Economics 1012A
Introduction to Macroeconomics
Spring 2004
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First Midterm Examination
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Follow the instructions for each of the two parts of this examination. This exam is worth 100 points total and will count as 20 per cent of your final course grade.

NOTE: The use of calculators is prohibited.

PART I : MULTIPLE CHOICE - Answer all of the following questions by selecting the most appropriate answer on your bubble sheet. Each question is worth 3 points (60 points total).

1. Price rationing means that whenever there is a need to ration a good in a free market,
   a. the price of that good will rise until the market clears.
   b. the price of that good will fall until the market clears.
   c. price will remain constant but supply will increase until the market clears.
   d. price will remain constant but demand will decrease until the market clears.

2. Hyperinflation is
   a. a period of declining aggregate output.
   b. a period of high prices and high unemployment.
   c. a sustained increase in the overall price level.
   d. a period of rapid increases in the overall price level.

3. A study of the impact of an economic stimulus package on the number of jobs created in the economy would be considered
   a. industrial organization.
   b. macroeconomics.
   c. descriptive economics.
   d. microeconomics.

4. If the inflation rate is greater than the interest rate, the real interest rate is
   a. negative.
   b. positive.
   c. either positive or zero.
   d. zero.

5. The government reduces the personal income tax rates to encourage increased consumption spending. This is an example of
   a. a fiscal policy.
   b. a monetary policy.
   c. an incomes policy.
   d. a supply-side policy.

6. The Pizza World restaurant had to increase the price of its pizzas due to higher input costs, but found that the number of pizzas sold actually increased slightly. The likely explanation is:
   a. a violation of the law of supply.
   b. an outward shift in the demand curve for dinners.
   c. an elastic demand.
   d. a violation of the law of demand.

7. Which of the following statements is FALSE?
   a. Profits earned abroad by Canadian companies are counted in Canada's GNP.
   b. Profits earned in Canada by foreign-owned companies are not counted in Canada's GNP.
   c. The income of foreigners working in Canada is counted in Canada's GNP as long as those foreigners work for a Canadian-owned company.
   d. The product produced by Canadian citizens, even when those citizens are working abroad for a foreign company, is counted in Canada's GNP.

8. The quantity demanded of Pepsi has decreased. The best explanation for this is that
   a. the price of Pepsi increased.
   b. the price of Coca Cola has increased.
   c. Pepsi consumers had an increase in income.
   d. Pepsi's advertising is not as effective as in the past.

9. Which of the following is held constant along the demand curve?
   a. price of the good
   b. quantity
   c. income
   d. both a and b

10. A toy store adds bicycles to its inventory in 1998 in anticipation of an increased demand for bicycles. But the store is not able to sell the bicycles in 1998. The bicycles the toy store added to its inventory
   a. will not be counted in 1998 GDP, because they were not sold in 1998.
   b. will not be counted in 1998 GDP because they are intermediate goods.
   c. will be counted in 1998 GDP as part of gross private investment.
   d. will be counted in 1998 GDP as a durable consumption expenditure.

11. If the unemployment rate increases from 10% to 12%, the
   a. economy's production possibility frontier will shift back and to the left.
   b. economy will move closer to the production possibility frontier.
   c. economy will move farther away from the production possibility frontier.
   d. economy will move up its production possibility frontier.

12. Two variables are said to be _____ if one variable changes when the other variable changes.
   a. dependent
   b. correlated
   c. causally related
   d. statistically related

13. If the personal saving rate is 5% and personal saving is $10 billion, the value of personal disposable income
    a. is $200 billion.
    b. cannot be determined from this information.
    c. is $500 billion.
    d. is $50 billion.

