ECO 305: Intermediate Macroeconomics Prof. James Murray - Spring 2015 Practice Exam

Name: _____

1. (20 points) Suppose there is an improvement in online communication technology, making it more efficient for people to work together, even when they are long distances away. Describe the effect on all the endogenous variables in a one period, general equilibrium model with endogenous decisions for consumption, leisure, labor demand, and production. Report also the effect on the marginal utility of consumption, the marginal utility of leisure, marginal product of labor, and the marginal product of capital. If income and substitution effects counteract each other, assume that substitution effects dominate.

2. (20 points) Suppose the government collects a proportional tax on corporate profits, so that consumers receive profits that are equal to $(1 - \tau)\pi$, where $\tau \in (0, 1)$ is the tax rate and π is the profits earned by the representative firm. Would the market equilibrium still result in what is socially optimal? Describe and illustrate.

3. (10 points) In many African countries, poor maintenance of capital stock leads to high rates of capital depreciation. Describe and illustrate the long-run impact on output per capita.

4. (10 points) Suppose there is a permanent increase in the fraction of income that people save. Describe and illustrate the long-run impact on output per capita.

- 5. Suppose the government imposes a proportional tax on business revenue. That is, businesses must pay a fraction, $\tau \in (0, 1)$, of their revenue in taxes.
 - (a) (15 points) Describe and illustrate the impact on labor demand and production. Supposing that labor supply is upward sloping, describe and illustrate the impact on the equilibrium wage.

(b) (15 points) Describe and illustrate the impact on consumers' consumption, leisure, and labor supply decisions. If income and substitution effects counteract each other, assume that substitution effects dominate. 6. (10 points) Describe three of the conditions that will cause unregulated, competitive markets to be socially optimal. For each condition, describe a situation in which the condition may not hold.