Economics 307: Intermediate Macroeconomics
Final Exam

Student ID#: __________________________

Please answer the following questions to the best of your ability. Remember, this exam is intended to be closed books, notes, and neighbors. No programmable calculators may be used while taking this exam. If you have any questions, please raise your hand. Be sure to show your work if you want partial credit. Don’t feel compelled to fill up all the space given with your answer. Concise correct answers are worth full points. Points possible are in parenthesis after each question. Good Luck and have a great spring break.

1. Below, I have written an economic situation. For each, please state how the condition alters the IS, LM, AD, SRAS and LRAS curves discussed in class. Assume you are comparing the conditions below to the standard model described in class and in chapters 10, 11 and 13 of Mankiw. Not all changes impact all curves so be careful. Appropriate (but not an exhaustive list of) answers may include: steeper, shallower, vertical, horizontal, shifted right, shifted left, movement along a curve, and any others that may pertain. (4 ea.)

   a. Investment spending is a positive function of national income.

   b. Taxes are a positive function of income rather than a lump sum amount.

   c. Income has no impact on money demand.

   d. The price level rises.

   e. Expectations of future prices increase.
2. a. Imagine that the economy was at the long run steady state level of growth and in economic equilibrium prior to a dramatic decrease in the money supply. Assume further that firm owners cannot immediately differentiate between changes in real and nominal profits. Further assume that population is growing at 2% per year and technology is growing at 1% per year. On the graphs below, plot the short-run and long-run effects of the increase in money supply. Label the order of the changes by placing the number 1 next to the first change, the number 2 by the second, etc. (20)
b. On the plots below, diagram the impact of the increase in money supply. **Use a solid line to do this!** Be sure to include the time period immediately before the increase and the time immediately after the economy reached the final steady state. The dashed lines indicate where the previous period ended and the next one begins. (15)
c. Money supply changes are usually surprise events; Federal Reserve officials rarely pre-announce their decisions to alter the quantity of money. However, imagine that the increase in money supply was announced well in advance. On the plot of part b, using a dotted line, plot the impact of the increase in money supply on the requested variables. (15)

d. For this part of the question, forget the details of part c. Instead, many economists have argued that periods of low unemployment have long-term impacts on the economy. For instance, during a period of low unemployment, more people are working and hence, more people are learning job-related skills. Even after unemployment returns to its long-run level, these people have skills that can increase their productivity. Assume this theory is correct. On the plot of part b, using a dashed line, demonstrate the increase in money supply. (15)

3. Use the circular flow of income to answer the following question. Assume a consumption function of the form, \( C = a + b(Y - T) \). If the marginal propensity to consume is .9 and the government increases taxes by $200, (4 ea.)

a. Explain (precisely) what happens to the following variables:

Public Saving.

Private Saving.

National Saving.

b. How do your answers to the above three variables change if the LM curve has a positive slope? (8)

c. How do your answers to the above three variables change if the LM and SRAS curves both have positive slopes? (8)
5. a. Given a per capita production function of $y = k^{.5}$, a savings rate of 10%, a depreciation rate of 2%, a technological growth rate of 1%, and population growth of 3%, what is this economy’s steady state level of output per capita. In a sentence, describe over time what is happening to this economy’s level of RGDP when the economy is in the steady state. (15)
b. Imagine that the economy described in part a of this problem begins time \((t_0)\) with 1 unit of capital per effective worker. Assume that investment demand rises at the same rate as real GDP. Further, assume that by time \(t_1\) this economy has achieved the steady state level of capital. On the left-hand side of the plots below, diagram the movement of the requested variables between time \(t_0\) and time \(t_1\). (12)

c. At time \(t_1\), this economy raises the savings level to \(s'\) where \(s' > 10\%\). On the plot above, diagram the movement of the variables as the economy evolves through time. (12)