

Econ 320 - 001
Practice Midterm #1

The exam has a total of 17 questions (150 points). You will have 50 minutes to complete the exam. Good Luck!

Print your Name _____

Sign the honor Pledge affirming that you have neither given nor received aid on this exam and have complied with all of the rules of this exam.

Signature _____

Turn this sheet and the scantron sheet in with your answers.

Tips: For the Cobb – Douglas production function ($Y=AK^\alpha L^{1-\alpha}$), the $MP_K = \alpha AK^{\alpha-1} L^{1-\alpha}$ and the $MP_L = (1-\alpha)AK^\alpha L^{-\alpha}$

I. Multiple Choice (50%)

Instructions: For **questions 1-15**, mark the letter for the best answer choice for each question on the computer readable (scantron) answer sheet. Each question in this section is equally weighted. **Read each question carefully**

1. (5 pts) Macroeconomic models:
 - a. assume all wages and prices are sticky.
 - b. assume all wages and prices are flexible.
 - c. make different assumptions to explain different aspects of the macroeconomy.
 - d. focus primarily on the optimizing behavior of households and firms.

2. (5 pts) Using a market-clearing model to analyze the demand for haircuts is _____ because the price of a haircut usually changes _____.
 - a. realistic; frequently
 - b. realistic; infrequently
 - c. unrealistic; frequently
 - d. unrealistic; infrequently

3. (5 pts) If 7 million workers are unemployed, 143 million workers are employed, and the adult population equals 200 million, then the unemployment rate equals approximately _____ percent.
 - a. 3.5
 - b. 4.7
 - c. 4.9
 - d. 7

4. (5 pts) A fixed-weight price index like the CPI _____ the change in the cost of living because it _____ take into account that people can substitute less expensive goods for ones that have become more expensive.
 - a. underestimates; does not
 - b. overestimates; does
 - c. accurately estimates; does
 - d. overestimates; does not

5. (5 pts) The amount of capital in an economy is a _____ and the amount of investment is a _____.
- flow; stock.
 - stock; flow.
 - final good; intermediate good.
 - intermediate good; final good.
6. (5 pts) Assume that apples cost \$0.50 in 2002 and \$1 in 2007, whereas oranges cost \$1 in 2002 and \$1.50 in 2007. If 4 apples were produced in 2002 and 5 in 2007, whereas 3 oranges were produced in 2002 and 5 in 2007, then the GDP deflator in 2007, using a base year of 2002, was approximately:
- 150
 - 170
 - 190
 - 200
7. (5 pts) If the consumption function is given by $C = 150 + 0.85(Y - T)$ and T increases by 1 unit, then private savings:
- decreases by 0.85 unit.
 - decreases by 0.15 unit.
 - increases by 0.15 unit.
 - increases by 0.85 unit.
8. (5 pts) In a Cobb-Douglas production function the marginal product of labor will increase if:
- the quantity of labor increases.
 - the quantity of capital increases.
 - capital's share of output increases.
 - average labor productivity decreases.
9. (5 pts) In the classical model with fixed income an increase in the real interest rate could be the result of a(n):
- increase in government spending.
 - decrease in government spending.
 - decrease in desired investment.
 - increase in taxes.
10. (5 pts) According to the classical theory of money, reducing inflation will not make workers richer because firms will increase product prices _____ each year and give workers _____ raises.
- more; larger
 - more; smaller
 - less; larger
 - less; smaller

11. (5 pts) If the real interest rate and real national income are constant, according to the quantity theory and the Fisher effect, a 1 percent increase in money growth will lead to rises in:
- inflation of 1 percent and the nominal interest rate of less than 1 percent.
 - inflation of 1 percent and the nominal interest rate of 1 percent.
 - inflation of 1 percent and the nominal interest rate of more than 1 percent.
 - both inflation and the nominal interest rate of less than 1 percent.
12. (5 pts) If the real interest rate declines by 1 percent and the inflation rate increases by 2 percent, the nominal interest rate must:
- increase by 2 percent.
 - increase by 1 percent.
 - remain constant.
 - decrease by 1 percent.
13. (5 pts) In a small open economy, if exports equal \$5 billion and imports equal \$7 billion, then there is a trade _____ and _____ net capital outflow.
- deficit; negative
 - surplus; negative
 - deficit; positive
 - surplus; positive
14. (5 pts) In a small open economy, when foreign governments reduce national saving in their countries, the equilibrium real exchange rate:
- rises and net exports fall.
 - rises and net exports rise.
 - falls and net exports fall.
 - falls and net exports rise.
15. (5 pts) If the nominal interest rates in the United States and Canada are 8 percent and 12 percent, respectively, the real interest rates are the same, and the real exchange rate is fixed, then the market's expectation about the number of Canadian dollars to be received for a U.S. dollar a year from now will be that it will:
- decrease by 8 percent.
 - decrease by 4 percent.
 - increase by 4 percent.
 - increase by 5 percent.

II. Short answer (50%)

Instructions: For **questions 16 and 17**, write your answer in the space provided below each question. If you need more space, use the back of the last page. **You must show your work to get full credit.**

16. Suppose output in the economy is governed by the following production function:

$$Y = f(K, L) = 10K^{0.5}L^{0.5}$$

Where $K = 144$ and $L = 215$

- a.** (5 pts) What is capital's share of total income?
- b.** (10 pts) Does the above production function have constant, increasing or decreasing returns to scale? Explain.
- c.** (10 pts) Does the above production function display diminishing, increasing or constant marginal returns to labor? Explain.
- d.** (10 pts) What is the total factor payment to labor (i.e. total labor income)?

17. Assume that a country has a closed classical economy where output, consumption, investment, government expenditures and taxes are given below. **Make sure to label the curves, both the x and y-axis and the equilibrium values in all graphs.**

$$Y = 5000$$

$$I = 1000 - 50r$$

$$C = 250 + .75(Y - T)$$

$$G = 1000, T = 1000$$

- a. (10 pts) What are private savings, public savings and national savings?
- b. (10 pts) What is the equilibrium interest rate in this economy? Find the numerical value and show the equilibrium interest rate graphically.
- c. (10 pts) Assume now that the economy given above is no longer closed, but rather is a small open economy. Also assume that the world interest rate is 5 percent. The net exports are given by the following function: $NX = 500 - 500\varepsilon$, where ε is the real exchange rate. Find the equilibrium real exchange rate.
- d. (10 pts) Illustrate the effects of an increase in investment demand (an investment tax credit) in this small open economy using both of the graphs covered in class (loanable funds market and foreign exchange market). What variables are changed and how?