

Name:
ID:

Department of Economics
Iowa State University
Principles of Macroeconomics
Spring 2012, Midterm 1

Directions:

Do Not Open This Booklet Until Told To Do So.

- Print your name and University ID number on this page
- Fill in your name, birth date, and ID on the bubble sheet, and write the exam version number at the top of your bubble sheet.
- Answer multiple choice questions on the bubble-sheet, and answer the rest of the questions in this book.
- There are 60 points total on the exam.

Multiple choice questions. 2 points each

Answer the following questions on the bubble sheet provided.

1. Nominal GDP:
 - A) is a small or nominal amount of output.
 - B) has not been adjusted for changes in prices over time.
 - C) excludes the international sector.
 - D) has been adjusted for changes in prices over time.

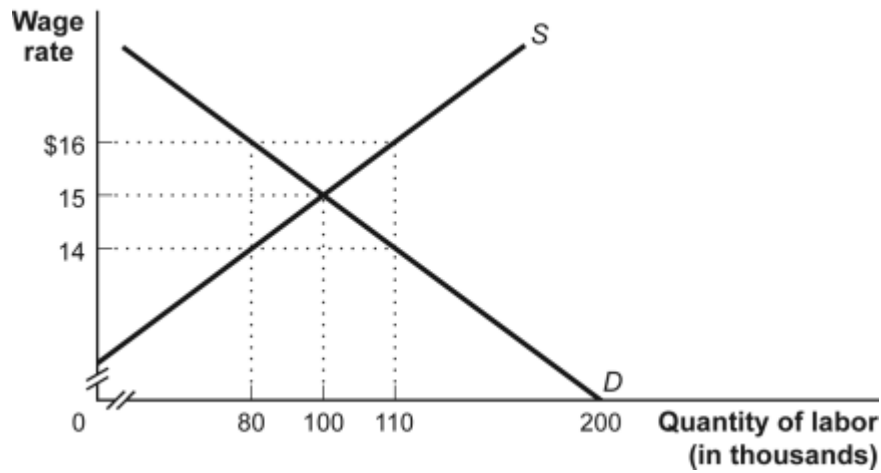
2. Gross domestic product measures the:
 - A) value of final goods and services produced within the borders of a country during a given time period.
 - B) value of final goods and services produced by the citizens of a country regardless of their location during a given time period.
 - C) amount of government spending undertaken during a given time period.
 - D) amount of money circulating through an economy during a year.

3. The improvement in labor created by education and knowledge that is embodied in the work force is known as:
 - A) human capital.
 - B) financial capital.
 - C) real capital.
 - D) physical capital.

4. Diminishing returns to physical capital suggests that:
- A) physical capital increases lead to drops in productivity when the amount of human capital per worker and the state of technology are fixed.
 - B) physical capital must be increased less than human capital and technological progress in order for growth to occur.
 - C) when the amount of human capital per worker and the state of technology are fixed, successive increases in the amount of physical capital per worker leads to a smaller increase in productivity.
 - D) increases in technological progress lead to decreases in productivity.
5. Government borrowing is:
- A) the amount of funds raised by government in the financial markets, government spending on goods and services, and government tax revenues.
 - B) the amount of funds raised by government in the financial markets.
 - C) government spending on goods and services.
 - D) government tax revenues.
6. Which of the following is TRUE concerning interest rates?
- A) The real interest rate cannot be negative.
 - B) The real interest rate can only be positive.
 - C) The real interest rate can be zero, positive, or negative.
 - D) The nominal interest rate can be negative.
7. A binding minimum wage does all of the following except:
- A) increase the amount of labor supplied.
 - B) decrease the amount of labor supplied.
 - C) increase unemployment.
 - D) decrease the quantity of labor demanded.

Use the following to answer question 8:

Figure: Labor Market



8. (Figure: Labor Market) At an efficiency wage of \$16, what is the unemployment rate?
- A) 73%
 - B) 10%
 - C) 20%
 - D) 27%
9. Within the circular flow diagram, the value of household income, the sum of wages, dividends, interest, and rent plus transfer payments equals the sum of:
- A) the money supply.
 - B) transfer payments and household tax payments.
 - C) consumer spending, private saving, and the value of household tax payments.
 - D) the value of household tax payments.

10. A survey reveals that on a small island 40 people have jobs, 10 people are looking for jobs, and 30 people are neither working nor looking for work. The unemployment rate on the island is:
- A) 25.0%.
 - B) 50.0%.
 - C) 20.0%.
 - D) 12.5%.

