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 150 points (to be scaled up to 210 points) and is scheduled to take 75 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.

Remember to meet with your advisor this week or you won't be able to register for classes for next semester.

1) (12 points) Answer EITHER Part A OR Part B.
A) When you retire, it is best to have saved up 20 times your last annual income. Suppose you earned $50,000 your first year working. If we make the simplifying assumption that your income will grow at the rate of inflation, so we can do all calculations in real terms, then you will need $1,000,000 when you retire. If you plan to work for 45 years, and expect to make a 3% real return, then you will need to save $876.91 per month. If you wait 10 years to start saving (so you are only saving for 35 years), then you will need to save $1348.50 per month. There are two reasons why waiting 10 years will cause you to have to save a lot more money. Explain both of the reasons.
B) The full employment level of real GDP has probably dropped from 2.5% to 1.4% over the past few years. (We will not be able to tell if this is true for at least five more years.) Does the small drop make a difference? Explain your logic by discussing how long it will take for real GDP to double. (I chose 1.4% so you could use the same rule as the 2.5%.)

2) (12 points) For EITHER the LRAS curve OR the AD curve, draw it and explain why it takes its shape.

3) (12 points) Answer EITHER Part A OR Part B.
A) What is the *income method* of measuring GDP? Why should it give the same result as the *expenditure method* of calculating GDP?
B) Explain the difference between real GDP and nominal GDP.

4) (14 points) All statistics have problems with the way they are calculated which could cause the data to be misleading. For EITHER inflation OR the unemployment rate, explain TWO problems with that statistic.

5) (14 points) Answer EITHER Part A OR Part B.
A) What is the difference between long-run and short-run in economics? In macroeconomics, what is the variable which normally determines whether it is long-run or short-run?
B) In microeconomics, we give two reasons why demand slopes down. What are they and why don't they apply to macroeconomics?

6) (14 points) Answer EITHER Part A OR Part B.
A) What is *creative destruction*? How does it help an economy to develop?
B) What are *intellectual property rights*? How does the enforcement of them help an economy to develop?

7) (16 points) Answer EITHER Part A OR Part B.
A) Suppose the CPI at the beginning of the year was 500 and at the end of the year it was 525. What was

the inflation rate? If the expected inflation rate at the beginning of the year was 7%, then who was hurt by the inflation? Name two groups of people and explain how they got hurt.

B) Suppose an economy has 2700 employed people, 300 people without jobs who are looking for a job, 900 stay-at-home parents, 10 people in jail, and 90 people who have not had a job in so long they quit looking for a job. Calculate the labor force participation rate and the unemployment rate. Show all work and very briefly explain why you did the calculation as you did.

8) (18 points) Answer EITHER Part A OR Part B.

A) Use the following information to calculate GDP, NDP, NI, PI, and DPI. Show all work and state what you did. If some data is missing, assume it is zero. Consumers buy $2000 worth of goods. Firms build $300 worth of factories. The government spends $800. We import $350 worth of goods and export $400 worth of services. The buildings lose $60 worth of value. Corporations pay $70 worth of sales tax, $120 worth of Social Security taxes, $80 worth of profit taxes, and they keep $50 of retained earnings. The government pays out $200 worth of Social Security payments and individuals pay $600 in income taxes.

B) Every statistic has a problem with the way it is calculated. Real GDP per capita using purchasing power parity (PPP) has many problems. Explain THREE reasons why it may not be an accurate measure of the happiness of a country. Give a brief example for each problem.

9) (18 points) Answer EITHER Part A OR Part B.

A) What is the problem facing Social Security? How would increasing the Social Security tax rate reduce the problem? Would you do that? Explain your logic.

B) What is the problem facing Social Security? How would raising the cap on taxable income reduce the problem? Would you do that? Explain your logic.

10) (20 points) Answer EITHER Part A OR Part B.

A) Draw the SRAS/LRAS/AD diagram with all three lines crossing at one point. Illustrate the effects of an increase in people's desired saving. Explain why the curve(s) moved as drawn. What happens to the GDP, unemployment rate, and price level?

B) Draw the SRAS/LRAS/AD diagram with all three lines crossing at one point. Illustrate the effects of the income tax rates going up. Explain why the curve(s) moved as drawn. What happens to the GDP, unemployment rate, and price level?

11) (0 points) What unusual attribute do the following have? The Kids Are Alright by The Who; Sheer Heart Attack by Queen; Brain Salad Surgery by Emerson, Lake, and Palmer; Out of the Silent Planet by King's X; and Losing Streak by Less Than Jake (in the USA but not in Japan). Why are you doing a zero point question on April Fools' Day?