

Economics 402

**Midterm #2 Practice Questions**

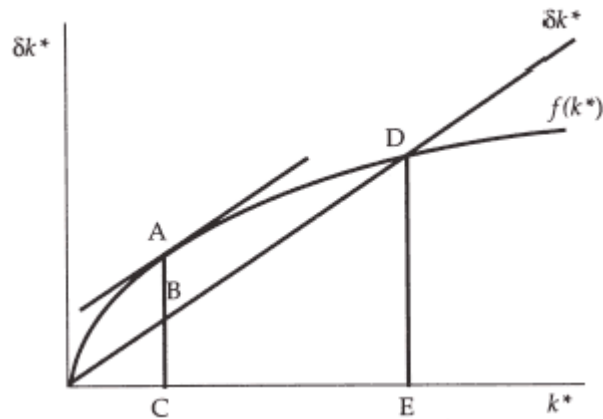
The exam will cover material in Chapters 6-11 of the Mankiw textbook and anything additional covered in class.

The following are examples of the types of questions that will be asked on the midterm. There will be multiple choice, short answer, and longer answer questions on the exam. I may use some of these questions on the midterm, so I will not post answers to them. However, you should be able to determine answers to these questions based on the textbook and class notes. I will also devote some time to review these questions prior to the exam.

1. In the Solow growth model of Chapter 7, where  $s$  is the saving rate,  $y$  is output per worker, and  $i$  is investment per worker, consumption per worker ( $c$ ) equals:
  - A)  $sy$
  - B)  $(1 - s)y$
  - C)  $(1 + s)y$
  - D)  $(1 - s)y - i$
  
2. In the Solow growth model, the steady-state occurs when:
  - A) capital per worker is constant.
  - B) the saving rate equals the depreciation rate.
  - C) output per worker equals consumption per worker.
  - D) consumption per worker is maximized.
  
3. Assume two economies are identical in every way except that one has a higher saving rate. \_\_\_\_\_ According to the Solow growth model, in the steady state the country with the higher saving rate will have \_\_\_\_\_ level of total output and \_\_\_\_\_ rate of growth of output per worker as/than the country with the lower saving rate.
  - A) the same; the same
  - B) the same; a higher
  - C) a higher; the same
  - D) a higher; a higher

4. The Golden Rule level of capital accumulation is the steady state with the highest level of:
- A) output per worker.
  - B) capital per worker.
  - C) savings per worker.
  - D) consumption per worker.

5. (Exhibit: Steady-State Consumption II) The Golden Rule level of steady-state consumption per worker is:



- A) AC.
- B) AB.
- C) BC.
- D) DE.

6. According to the Kremerian model, large populations improve living standards because:
- A) crowded conditions put more pressure on people to work hard.
  - B) there are more people who can make discoveries and contribute to innovation.
  - C) more people have the opportunity for leisure and recreation.
  - D) most people prefer to live with many other people.
7. The rate of labor-augmenting technological progress ( $g$ ) is the growth rate of:
- A) labor.
  - B) the efficiency of labor.
  - C) capital.
  - D) output.

8. According to the Solow model, persistently rising living standards can only be explained by:
- A) population growth.
  - B) capital accumulation.
  - C) saving rates.
  - D) technological progress.
9. According to the quantity theory of money, if output is higher, \_\_\_\_\_ real balances are required, and for fixed  $M$  this means \_\_\_\_\_  $P$ .
- A) higher; lower
  - B) lower; higher
  - C) higher; higher
  - D) lower; lower
10. If the short-run aggregate supply curve is horizontal, then changes in aggregate demand affect:
- A) level of output but not prices.
  - B) prices but not level of output.
  - C) both prices and level of output.
  - D) neither prices nor level of output.
11. Starting from long-run equilibrium, if the velocity of money increases (due to, for example, the invention of automatic teller machines) and no action is taken by the government:
- A) prices will rise in both the short run and the long run.
  - B) output will rise in both the short run and the long run.
  - C) prices will rise in the short run and output will rise in the long run.
  - D) output will rise in the short run and prices will rise in the long run.
12. If the Fed accommodates an adverse supply shock, output falls \_\_\_\_\_ and prices rise \_\_\_\_\_.
- A) less; more
  - B) less; less
  - C) more; less
  - D) more; more

