

UNIVERSITY OF OTTAWA  
Department of Economics

ECO1102 B - INTRODUCTION TO MACROECONOMICS

Final Examination

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Winter 2008

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**Instructions:** Please fill in your name and student number below and on the scan-tron sheet. Use the scan-tron sheet to answer the Multiple Choice and the True/False questions. This exam has 16 pages—check that this copy has all of them. The allotted time is three hours. Good luck and have a good summer!

Student Name \_\_\_\_\_

Student Number \_\_\_\_\_

### Multiple-Choice Questions (51 points—1 point per question)

Identify the letter of the choice that best completes the statement or answers the question.

1. A German citizen buys an automobile produced in the United States by a Japanese company. As a result,
  - a. U.S. net exports increase, U.S. GNP and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GNP and GDP are unaffected.
  - b. U.S. net exports, GNP, and GDP increase, Japanese GDP increases, German net exports decrease, and German GDP is unaffected.
  - c. U.S. net exports and GDP increase, Japanese GNP increases, German net exports decrease, and German GDP and GNP are unaffected.
  - d. U.S. net exports, GNP, and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GDP and GNP fall.
2. Which of the following is included in Canadian GDP?
  - a. Canadian exports of goods and services
  - b. Social Security payments
  - c. The sale of used goods
  - d. None of the above are correct.
3. If a small country has current nominal GDP of \$20 billion and a GDP deflator of 50, what is its real GDP?
  - a. \$100 billion
  - b. \$40 billion
  - c. \$10 billion
  - d. \$4 billion

**Scenario 1.** In the country of Shem, the CPI is calculated using a market basket consisting of 5 apples, 4 loaves of bread, 3 robes and 2 gallons of gasoline. The per-unit prices of these goods have been as follows:

| Year | Apples | Bread  | Robes   | Gasoline |
|------|--------|--------|---------|----------|
| 2004 | \$1.00 | \$2.00 | \$10.00 | \$1.00   |
| 2005 | \$1.00 | \$1.50 | \$9.00  | \$1.50   |
| 2006 | \$2.00 | \$2.00 | \$11.00 | \$2.00   |
| 2007 | \$3.00 | \$3.00 | \$15.00 | \$2.50   |

4. **Refer to Scenario 1.** What was the inflation rate, as measured by the CPI, between 2004 and 2005?
  - a. -8.89 percent
  - b. -7.14 percent
  - c. 3.75 percent
  - d. It is impossible to determine without knowing the base year.

5. The term "inflation" is used to describe a situation in which
  - a. the overall level of prices in the economy is increasing.
  - b. incomes in the economy are increasing.
  - c. stock-market prices are rising.
  - d. the economy is growing rapidly.
6. The real interest rate tells you
  - a. how fast the number of dollars in your bank account rises over time.
  - b. how fast the purchasing power of your bank account rises over time.
  - c. the number of dollars in your bank account.
  - d. the purchasing power of your bank account.
7. Which of the following is the most accurate statement about real and nominal interest rates?
  - a. Real interest rates can be either positive or negative, but nominal interest rates must be positive.
  - b. Real interest rates and nominal interest rates must be positive.
  - c. Real interest rates must be positive, but nominal interest rates can be either positive or negative.
  - d. Real interest rates and nominal interest rates can be either positive or negative.
8. Which of the following is considered human capital?
  - a. the comfortable chair in your dorm room where you read economics texts
  - b. the amount you get paid each week to work at the library
  - c. the things you have learned this semester
  - d. any capital goods that require a human to be present to operate
9. In the country of Krypton, the price of lead increased from \$10 per pound to \$11 per pound during a time when the overall price level increased by 5 percent. During this period, the real price of lead
  - a. increased.
  - b. decreased.
  - c. stayed the same.
  - d. might have increased, decreased or stayed the same; more information is needed to be sure.
10. Recently there have been violent protests against the World Bank and the World Trade Organization. The protesters argue that these institutions promote free trade and also encourage corporations in rich countries to invest in poor countries. The protesters contend that these practices make rich countries richer and poor countries poorer. An economist would
  - a. disagree with the protesters because these practices will help make both rich and poor countries richer.
  - b. disagree with the protesters about free trade, but would agree with the protesters about corporate investment.
  - c. disagree with the protesters about corporate investment, but would agree with the protesters about free trade.
  - d. agree with the protesters.

