represent recessions, as determined by the National Bureau of Economic Research.

Source: U.S. Bureau of Labor Statistics.