VERY IMPORTANT INSTRUCTIONS: *Not all questionnaires are the same. This is questionnaire **A**. On the answer sheet, you must indicate the letter of your questionnaire with the course's number as follows:* ***ECO2143A****. You must answer according to the material seen in this course. Make sure to read all answer choices before choosing your answer.* GOOD LUCK!

QUESTIONNAIRE A

I. MULTIPLE CHOICE QUESTIONS (4 points each)

1. Suppose that German government bonds yield a return of 15% per year for the next two years. The maximum price that you would be willing to pay now for a French government bond that promises to pay €500 in two years from now is (assume no uncertainty):
   (a) €378
   (b) €445
   (c) €470
   (d) €485
   (e) €500

2. Which of the following four statements is clearly FALSE?
   (a) In terms of percentage variations, investment tends to be more volatile than consumption.
   (b) In absolute terms, investment and consumption contribute about equally to GDP fluctuations.
   (c) A drop in government bond yields tends to increase current investment levels.
   (d) When the yield curve for government bonds is upward sloping, this suggests that investors are expecting future short-term interest rates to go up.
   (e) All of the above are true.

3. The length of time over which a bond promises to make payments to the holder is called:
   (a) yield curve
   (b) maturity
   (c) yield duration
   (d) the term structure of interest rates
   (e) face value

4. Suppose that a country experiences a large reduction in its capital stock due to a military conflict. Assume no other effect from the conflict. Within the context of the basic Solow model, once the conflict has ended, which of the following is likely to occur as the economy adjusts to this situation? (Assume no productivity growth.)
   (a) Zero growth for some time, followed by a gradually increasing growth rate.
   (b) A relatively high growth rate for some time.
   (c) A relatively high growth rate in the long run.
   (d) Positive growth, followed by negative growth, and then zero growth.
   (e) none of the above

5. Between 1950 and 2000, the rate of growth of output per capita was definitely highest in which of the following countries?

    (a) USA

    (b) UK

    (c) Japan

    (d) Canada

    (e) All four experienced similar growth rates because they are all industrialized countries.

6. According to an article written by Eggertsson titled "Great Expectations and the End of the Depression", the turn around that the USA economy experienced in 1933 should be *directly* attributed to

    (a) increased current government deficits.

    (b) lower current government deficits.

    (c) a shift in expectations.

    (d) increased current money supply.

    (e) the coming of the second world war.

7. Which of the following statements is clearly FALSE regarding economic openness? (Assume equal TFP between all countries.)

    (a) Under the assumption of perfect capital mobility between countries, the absence of arbitrage opportunities implies that the marginal product of capital between countries will <u>not</u> be equalized.

    (b) Under the assumption of perfect capital mobility between countries, the GDP per capita of a country is dependent on its savings rate.

    (c) Under the assumption of perfect capital mobility between countries, the GNP per capita is independent of its savings rate.

    (d) Within industrialized countries today, investment and savings rates are highly positively correlated. This suggests that the assumption of perfectly mobile capital is appropriate.

    (e) All of the above are false.

8. Regarding economic openness, which of the following statements is generally TRUE?

    (a) One can find many examples of closed countries that experienced healthy economic growth in the long run.

    (b) The prediction of the Solow model regarding the catch-up effect does not hold very well empirically for closed economies.

    (c) It is hard to find examples of countries that experienced higher growth when moving from being closed to being open to trade.

    (d) According to the comparative advantage argument, the fact that China is becoming more productive in <u>all</u> of its sectors simultaneously is bad news for its trade partners like Canada and the USA.

    (e) All of the above are false.

9. Regarding technological progress in Western Europe and the USA, which of the following is generally TRUE?

    (a) The first industrial revolution began in Spain around 1500 soon after the discovery of America.

    (b) The productivity slowdown that began in the early 1970's is still going on today.

    (c) The high productivity growth rates that occurred during the first and second industrial revolutions were never matched (or exceeded) during the 20th century.

    (d) The productivity slowdown of the early 1970's can clearly be attributed to a slowdown in technological progress.

    (e) All of the above are false.

10. Assume that the economy can be represented by the Solow model with the following output function $Y = K^\alpha(eL)^{1-\alpha}$, where each variable is defined as seen in class. Suppose the investment rate is $\gamma = 10\%$, the depreciation rate is $\delta = 5\%$, the growth of the labor force size is $n = 2\%$ per year and the rate of technological progress is $\hat{e} = 3\%$ per year. What will be the long-run, steady-state growth rate of *output per worker*?
   (a) 0%
   (b) 10%
   (c) 5%
   (d) 3%
   (e) 2%

II. PROBLEM

Your answers must be accompanied with clear explanations. Graphs and equations without explanations will not get you far.

1. Fiscal stimulus and expectations (25 points)

a) (15 points) Some economists believe that a government can kick-start a slowing economy through increased government spending. Skeptics argue that this will not achieve much because of the *permanent income hypothesis*. Describe the argument of the skeptics. Begin by stating the equation that links current GDP with current demand for domestic goods and give a brief description of the permanent income hypothesis.

b) (10 points) Suppose that you are asked to conduct an empirical study that seeks to determine whether increased government expenditures can contribute to higher GDP growth during a recession. Explain why *expectations* are both important but challenging for such an analysis.

2. Productivity, efficiency and factor accumulation (35 points)

Assume that the output per worker in an economy is given by $y = Ak^\alpha h^{1-\alpha}$, where each variable is defined as seen in class and $\alpha = 1/3$. In 2005, the capital stock per worker in the USA and Mexico was estimated to be equal to \$162,508 and \$44,507 respectively. As for the human capital stock per worker, Mexico's is estimated to be 79% that of the USA. GDP per worker is estimated to be \$37,267 and \$9,564 respectively for the USA and Mexico.

a) (10 points) Using the development accounting method, calculate the total factor productivity (TFP) ratio between Mexico and the USA. Begin by deriving the expression for the TFP ratio.

b) (10 points) Technology growth in the USA is estimated to average 0.66% per year between 1970 and 2005. Based on this number, estimate the ratio of efficiencies between the USA and Mexico. (In order to answer this question, you must make an assumption about the relationship between TFP, technology and efficiency in an economy. Explain your different steps.)

c) (10 points) Propose two examples of situations that could be used to explain efficiency differences between the USA and Mexico. Explain.

d) (5 points) According to your results above, what would you say is/are the most important factor(s) explaining income differences between the USA and Mexico today?