11. Minister Knowitall says that in order to help poor countries develop, Canada should: 1. Prevent Canadian corporations from investing in poor countries because they take profits that the poor countries should have; 2. Not import goods from poor countries that use child labour; 3. Work to promote political stability in poor countries; and 4. Reduce poor countries' reliance on market forces in their economies. How many of these ideas are likely to help poor countries grow?
- 1
  - 2
  - 3
  - 4
12. A leading environmental group recently published a report contending that humans are running a "resource deficit" because we are using natural resources faster than they can be regenerated. The group claims that this means that economic growth will eventually stop, and will even be reversed. An economist would
- agree with the report, and would point to rising natural resource prices as evidence.
  - agree with the report, but wouldn't think it was important because growth will not slow down for several centuries.
  - disagree with the report, in part because it ignores the mitigating effects of technological change.
  - disagree with the report because labour and capital are the primary determinants of growth, and since they are plentiful, growth will not slow down.
13. Fred is considering expanding his dress shop. If interest rates rise he is
- less likely to expand. This illustrates why the supply of loanable funds slopes downward.
  - more likely to expand. This illustrates why the supply of loanable funds slopes upward.
  - less likely to expand. This illustrates why the demand for loanable funds slopes downward.
  - more likely to expand. This illustrates why the demand for loanable funds slopes upward.
14. If Parliament instituted an investment tax credit, the interest rate would
- rise and saving would rise.
  - fall and saving would fall.
  - rise and saving would fall.
  - fall and saving would rise.
15. Investment rises and interest rates fall. Which of the following could explain these changes?
- The government went from surplus to deficit.
  - The government instituted an investment tax credit.
  - The government reduced the tax rate on savings.
  - None of the above is correct.

16. Who would be included in the labour force?
  - a. Holly, an unpaid homemaker
  - b. Tiffany, a full-time student not looking for work
  - c. Cody, who does not have a job, but is looking for work
  - d. None of the above are included in the labour force.
17. Which of the following is not a reason actual labour markets experience unemployment?
  - a. unions
  - b. job search
  - c. flexible wages
  - d. minimum-wage legislation
18. When the Bank of Canada wants to change the money supply in the short run, it most frequently
  - a. changes the bank rate.
  - b. changes the reserve requirement.
  - c. conducts open market operations.
  - d. uses helicopters to drop more money into the economy, or a giant vacuum to suck notes from our wallets.
19. Which list contains only actions that decrease the money supply?
  - a. make open market purchases, raise the reserve requirement ratio
  - b. make open market purchases, lower the reserve requirement ratio
  - c. make open market sales, raise the reserve requirement ratio
  - d. make open market sales, lower the reserve requirement ratio
20. During the stock market crash of October 1987, the U.S. Fed and other central banks
  - a. nearly created a financial panic by not acting as a lender of last resort.
  - b. nearly created a financial panic by raising the bank rate.
  - c. prevented a financial panic by raising reserve requirements.
  - d. prevented a financial panic by providing liquidity to the financial system.
21. The process of offsetting a foreign exchange market operation with an open-market operation—for example, selling foreign currencies and using foreign currency received in exchange to buy government of Canada bonds is called
  - a. cleansing.
  - b. sterilization.
  - c. money laundering.
  - d. corruption.
22. When the price level falls, the number of dollars needed to buy a representative basket of goods
  - a. increases, so the value of money rises.
  - b. increases, so the value of money falls.
  - c. decreases, so the value of money rises.
  - d. decreases, so the value of money falls.

23. The money supply in Freedonia is \$200 billion. Nominal GDP is \$800 billion and real GDP is \$400 billion. The central bank of Freedonia has instituted a policy of zero inflation. Assuming that velocity is stable, if real GDP grows by 10 percent this year, how will the central bank of Freedonia change the money supply this year?
- It will not change the money supply at all.
  - It will reduce the money supply by 10 percent.
  - It will increase the money supply by 10 percent.
  - It will increase the money supply by 2.5 percent.
24. High and unexpected inflation has a greater cost
- for those who borrow than those who save.
  - for those who hold a little money than for those who hold a lot of money.
  - for those whose wages increase by as much as inflation, than those who are paid a fixed nominal wage.
  - for savers in high income tax brackets than for savers in low income tax brackets.
25. The country of Sylvania has a GDP of \$1,000, investment of \$200, government purchases of \$200, and net capital outflow of negative \$100. This means that
- consumption equals \$700.
  - consumption equals \$600.
  - consumption equals \$500.
  - saving equals \$300.
26. If Canada's real exchange rate appreciates, net exports
- increase and net capital outflow decreases.
  - decrease and net capital outflow increases.
  - and net capital outflow increase.
  - and net capital outflow decrease.
27. Purchasing-power parity theory does not hold at all times because
- many goods are not easily transported.
  - the same goods produced in different countries may be imperfect substitutes for each other.
  - Both a and b are correct.
  - prices are different across countries.
28. According to purchasing-power parity theory, if a McDonald's Big Mac cost \$2.50 in Canada and 10 Tunisian dinars, then the exchange rate should be
- 1/4 Tunisian dinars per dollar.
  - 1 Tunisian dinar per dollar.
  - 4 Tunisian dinar per dollar.
  - None of the above is correct.
29. Which of the following explains why production rises in most years?
- increases in the labour force
  - increases in the capital stock
  - increases in technology
  - All of the above are correct.

