ECO 305: Intermediate Macroeconomics **Name**: ______________________________
Prof. James Murray - Spring 2016
Practice Exam 2

Directions: This exam has six problems, each on its own page. Answer ONLY FOUR OF THEM, whichever four you want. Each page is worth 25 points. You may reference a pre-prepared single, original, hand-written 8.5 x 11 inch sheet of paper during the exam.

1. Answer the following questions in the context of a Solow growth model. Describe and illustrate the following for each scenario:
   - The impact on the steady state level of capital per worker and output per worker
   - A time graph illustrating the immediate impact of the scenario and the transition to the new steady state.

   (a) Suppose past investment in public K-12 education led to an increase in worker productivity. Describe and illustrate the long-run impact on output per worker.

   (b) Suppose there is a decrease in the long-run level of government spending relative to GDP (leading eventually to an equal sized decrease in the level of taxes relative to GDP). Describe and illustrate the long-run impact on output per worker.

   (c) Suppose people decide to wait longer in their life to start having children, and choose to have fewer children. Describe and illustrate the long-run impact on output per worker.

2. The ratio of U.S. Government debt to GDP is reaching near record levels. At the end of 2015, the Federal debt to GDP ratio was 104%. Over the last decade, the government has run a primary deficit every year, and it is projected to continue doing so for several decades, and possibly indefinitely. Is this sustainable? Explain.

3. Suppose consumer preferences change so that consumers value leisure less, becoming willing to work more in order to finance greater quantities of consumption. In the context of a dynamic general equilibrium model, describe and illustrate the equilibrium effects on wages, employment, production, interest rates, consumption, and investment.

4. Answer the following questions concerning Ricardian equivalence:

   (a) What is it? Describe in the context of a cut in taxes and use an equation and/or a diagram in your answer.

   (b) Describe four of the assumptions required for Ricardian Equivalence to hold.

   (c) The assumptions for Ricardian equivalence never hold. WTH?

5. Suppose the Federal Reserve conducts an action which causes a decrease in the real interest rate. In the scenarios below, use an intertemporal representative agent model with fixed levels of income to describe and illustrate consumers' utility maximizing choices for current consumption, future consumption, saving, and total welfare. If income and substitution effects move in opposite directions, assume that substitution effects dominate.

   (a) Describe your answer for consumers that are borrowers. Derive and draw the resulting (present-period) consumption demand curve (a curve that describes how optimal choices for current consumption depend on the interest rate).

   (b) Describe your answer for consumers that are savers. Derive and draw the resulting (present-period) consumption demand curve.

   (c) Which consumption demand curve on this page is more interest-elastic? Why?

6. Suppose an economy is in equilibrium when businesses begin to expect that oil prices will rise over the next year, and more costly energy is expected to hurt worker and capital productivity. In the context of a dynamic general equilibrium model, describe and illustrate the equilibrium effects on wages, employment, production, interest rates, consumption, and investment.