

Name: _____

Student id: _____



**College of Business Administration
Department of Economics
Aggregate Economic Conditions
ECO 3203
O. Mikhail
Fall 2001**

Exam I

- This closed book exam is worth 100 points.
The exam totals 20 multiple-choice questions and 1 short essay question.
Each correct multiple-choice answer is worth 4 points.
The short-essay question is worth 20 points.
Allocate your time accordingly.
- Answer all the short essay questions in the given space below each question.
- Including the cover page, the exam totals 6 pages.
- Answer the multiple-choice questions on the computer sheet.
- DO NOT forget to write your name and your student id on both: the computer sheet and the exam booklet.
- Non-Programmable calculators and language dictionaries are allowed.
- At the end of the exam, hand-in the exam booklet and the computer sheet to the examiner.

8:40 a.m. – 9:40 a.m.

BA 110

October 15, 2001

MULTIPLE-CHOICE: (80 points)

1. Assume a Cobb-Douglas production function, where the share of capital is .3 and the share of labor is .7. If capital grows by 1.5%, labor grows by 2% and growth of total factor productivity is 1.2%, by how much does total output grow?
 - a) 1.20%
 - b) 3.50%
 - c) 4.70%
 - d) 3.05%
 - e) 2.85%

2. Assume that GDP = 4,800, consumption = 3,400, savings = 400, net exports = -120, and government purchases = 1,200. Which of the following is true?
 - a) disposable income is 3,800
 - b) investment is 320
 - c) the budget deficit is 320
 - d) only A) and B)
 - e) only A) and C)

3. Changes in total factor productivity are also called
 - a) changes in the marginal product of capital
 - b) changes in the marginal product of labor
 - c) the Solow residual
 - d) the Cobb-Douglas residual
 - e) changes in labor productivity

4. According to the endogenous growth theory
 - a) the steady-state growth rate decreases as the rate of accumulation of factors of production increases
 - b) countries with the same technology and population growth eventually converge to the same steady-state growth rate
 - c) the steady-state growth rate is affected by the rate at which the factors of production are accumulated
 - d) the long-term growth rate of capital is not affected by the savings rate
 - e) none of the above

5. Assume that in 1962 nominal GDP was about \$600 billion and real GDP was about \$2,400 billion. The GDP-deflator for that year was
 - a) 250
 - b) 2.5
 - c) 1.25
 - d) 400
 - e) 25

6. Assume exports = 300; imports = 400; taxes = 1,100; government spending = 1,400; saving = 900. Then the level of investment is
- a) 900
 - b) 1,100
 - c) 1,300
 - d) 600
 - e) 700
7. Which of the following is NOT a source of increased factor productivity?
- a) technological progress
 - b) economies of scale
 - c) advances in knowledge
 - d) growth in the labor force
 - e) improved resource allocation
8. In the United States, annual per-capita GDP is around
- a) \$28,000
 - b) \$36,000
 - c) \$42,000
 - d) \$42,000
 - e) \$20,000
9. In the neoclassical growth model, an increase in the savings rate
- a) raises the steady-state level of output
 - b) lowers the steady-state level of output
 - c) raises the steady-state capital-labor ratio
 - d) lowers the steady-state capital-labor ratio
 - e) both A) and C)
10. Which of the following is FALSE?
- a) in industrial countries the amount of labor is less important than the skills and talent of the work force
 - b) a country that possesses rich natural resources should have a high standard of living
 - c) countries with more natural resources have on average a worse living standard than countries with fewer natural resources
 - d) if a poor country invests in health it can significantly increase the quality of human capital and thus raise overall living standards
 - e) a high level of investment generally does not lead to a higher living standard
11. Robert Barro's empirical findings that countries with a higher level of investment will achieve a steady state with a higher per capita income but not with a higher growth rate supports
- a) the notion of conditional convergence
 - b) the belief that technology is not very important
 - c) the belief that a high savings rate is not beneficial for any nation
 - d) the predictions of the endogenous growth theory
 - e) the notion of absolute convergence

12. There is no simple relationship between the proportion of investment to output and the growth rate of per capita output since
- a) income growth rates differ among countries
 - b) population growth rates differ among countries
 - c) the savings rates among countries can vary widely
 - d) the efficiency of investment among countries can vary widely
 - e) none of the above
13. Assume labor's share of income is 80% and capital's share of income is 20%. If we assume constant returns to scale, there are no technological advances and both labor and capital grow at an annual rate of 3%, then the growth rate of output will be
- a) greater than 3%
 - b) between 2.4% and 3%
 - c) 0.6%
 - d) 3%
 - e) between 0.6% and 2.4%
14. Assume a Cobb-Douglas production function where the share of labor is .7 and the share of capital is .3. If the growth rate of capital is zero, labor grows at 2% and total factor productivity growth is 1.2%, what will be the growth rate of real output?
- a) 3.5%
 - b) 1.2%
 - c) 1.4%
 - d) 2.7%
 - e) 2.6%
15. Which of the following economists contributed greatly to neoclassical growth theory in the 1950s and 1960s?
- a) Robert Solow
 - b) Robert Lucas
 - c) Gregory Mankiw
 - d) Robert Barro
 - e) Paul Romer
16. According to Solow's estimate, out of the average annual economic growth rate of 2.9% for the U.S. from 1909 to 1949, how much was attributable to the accumulation of capital?
- a) 0.12%
 - b) 0.32%
 - c) 0.75%
 - d) 1.55%
 - e) 1.22%

17. If nominal GDP was \$8,000 billion in Year 1 and \$8,240 billion in Year 2 and prices increased from Year 1 to Year 2, then
- a) real GDP was larger in Year 1 than in Year 2
 - b) real GDP was larger in Year 2 than in Year 1
 - c) real NDP was smaller in Year 2 than in Year 1
 - d) we cannot say in which year either real GDP or real NDP was larger
 - e) the GDP-deflator must have been 103
18. The GDP gap may be either positive or negative and it
- a) shows the deviation of actual output from potential output
 - b) increases if actual GDP grows faster than potential GDP
 - c) becomes negative if the labor force grows faster than actual output
 - d) will be positive if actual output exceeds potential output
 - e) increases as the unemployment rate decreases
19. Countries can achieve continued economic growth as long as
- a) technological advances continue to take place
 - b) continued educational progress is made
 - c) intelligent resource management is practiced
 - d) all of the above
 - e) only A) and B)
20. Economic growth can continue to increase as long as
- a) enough technological progress is made
 - b) there are constant returns to scale
 - c) there is increased investment in human capital
 - d) all of the above
 - e) only A) and C)

SHORT ESSAY QUESTION: (20 points)
ANSWER IN THE GIVEN SPACE BELOW THE QUESTION
BE CLEAR, BRIEF and USE GRAPHS WHENEVER POSSIBLE

QUESTION I: (20 points)

What factors determine the growth rate of steady-state per capita output? Are there other factors that could affect the growth rate of output in the short run?

EXPLAIN your answer. USE graphs whenever possible.

Answer Key

1. d 3.05%
2. d only A) and B)
3. c the Solow residual
4. c the steady-state growth rate is affected by the rate at which the factors of production are accumulated
5. e 25
6. e 700
7. d growth in the labor force
8. a \$28,000
9. e both A) and C)
10. e a high level of investment generally does not lead to a higher living standard
11. a the notion of conditional convergence
12. d the efficiency of investment among countries can vary widely
13. d 3%
14. e 2.6%
15. a Robert Solow
16. b 0.32%
17. d we cannot say in which year either real GDP or real NDP was larger
18. a shows the deviation of actual output from potential output
19. d all of the above
20. e only A) and C)