13. The variable that links the market for goods and services and the market for real money balances in the *IS-LM* model is the:
- consumption function.
  - interest rate.
  - price level.
  - nominal money supply.
14. Both Keynesians and supply-siders believe a tax cut will lead to growth:
- and both agree it works through incentive effects.
  - but Keynesians believe it works through incentive effects whereas supply-siders believe it works through aggregate demand.
  - but Keynesians believe it works through aggregate demand whereas supply-siders believe it works through incentive effects.
  - and both agree it works through aggregate demand.
15. Assume that the real wage in an economy is held above equilibrium.
- Graphically illustrate how an increase in the supply of labor will change the number of unemployed workers. Be sure to label the axes and the quantities of labor hired before and after the technological progress.
  - Explain in words what happens to the number of unemployed as a result of this change.
16. The economy of Alpha can be described by the Solow growth model. The following are some characteristics of the Alpha economy:
- |   |        |
|---|--------|
| saving rate ( $s$ )                     | .20    |
| depreciation rate ( $d$ )               | .12    |
| steady-state capital per worker ( $k$ ) | 4      |
| population growth rate ( $n$ )          | .02    |
| steady-state output per worker          | 20,000 |
- What is the steady-state growth rate of output per worker in Alpha?
  - What is the steady-state growth rate of total output in Alpha?
  - What is the level of steady-state consumption per worker in Alpha?
  - What is the steady-state level of investment per worker in Alpha?

17. The initial steady-state level of capital per worker in Macroland is 5. The Golden Rule level of capital per worker in Macroland is 8.
- What must change in Macroland to achieve the Golden Rule steady state?
  - Why might the Golden Rule steady state be preferred to the initial steady state?
  - Why might some current workers in Macroland prefer the initial steady state to the Golden Rule steady state?
18. Assume that the long-run aggregate supply curve is vertical at  $Y = 3,000$  while the short-run aggregate supply curve is horizontal at  $P = 1.0$ . The aggregate demand curve is  $Y = 3(M/P)$  and  $M = 1,000$ .
- If the economy is initially in long-run equilibrium, what are the values of  $P$  and  $Y$ ?
  - Now suppose a supply shock moves the short-run aggregate supply curve to  $P = 1.5$ . What are the new short-run  $P$  and  $Y$ ?
  - If the aggregate demand curve and long-run aggregate supply curve are unchanged, what are the long-run equilibrium  $P$  and  $Y$  after the supply shock?
  - Suppose that after the supply shock the Fed wanted to hold output at its long-run level. What level of  $M$  would be required? If this level of  $M$  were maintained, what would be long-run equilibrium  $P$  and  $Y$ ?
19. Assume that the consumption function is given by  $C = 200 + 0.5(Y - T)$  and the investment function is  $I = 1,000 - 200r$ , where  $r$  is measured in percent,  $G$  equals 300, and  $T$  equals 200.
- What is the numerical formula for the  $IS$  curve? (*Hint*: Substitute for  $C$ ,  $I$ , and  $G$  in the equation  $Y = C + I + G$  and then write an equation for  $Y$  as a function of  $r$  or  $r$  as a function of  $Y$ .) Express the equation two ways.
  - What is the slope of the  $IS$  curve? (*Hint*: The slope of the  $IS$  curve is the coefficient of  $Y$  when the  $IS$  curve is written expressing  $r$  as a function of  $Y$ .)
  - If  $r$  is one percent: what is  $I$ ? what is  $Y$ ? If  $r$  is 3 percent: what is  $I$ ? what is  $Y$ ? If  $r$  is 5 percent: what is  $I$ ? what is  $Y$ ?
  - If  $G$  increases, does the  $IS$  curve shift upward and to the right or downward and to the left?

20. Assume that the equilibrium in the money market may be described as  $M/P = 0.5Y - 100r$ , and  $M/P$  equals 800.
- Write the  $LM$  curve two ways, expressing  $Y$  as a function of  $r$  and  $r$  as a function of  $Y$ . (*Hint*: Write the  $LM$  curve only relating  $Y$  and  $r$ ; substitute out  $M/P$ .)
  - What is the slope of the  $LM$  curve?
  - If  $r$  is 1 percent, what is  $Y$  along the  $LM$  curve? If  $r$  is 3 percent, what is  $Y$  along the  $LM$  curve? If  $r$  is 5 percent, what is  $Y$  along the  $LM$  curve?
  - If  $M/P$  increases, does the  $LM$  curve shift upward and to the left or downward and to the right?
  - If  $M$  increases and  $P$  is constant, does the  $LM$  curve shift upward and to the left or downward and to the right?
  - If  $P$  increases and  $M$  is constant, does the  $LM$  curve shift upward and to the left or downward and to the right?