30. In 1991, Canada was in recession. Which of the following things would you expect not to have happened?
- layoffs and firings
  - a higher rate of bankruptcy
  - increased claims for unemployment insurance
  - increased investment spending
31. Which of the following is incorrect concerning the long run?
- Higher money supply growth leads to higher output growth.
  - An unemployment rate of zero is unobtainable.
  - Per-capita real GDP depends on productivity.
  - An increase in the money supply raises the price level.
32. As the money supply increases,
- the interest rate falls, so capital investment rises.
  - the interest rate rises, so capital investment falls.
  - the price level increases, so consumption spending rises.
  - the price level decreases, so consumption spending falls.
33. Which of the following shifts aggregate demand to the right?
- a decrease in the money supply
  - technological progress that increases the profitability of capital goods
  - the repeal of an investment tax credit
  - a decrease in the price level
34. The long-run aggregate supply curve would shift right if the government were to
- increase the minimum-wage law.
  - make unemployment benefits more generous.
  - raise taxes on investment spending.
  - None of the above is correct.
35. An increase in the expected price level shifts short-run aggregate supply to the
- right, and an increase in the actual price level shifts short-run aggregate supply to the right.
  - right, and an increase in the actual price level does not shift short-run aggregate supply.
  - left, and an increase in the actual price level shifts short-run aggregate supply to the left.
  - left, and an increase in the actual price level does not shift short-run aggregate supply.
36. Which of the following shifts short-run, but not long-run aggregate supply right?
- a decrease in the price level
  - a decrease in the expected price level
  - a decrease in the capital stock
  - an increase in the money supply

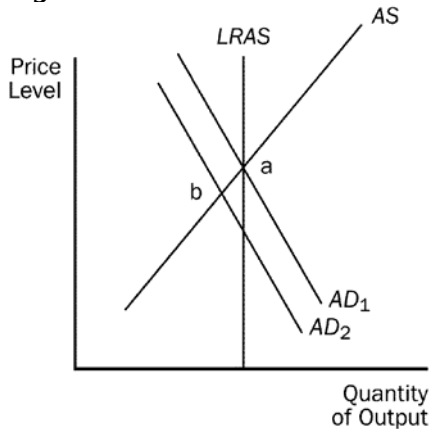
37. The economy is in long-run equilibrium. Suppose that automatic teller machines become cheaper and more convenient to use, and as a result the demand for money falls. Other things equal, we would expect that in the short run,
- the price level and real GDP would rise, but in the long run they would both be unaffected.
  - the price level and real GDP would rise, but in the long run the price level would rise and real GDP would be unaffected.
  - the price level and real GDP would fall, but in the long run they would both be unaffected.
  - the price level and real GDP would fall, but in the long run the price level would fall and real GDP would be unaffected.
38. If the inflation rate is above a central bank's target, that central bank should
- buy bonds to increase the money supply.
  - buy bonds to decrease the money supply.
  - sell bonds to increase the money supply.
  - sell bonds to decrease the money supply.
39. When production costs rise,
- the short-run aggregate supply curve shifts to the right.
  - the short-run aggregate supply curve shifts to the left.
  - the aggregate demand curve shifts to the right.
  - the aggregate demand curve shifts to the left.
40. Suppose the economy is in long-run equilibrium. Concerns about pollution cause the government to significantly restrict the production of electricity. At the same time, the value of the dollar falls. In the short-run we would expect
- real GDP will rise and the price level might rise, fall, or stay the same.
  - real GDP will fall and the price level might rise, fall, or stay the same.
  - the price level will rise, and real GDP might rise, fall, or stay the same.
  - the price level will fall, and real GDP might rise, fall, or stay the same.
41. Suppose aggregate demand fell. In order to stabilize the economy, the government might
- increase the money supply.
  - increase government expenditures.
  - decrease taxes.
  - All of the above are correct.
42. Fiscal policy refers to the idea that aggregate demand is changed by changes in
- the money supply.
  - government spending and taxes.
  - trade policy.
  - All of the above are correct.



