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ECONOMICS 2
SAMPLE FINAL EXAMINATION

Note: This is the Spring 2019 final. Because of the move to remote instruction and the need to allow time for submitting your exam, this year's final will be somewhat shorter.

PART I: MATERIAL SINCE THE 2ND MIDTERM [75 POINTS TOTAL]

A. Short Answer

Answer both questions. Be sure to explain your answers and to draw diagrams where they are appropriate. Note: We have given you a full page for each answer so that you have plenty of room to write. We do ***not*** expect answers to take up the whole space.

1. Suppose the government lowers government purchases. What will this do to total output and consumption in the short run? **[15 points]**

2. Suppose that concerns about the health of the financial system cause people to want to hold more cash at a given nominal interest rate. What would the Federal Reserve need to do to keep the nominal interest rate unchanged? **[15 points]**

B. Problem

Answer all parts of the question. Be sure to explain your answers and to draw diagrams where they are appropriate. Your explanation and analysis determine your grade.

3. Suppose the economy is in long-run equilibrium (so output is equal to potential and inflation is steady), and that firms then become permanently more optimistic about the future marginal revenue products of capital. (***Note***: In answering this question, assume for simplicity that there is no international trade and no international capital flows.)

- **a.** What will be the short-run effect of this change on output? **[15 points]**
- **b.** How will inflation and the real interest rate behave as the economy returns to its long-run equilibrium? **[15 points]**
- **c.** How will this permanent increase in firms' optimism affect the economy's real interest rate and investment in the long run? **[15 points]**

PART II: SHORT ANSWER [45 POINTS TOTAL]

Answer all questions. Be sure to explain your answers and to draw diagrams where they are appropriate. Note: We have given you a full page for each answer so that you have plenty of room to write. We do ***not*** expect answers to take up the whole space.

4. Consider the textile industry, which is highly competitive and begins in long-run equilibrium. How will a fall in the price of cotton (an input to the production of textiles) affect the profits of a typical textile firm? **[15 points]**

5. Will a per-unit tax on a good physically collected from sellers affect the price consumers pay for the good? **[15 points]**

6. Consider a country that produces agricultural goods and manufactured goods (and faces the normal rising opportunity cost as it produces more of either good). How would a rise in the world price of manufactured goods (relative to agricultural goods) affect the combination of agricultural and manufactured goods the country wants to produce? **[15 points]**

PART III: PROBLEMS [105 POINTS TOTAL]

Answer all parts of each question. Be sure to explain your answers and to draw diagrams where they are appropriate. Your explanation and analysis determine your grade.

7. Assume the economy is in long-run equilibrium. Now, suppose the Federal Reserve shifts its reaction function in an expansionary direction.

- **a.** What does the expansionary shift in the reaction function imply about the Fed's choice of the real interest rate in the short run and the Fed's long-run target rate of inflation?[1] **[15 points]**
- **b.** In the short run, what will the expansionary shift in the Fed's reaction function do to net exports and the exchange rate (that is, the price of the dollar in terms of a typical other currency such as the euro)? **[15 points]**

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[1] Note: Because we have not discussed the Fed's target rate of inflation this year, this is not something we might ask about on this year's final. To learn more about the relation between the Fed's reaction function and its target inflation rate, see the answer sheet to Problem Set 6 and the notes on answers to the sample final.

8. Avocados are a good that the U.S. both produces domestically and imports. Suppose the U.S. puts a tariff on imported avocados.

- **a.** What would the imposition of the tariff do to the price of avocados paid by American consumers, the amount of avocados bought by American consumers, and U.S. imports of avocados? **[15 points]**
- **b.** If the American demand for avocados is highly elastic, will the impact of the tariff on U.S. avocado imports be larger or smaller than if the demand were less elastic? **[15 points]**
- **c.** What is the tariff likely to do (if anything) to the wages of American avocado-producing workers? **[15 points]**

9. Higher education is a good whose social marginal benefit exceeds the private marginal benefit.

- **a.** Will a free market choose to produce and consume the socially optimal quantity of higher education? **[15 points]**
- **b.** What (if anything) could the government do to move the outcome in this market closer to the social optimum? **[15 points]**

PART IV: MULTIPLE CHOICE **[75 POINTS TOTAL]**

Circle the **best** answer to each question. Each question is worth 3 points.

10. If Thailand has a comparative advantage relative to India in producing clothing, this tells us that:

- **a.** the marginal product of a worker in the clothing industry in Thailand is greater than that of a worker in the clothing industry in India.
- **b.** the marginal ***revenue*** product of a worker in the clothing industry in Thailand is greater than that of a worker in the clothing industry in India.
- **c.** Thailand's opportunity cost of producing clothing is lower than India's.
- **d.** Thailand must be subsidizing its clothing industry.
- **e.** (a) and (b).
- **f.** (c) and (d).
- **g.** all of the above.