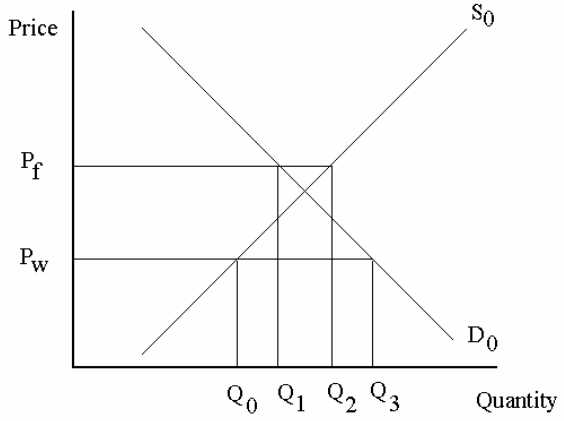
14. In Arbez, there are 80 000 persons in the labour force and the unemployment rate is 25%. As the economy moves out of a recession and job openings increase, 20 000 discouraged workers become "encouraged" and begin searching for jobs. The unemployment rate will become
    a. 40%.
    b. 25%.
    c. 20%.
    d. 30%.

15. To measure where the economy is in the business cycle, it is necessary to know
    a. both the level of economic activity and the rate of change in economic activity.
    b. the level of economic activity.
    c. the rate of change in the price level.
    d. the rate of change in economic activity.

16. Refer to Figure 5-2. Suppose there are completely free markets and Europeans can purchase grain at the world price of P_W. In such a situation, Europeans would
    a. produce Q_0 and import amount Q_0Q_1.
    b. produce Q_0 and import amount Q_2Q_3.
    c. produce Q_0 and import amount Q_0Q_3.
    d. produce Q_0 and import amount Q_1Q_2.

17. Refer to Figure 5-2. Assume that originally, in a free grain market environment, Europeans are at world price P_W. If Europeans bring in a price floor P_f to assist their farmers, which of the following would most likely result?
    a. contraction of European grain consumption from Q_3 to Q_2.
    b. contraction of European grain consumption from Q_1 to Q_0.
    c. expansion of European grain production from Q_1 to Q_2.
    d. expansion of European grain production from Q_0 to Q_2.

Figure 5-2



Production Per Day

	Matthew	**Andrew**
Windows washed	10	12
Rugs vacuumed	2	3

Figure 2.1

18. **Refer to Figure 2.1.** To maximize total production,
    a. Matthew should wash windows and vacuum rugs, but Andrew should only wash windows.
    b. Matthew should specialize in vacuuming rugs and Andrew should specialize in washing windows.
    c. Andrew should specialize in vacuuming rugs and Matthew should specialize in washing windows.
    d. Matthew and Andrew should both split their time between washing windows and vacuuming rugs.

19. **Refer to Figure 2.1.** For Andrew, the opportunity cost of vacuuming one rug is
    a. 2 windows washed.
    b. 8 windows washed.
    c. 1/4 of a window washed.
    d. 4 windows washed.

	Units consumed	**Price Period 1**	**Price Period 2**	**Price Period 3**
Good A	4	$1.00	$1.50	$2.00
Good B	10	$1.50	$2.00	$2.00
Good C	6	$2.00	$2.50	$3.00

Figure 8.2

20. **Refer to Figure 8.2.** If period 2 is the base period, the period 2 price index is
    a. 132.26.
    b. 100.
    c. 41.
    d. 1.

Part II: Short Answer - Answer any four of the following five questions in the space provided. Be sure to show your work. Each question is worth 10 points (40 points total).

1. Define the Consumer Price Index (CPI). List and explain the 4 limitations of CPI.

2. Define inflation and explain the 4 costs of inflation.

3. The following set of equations represents the demand an supply of DVDs:

$Qs = -25 + 8P$
$Qd = 125 - 2P$

a) What is the equilibrium price and quantity in this market? Show your work.

b) Now assume that demand increases to $Qd1 = 150 - 2P$. Solve for the new equilibrium price and quantity? Show your work.

c) If the government decided that the price of DVDs should not rise above the original price in part (b), then what would happen in the market when the price ceiling was implemented, would there be either excess demand or excess supply? Calculate the exact amount of the shortage or surplus.

d) Draw a graph to illustrate your answers in parts (a), (b), and (c) above.

