1. Suppose the economy starts at a point of both long and short run equilibrium. If the government lowers tax rates, what will happen to that equilibrium situation in both the short- and long-run? What implication does this have for the future effectiveness of monetary policy? Assume that the economy is a closed economy (no BP curve or net exports) in answering this question. You must use the appropriate diagrams to receive points for this question.
2. Suppose that the labor market is currently in equilibrium. If there is a positive change to technology (productivity increases), demonstrate the likely effect on the labor market equilibrium and on the full employment level of output. You must use the appropriate diagrams and models to receive points for this question.
3. Suppose the investment function (sometimes called the Keynesian investment function) is vertical (perfectly inelastic). Explain how this determines the slope of the IS curve. How effective would monetary policy be in such a situation? You must show the derivation of the IS curve in this situation in order to receive points for this question.
4. In recent years, the growth rate of per capita GDP in China has slowed. Explain how the Solow model predicts this pattern of growth. You must use the Solow model (either graphically or mathematically—though graphically would likely be easier) to receive points for this question.
5. Explain why the Solow model predicts that more rapid population growth will result in slower growth in per capita GDP. You must use the Solow model (either graphically or mathematically—though graphically would likely be easier) to receive points for this question.
6. Explain the "zero-bound" problem of monetary policy.
7. Using an intertemporal choice model, show how the labor supply curve is derived. What is required for the labor supply curve to be "backward bending?" Be certain to be explicit about the income and substitution effects.
8. Assume that the economy starts at a short- and long-run equilibrium situation. If the level of immigration increases, what happens to (a) the labor supply, (b) the equilibrium wage (assuming the real wage is flexible, (c) the full employment level of output, (d) the FE curve, and (e) the LRAS curve? What implication does this have for the price level in the long run (you do not need to show the full resolution to the long-run, but must indicate what will happen to the price level)?
9. What does the evidence around the Taylor rule indicate about the Fed's recent management of the money supply? Explain fully.
10. What does the evidence show about the slope/shape/elasticity of the labor supply curve? What implication does this have for how higher real wages will impact the full employment level of output?
11. What does the evidence show about the connection between higher interest rates and the level of savings and/or investment? What ramifications does this have for the economy as the Fed begins slowing the pace of growth of the money supply?
12. Suppose you have an economy with $A = 1$, $k = 1$, $d = 0.05$, and $s = 0.1$. If the value of α is 0.5, what is the steady state level of output?
13. Suppose Susan has $1,000 in income this period, but no income in the next period (this is only a two-period example so nothing happens after that). Demonstrate how Susan determines how much to save and how much to consume in both periods. How would her level of savings change if real interest rates increased?
14. Suppose consumption is given by $C = 1000 + 0.75 \times$ Disposable Income while investment is given by $I = 2000 - 20r$. If government expenditures equal 0 (no expenditures) and the tax rate is 1/3 (the government collects 1/3 of income as tax revenue), what is the equation of the IS curve? What are the values r-intercept and the Y-intercept?
15. Using the IS/LM/BP model, demonstrate the effect of each of the following changes. Assume that the economy has an upward sloping BP curve (that is flatter than the LM curve) and a fixed exchange rate (non-sterilized intervention).
    a. An increase in tax rates
    b. An increase in government purchases
    c. An increase in the domestic money supply
    d. A fall in GDP in the rest of the world
    e. An increase in the domestic price level

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    c. An increase in the domestic money supply
    d. A fall in GDP in the rest of the world
    e. An increase in the domestic price level
17. The "optimal" capital stock model of investment indicates that the desired capital stock is a fixed value at any point of time. Suppose the economy falls into a recession; what happens to the "optimal" capital stock? What is the implication of this change for the level of investment over the years immediately after the recession?
18. Using the closed IS/LM model, explain the effectiveness of monetary policy if the LM curve is horizontal or if the IS curve is vertical. What might give rise to either of these situations. Hint—it may be helpful to consider the derivation of the curves.
19. Suppose that the economy starts at equilibrium, but experiences a significant stock market pullback. The pullback causes an increase in savings and a fall in the MPC. This change in consumer behavior increases calls for the Fed to increase the money supply. Will the fall in the MPC aid or harm the Fed's efforts to fix the economy if it chooses to take action? Explain and demonstrate why.
20. During the 1980s the average rate of unemployment in Europe was high. Some economists claimed that this was the result of real wage rigidity due to union action. Assuming this is true (this is an assertion, but perhaps not the reality), show how real wage rigidity would lead to unemployment. What is the effect of this rigidity on aggregate output? Now suppose that a positive technology shock occurs (A in the production function increases in value). How would this alter employment, unemployment, and aggregate output?
21. Recent policy in the US has encouraged the growth of substantial government budget deficits. This has occurred at the same time as the government has expressed a desire for more rapid economic growth. Using the Solow model, explain why the desire for growth may be in conflict with the actual deficit/debt policy.
22. In order to encourage greater aggregate savings (from all sources), would it be advantageous for the government to encourage trade deficits or balanced trade? Fully explain how you reach your conclusion.
23. Suppose that the introduction of cyber-currencies (like Bitcoin) leads to a fall in the transactions demand for money falls. How is this likely to alter the LM curve? Explain and demonstrate why.
24. Smalltopia is a small country in the international financial markets. It wishes to maintain a fixed exchange rate to encourage international trade. How effective will its monetary policy be during a time of economic crisis? Full explain and demonstrate your conclusion.
25. Explain and show (graphs required) the relationship between the production function and the LRAS curve.