Use the following to answer question 11:

Use this scenario to answer questions 108–110.

Scenario: Technological Progress and Productivity Growth in Techland

Holding technology and human capital fixed in Techland, increasing physical capital per worker from \$25,000 to \$100,000 would have led to a doubling of real GDP per worker, from \$40,000 to \$80,000 during the 1970 to 2005 period. However, not only did physical capital per worker increase from \$25,000 to \$100,000, but technological progress shifted the productivity curve upward so that the actual increase in real GDP per worker during the 1970 to 2005 period was from \$40,000 to \$320,000.

11. (Scenario: Technological Progress and Productivity Growth in Techland) What was the growth rate of real GDP per capita in Techland attributable to increasing physical capital per worker during the 1970 to 2005 period?
- A) 17.5%
 - B) 2.0%
 - C) 4.5%
 - D) 8.75%
12. A nation's exports minus its imports:
- A) is net exports.
 - B) is equal to net transfer payments.
 - C) equals its private investment.
 - D) is always a positive number.

13. The convergence hypothesis fits the data only when factors that affect growth are held equal across countries. These factors include all of the following except:
- A) infrastructure.
 - B) favorable policies and institutions.
 - C) GDP per capita.
 - D) education.
14. Deflation is when there is:
- A) a decline in wages.
 - B) a recession.
 - C) a decreasing aggregate price level.
 - D) a decrease in unemployment.
15. The biggest global environment issue is:
- A) how to extract oil from Canadian tar sands.
 - B) the impact of fossil-fuel consumption on the world's climate.
 - C) the availability of coal.
 - D) how to determine who has the property rights to wind power.
16. The actual unemployment rate in the economy is 9%. If the natural rate of unemployment is 5%, then the:
- A) structural unemployment rate is 4%.
 - B) cyclical unemployment rate is 14%.
 - C) cyclical unemployment rate is 4%.
 - D) frictional unemployment rate is 4%.
17. Increases in the average level of prices is:
- A) deflation.
 - B) expectations.
 - C) depreciation.
 - D) inflation.

18. According to the text, productivity is driven by all of the following below EXCEPT:
- A) human capital.
 - B) technological progress.
 - C) natural resources.
 - D) physical capital.
19. Efficiency wages encourage:
- A) potential workers to remain out of the labor force.
 - B) workers to get more job training.
 - C) workers to look for a better job.
 - D) workers to retain their current job.
20. In 2007, China saved:
- A) less and spent less on investment as a percentage of its GDP than the U.S.
 - B) more, but still experienced an economic growth rate which was less than that of the U.S.
 - C) more and spent more on investment as a percentage of its GDP than the U.S.
 - D) less than the U.S. saved.

The next questions are from your homework. Answer in the space provided. Please give short answers and use complete sentences. If you do not explain your answer it will be marked wrong, even if you write down a correct number.

1. The consumer price index, or CPI, measures the cost of living for a typical urban household by multiplying the price for each category of expenditure (housing, food, and so on) times a measure of the importance of that expenditure in the average consumer's market basket and summing over all categories. However, using data from the consumer price index, we can see that changes in the cost of living for different types of consumers can vary a great deal. Let's compare the cost of living for a hypothetical retired person and a hypothetical college student. Let's assume that the market basket of a retired person is allocated in the following way: 10% on housing, 15% on food, 5% on transportation, 60% on medical care, 0% on education, and 10% on recreation. The college student's market basket is allocated as follows: 5% on housing, 15% on food, 20% on transportation, 0% on medical care, 40% on education, and 20% on recreation. The accompanying table shows the November 2007 CPI for each of the relevant categories.