11. A drought in blueberry-growing areas will cause:

- **a.** both the price and quantity of blueberries to fall.
- **b.** both the price and quantity of blueberries to rise.
- **c.** the price of blueberries to fall and their quantity to rise.
- **d.** the price of blueberries to rise and their quantity to fall.

12. If the ***nominal*** interest rate is zero, the present value of $100 to be received a year from now is:

- **a.** $100.
- **b.** less than $100.
- **c.** more than $100.
- **d.** zero.

13. If the marginal propensity to consume is higher, the multiplier is:

- **a.** higher.
- **b.** lower.
- **c.** the same.
- **d.** it is not possible to tell.

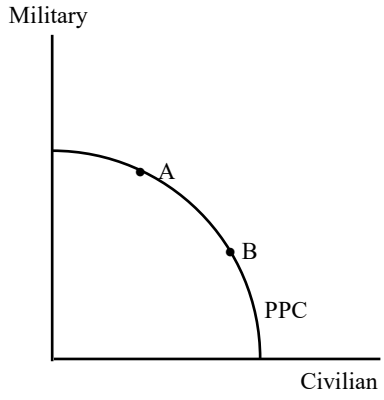
14. Government subsidies for scientific research are likely to increase output per person in the long run by:

- **a.** increasing planned investment, and so shifting the PAE line in the Keynesian cross diagram up.
- **b.** improving the economy's technology.
- **c.** increasing the economy's normal employment-to-population ratio.
- **d.** increasing net capital inflows.

Question 15 refers to the diagram to the right, which shows the PPC in terms of military and civilian goods and services.

15. Comparing Points A and B, the opportunity cost of producing civilian goods and services is:

- **a.** greater at Point A.
- **b.** greater at Point B.
- **c.** the same at the two points.
- **d.** it is not possible to tell.



16. The main reason that when government purchases rise by some amount, GDP rises by more than that amount in the short run is:
- **a.** higher government purchases increase consumer confidence, causing consumption at a given level of disposable income to be higher.
- **b.** increases in government purchases are usually accompanied by tax cuts, which raise consumption at a given level of GDP.
- **c.** higher government purchases raise inflation, and so reduce the real interest rate, which increases consumption and investment at a given level of GDP.
- **d.** all of the above.
- **e.** none of the above.

17. Net capital inflows are:
- **a.** American companies' purchases of new physical capital goods minus depreciation of their existing capital.
- **b.** the human capital of new members of the U.S. labor force minus the human capital of individuals who exit the labor force.
- **c.** foreigners' purchases of American assets minus Americans' purchases of foreign assets.
- **d.** U.S. imports of physical capital goods minus U.S. exports of physical capital goods.

18. If negative economic profits cause some firms to exit a competitive industry:
- **a.** both the industry supply curve and the supply curve of a typical firm remaining in the industry shift to the left.
- **b.** the industry supply curve shifts to the left, and the supply curve of a typical firm remaining in the industry does not change.
- **c.** the industry supply curve shifts to the left, and the supply curve of a typical firm remaining in the industry shifts to the right.
- **d.** the industry supply curve does not change, and the supply curve of a typical firm remaining in the industry shifts to the left.
- **e.** neither the industry supply curve nor the supply curve of a typical firm remaining in the industry change.

19. A competitive firm will produce at the point where:
- **a.** marginal cost is as low as possible.
- **b.** the difference between marginal revenue and marginal cost is as large as possible.
- **c.** marginal cost is equal to the price of the good.
- **d.** marginal revenue is equal to the wage.

20. If the Consumer Price Index (CPI) is 200 in 2017 and 206 in 2018, inflation from 2017 to 2018 is:
- **a.** 3%.
- **b.** 6%
- **c.** 206%.
- **d.** 406%
- **e.** it is not possible to tell.

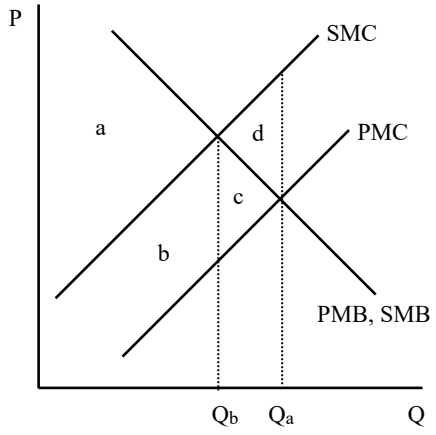
21. A fall in the real interest rate:
- **a.** causes the investment demand curve to shift to the left.
- **b.** causes the investment demand curve to shift to the right.
- **c.** causes a movement down along the investment demand curve.
- **d.** causes the purchase price of capital to fall.