4. You are given the following information about a fictional, two-good economy:

Year	Wheat (Bushels)	Steel (tonnes)	Wheat Price	Steel Price
Year 1	100	20	$10	$50
Year 2	110	16	$12	$55
Year 3	115	12	$14	$60

a) Calculate real and nominal GDP for each year. Show your work.

b) Calculate the GDP deflator for each of the three years. Assume that Year 1 is the base year. Show your work.

c) Calculate the rate of inflation for Year 2 and Year 3. Show your work.

5. Say you want to check into a Calgary hotel following the exam today and spend your reading week in Calgary. You check on-line and find out the Delta Bow Valley Hotel in downtown Calgary charges $65 per night for Friday and Saturday, but this increases to $148 per night from Sunday through Thursday. The situation is similar at other downtown Calgary hotels. Your traveling companion thinks this is unfair. You say it's simple economics. Using the appropriate diagrams, try to explain this to your traveling companion.

ANSWER KEY – ECON 1012A – MIDTERM #1 – SPRING 2004

PART 1: MULTIPLE CHOICE

1. a
2. d
3. b
4. a
5. a
6. b
7. c
8. a
9. c
10. c
11. c
12. b
13. a
14. a
15. d
16. c
17. d
18. c
19. d
20. b

PART II: SHORT ANSWER

1. ***CPI: Definition: is the price index calculated every month using the price of a standardized bundle of goods meant to represent the consumption of the average consumer.***

   4 Limitations:
   1. ***Basket may not reflect what is actually purchased.***
   2. ***Consumers substitute as prices change.***
   3. ***Consumption bundle changes over time, (e.g. Current basket is 1991)***
   4. ***Qualitative changes in products over time, (e.g. 1991, 286 Computer)***

2. ***Definition: Inflation is an increase in the overall price level.***

   4 Costs:
   1. ***Changing distribution of income: Fixed-income earners suffer during inflation.***
   2. ***Lending distortions:***
      - ***a) Decisions based on the real interest rate which is the difference between the interest rate and inflation.***
      - ***b) Inflation that is higher than expected benefits debtors and lower than expected benefits creditors.***
   3. ***Administrative costs and inefficiencies***

4. Increased risk and slower economic growth.

3. **a.** $-25 + 8P = 125 - 2P$ $\quad Q_d = 125-2(15) = 95 = Q_0$

$150 = 10P$

$P_0 = \$15$

b. $-25 + 8P = 150 - 2P$ $\quad Q_d = 150-2(17.50) = 115 = Q_1$

$175 = 10P$

$P_1 = \$17.50$

c. *Excess Demand:* $ED = Q_d - Q_s = (150-2(\$15)) - 95 = 25$

d. ***Graph with above information goes here.***

4. a. ***Nominal:*** *N1 = 100($10) + 20($50) = $2000*
N2 = 110($16) + 16($55) = $2200
N3 = 115($14) + 12($60) = $2330

Real: *R1 = 100($10) + 20($50) = $2000*
R2 = 110($10) + 16($50) = $1900
R3 = 115($10) + 12($50) = $1750

b. ***Deflator:*** *GDPd1 = (2000/2000) *100 = 100*
*GDPd2 = (2200/1900) * 100 = 116*
*GDPd3 = (2330/1750) * 100 = 133*

c. ***Inflation:*** *Year 2 = ((116-100)/100)*100 = 16%*

*Year 3 = ((133-116)/116)*100 = 15%*

5. This is simply D and S. On the weekends, demand is low, so the demand curve shifts to the left and prices per night decrease. On Sunday, business travelers start arriving in Calgary and the demand curve shifts to the right again, resulting in a higher price.