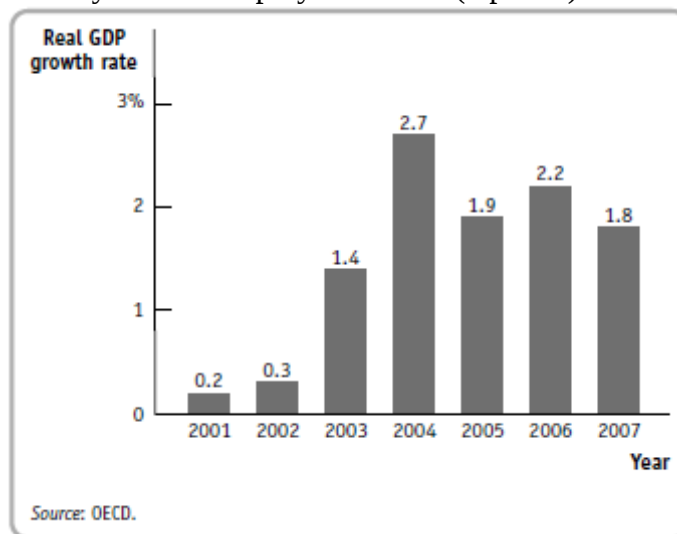
	CPI November 2007
Housing	210.7
Food	206.3
Transportation	190.7
Medical care	357.0
Education	121.4
Recreation	118.8

- a. Calculate the overall CPI for the retired person and for the college student by multiplying the CPI for each of the categories by the relative importance of that category to the individual and then summing each of the categories. (3 points)
- b. The CPI for all items in November 2007 was 210.2. How do your calculations for a CPI for the retired person and the college student compare to the overall CPI? (2 points)

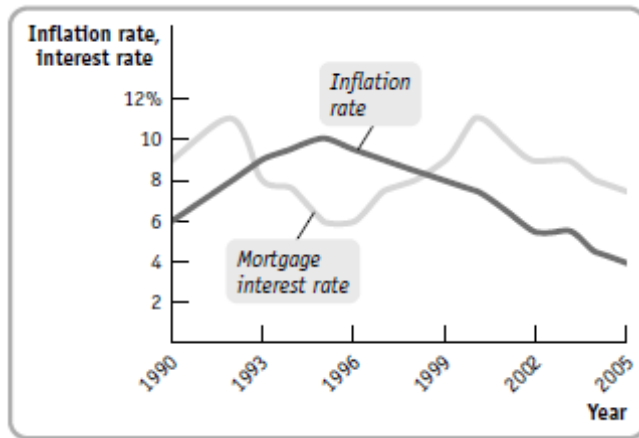
2. With its tradition of a job for life for most citizens, Japan once had a much lower unemployment rate than that of the United States; from 1960 to 1995, the unemployment rate in Japan exceeded 3% only once. However, since the crash of its stock market in 1989 and slow economic growth in the 1990s, the job-for-life system has broken down and unemployment rose to more than 5% in 2003.

a. Explain the likely effect of the breakdown of the job-for-life system in Japan on the Japanese natural rate of unemployment. (3 points)

b. As the accompanying diagram shows, the rate of growth of real GDP has picked up in Japan since 2001. Explain the likely effect of this increase in GDP growth on the unemployment rate. Is the likely cause of the change in the unemployment rate during this period a change in the natural rate of unemployment or a change in the cyclical unemployment rate? (2 points)



3. The accompanying diagram shows mortgage interest rates and inflation during 1990–2005 in the economy of Albernia. When would home mortgages have been especially attractive and why? (5 points)



4. The accompanying table shows data from the Penn World Table, Version 6.2, for real GDP per capita in 2000 U.S. dollars for Argentina, Ghana, South Korea, and the United States for 1960, 1970, 1980, 1990, and 2000.

	1960	1970	1980	1990	2000
Argentina					
Real GDP per capita (2000 dollars)	7838	9821	10921	8195	11332
Percentage of 1960 Real GDP per capita	_____	_____	_____	_____	_____
Ghana					
Real GDP per capita (2000 dollars)	412	1052	1142	1153	1392
Percentage of 1960 Real GDP per capita	_____	_____	_____	_____	_____
South Korea					
Real GDP per capita (2000 dollars)	1458	2552	4497	9593	15702
Percentage of 1960 Real GDP per capita	_____	_____	_____	_____	_____
United States					
Real GDP per capita (2000 dollars)	12892	17321	21606	27097	34365
Percentage of 1960 Real GDP per capita	_____	_____	_____	_____	_____

- Complete the table by expressing each year's real GDP per capita as a percentage of its 1960 levels. (2 points)
- How does the growth in living standards from 1960 to 2000 compare across these four nations? What might account for these differences? (3 points)

Answer Key

1. B
2. A
3. A
4. C
5. B
6. C
7. B
8. D
9. C
10. C
11. B
12. A
13. C
14. C
15. B
16. C
17. D
18. C
19. D
20. C

Homework questions are 10 from Ch 7, 9 and 11 from Ch 8, and 1 from Ch 9