22. Consider the budget constraint for a consumer choosing between food and clothes. If food is on the vertical axis and clothes are on the horizontal axis, the slope of the budget constraint is:
- **a.** the consumer's income divided by the price of clothes.
- **b.** the consumer's income divided by the price of food.
- **c.** minus the price of clothes divided by the price of food.
- **d.** minus the marginal utility of food divided by the marginal utility of clothes.

23. Suppose that in the market for airline pilots, there is a negotiated wage that is above the level where the quantity of labor supplied and the quantity demanded are equal. The following will reduce the normal employment of airline pilots:
- **a.** an increase in the negotiated wage.
- **b.** a fall in labor demand.
- **c.** a fall in labor supply.
- **d.** (a) and (b).
- **e.** (a) and (c).
- **f.** (b) and (c).

24. If a monopolist that is producing where marginal revenue equals marginal cost is earning negative economic profits, it will:
- **a.** raise its price.
- **b.** raise the quantity it produces.
- **c.** (a) and (b).
- **d.** exit.
- **e.** the situation described cannot occur.

Questions 25 and 26 refer to the diagram to the right, which shows the market for a good with a negative externality that is bought and sold in a competitive market.



25. If there is no government intervention, the deadweight loss will be:
- **a.** area c.
- **b.** area d.
- **c.** at least area c, but almost certainly more.
- **d.** at least area d, but almost certainly more.
- **e.** zero.

26. If the government imposes a per unit tax, physically collected from the seller, so that the quantity produced is the amount the makes total social surplus as large as possible, government revenue will be:
- **a.** area b.
- **b.** area b + c.
- **c.** area b + c + d.
- **d.** area b + c – d.

27. A utility-maximizing household will allocate its spending so that:
- **a.** the total utility it gets from each good is the same.
- **b.** the additional utility it gets from one more unit of each good is the same.
- **c.** the additional utility it gets from spending one more dollar on each good is the same.
- **d.** the average utility it gets per dollar spent is the same for each good.

28. The following development will cause both employment and the wage in a labor market to fall:
- **a.** a rightward shift of the labor demand curve.
- **b.** a leftward shift of the labor demand curve.
- **c.** a rightward shift of the labor supply curve.
- **d.** a leftward shift of the labor supply curve.

29. If a country with a comparative advantage in producing goods that mainly use low-skilled labor becomes open to international trade and so begins to export those goods, we would expect:
- **a.** income inequality in the country to fall.
- **b.** income inequality in the country to rise.
- **c.** the wages of both high-skilled and low-skilled workers in the country to rise, with an ambiguous effect on income inequality.
- **d.** the wages of both high-skilled and low-skilled workers in the country to fall, with an ambiguous effect on income inequality.

30. The following is the most important cause of the large increases in total output per person in the U.S. over the past century:
- **a.** improvements in technology.
- **b.** increases in normal physical and human capital per worker.
- **c.** increases in the normal employment-to-population ratio.
- **d.** increases in aggregate demand.

31. Suppose the price elasticity of supply in a competitive market is very high. Then an outward shift of the demand curve will tend to cause:
- **a.** a large rise in quantity and a small rise in price.
- **b.** a small rise in quantity and a large rise in price.
- **c.** a large fall in quantity and a small rise in price.
- **d.** a small fall in quantity and a large rise in price.

32. As one moves up along the expenditure line (PAE):
- **a.** consumption is increasing.
- **b.** planned investment is increasing.
- **c.** government purchases are increasing.
- **d.** net exports are increasing.
- **e.** none of the above.
- **f.** all of the above.

33. Suppose that in a competitive market, the price is P_1 and the quantity is Q_1. If the government introduces a per unit tax of amount *t* on the good, its revenue is likely to be:
- **a.** *t* times Q1.
- **b.** less than *t* times Q_1.
- **c.** more than *t* times Q_1.
- **d.** less than *t* times Q_1 if demand is elastic, and more than *t* times Q_1 if demand is inelastic.
- **e.** less than *t* times Q_1 if demand is inelastic, and more than *t* times Q_1 if demand is elastic.

34. A fall in the normal real interest rate in foreign countries will cause:
- **a.** both the normal real interest rate and normal investment in the U.S. to fall.
- **b.** both the normal real interest rate and normal investment in the U.S. to rise.
- **c.** the normal real interest rate in the U.S. to fall, and normal investment in the U.S. to rise.
- **d.** the normal real interest rate in the U.S. to rise, and normal investment in the U.S. to fall.