43. If the federal government cuts spending to balance the federal budget, the Bank of Canada can act to prevent unemployment and recession while maintaining the balanced budget by
- increasing the money supply.
  - decreasing the money supply.
  - raising taxes.
  - cutting expenditures.

For the following questions, use the diagram below:

**Figure 1**



44. **Refer to Figure 1.** Which of the following would cause the aggregate demand curve to shift from AD<sub>1</sub> to AD<sub>2</sub>?
- an increase in government purchases
  - a recession in the U.S.
  - consumers and firms become more optimistic about the future.
  - an increase in the price level
45. **Refer to Figure 1.** If the economy is at point b, a policy to restore full employment would be
- an increase in the money supply.
  - a decrease in government purchases.
  - an increase in taxes.
  - All of the above are correct.
46. **Refer to Figure 1.** Which of the following is true?
- A wave of optimism could move the economy from a to b.
  - If aggregate demand moves from AD<sub>1</sub> to AD<sub>2</sub> the economy will stay at b in both the short and long run.
  - It is possible that either fiscal or monetary policy might have caused the shift from AD<sub>1</sub> to AD<sub>2</sub>.
  - All of the above are correct.

47. **Refer to Figure 1.** Which of the following is true?
- Unemployment rises as the economy moves from a to b.
  - Either fiscal or monetary policy could be used to move the economy from b to a.
  - If the economy is left alone, then as the economy moves from b to long-run equilibrium, the price level will fall farther.
  - All of the above are correct.
48. Critics of stabilization policy argue that
- there is a lag between the time policy is passed and policy has an impact on the economy.
  - the impact of policy may last longer than the problem it was designed to offset.
  - policy can be a source of, instead of a cure for, economic fluctuations.
  - All of the above are correct.
49. When the Bank of Canada lowers the growth rate of the money supply, it must take into account
- only the short-run effect on production.
  - only the short-run effects on inflation and production.
  - only the long-run effect on inflation.
  - the long-run effect on inflation as well as the short-run effect on production.
50. Which of the following would transfer wealth from old to young?
- increases in the budget deficit
  - decreased building of highways and bridges
  - more generous education subsidies
  - indexation of Social Security benefits to inflation
51. Which of the following is not an argument by those who oppose tax-law changes to encourage saving?
- Saving is not very responsive to changes in the tax rate.
  - Saving is not an important determinant of a nation's ability to produce output.
  - Reducing the budget deficit instead of changing the tax laws could raise saving.
  - Changes in the tax laws to induce saving would distribute the tax burden less fairly.

**True/False (30 points—one point per question)**

*Indicate whether the sentence or statement is true or false*

52. Income exceeds production.
53. An increase in nominal Canadian GDP necessarily implies that Canada is producing a larger output of goods and services.
54. GDP does not make adjustments for things like leisure time and environmental quality.
55. The CPI for 2000 is computed as 100 times the ratio of the price of the market basket in 2000 divided by the price of the market basket in the base year.

56. Suppose that the CPI today is 120 and that it was 80 five years ago. Then in today's prices something that cost \$1 five years ago now costs \$1.50.
57. A country without a lot of domestic natural resources can have a high standard of living.
58. When the government says that Canada should become more productive, it is really saying that Canadian workers should work harder.
59. One of the reasons that African countries may have grown slower than other countries is that many have high barriers to trade.
60. Other things the same, the higher the rate of saving and investment in a country, the higher will be the standard of living.
61. National saving is equal to  $Y - T - C$ .
62. Government policy can do nothing about the natural rate of unemployment.
63. The unemployment rate is defined as the percentage of the labour force that is unemployed. The labour force participation rate is the percentage of the adult population (that is, 15 years and over) that is either employed or unemployed.
64. If the wage is kept above the equilibrium wage for any reason, the result is structural unemployment.
65. The irrelevance of monetary changes for real variables is called monetary neutrality. Most economists accept monetary neutrality as a good description of the economy in the long run, but not the short run.
66. In the long run, an increase in the growth rate of the money supply leads to an increase in the real interest rate, but no change in the nominal interest rate.
67. If the Bank of Canada were to unexpectedly increase the money supply, lenders would gain at borrowers expense.
68. The large, positive net capital outflow in Canada after 1999 is primarily the result of government budget surplus.
69. According to the theory of purchasing-power parity, the real exchange rate defined as foreign goods per unit of Canadian goods will equal the domestic price level divided by the foreign price level.
70. A possible reason why since 1970, the U.S. dollar depreciated against the German mark and appreciated against the Italian lira is because the U.S. experienced more inflation than Germany but less inflation than Italy.
71. When output rises, unemployment falls.

72. The explanations for the slopes of the aggregate demand and aggregate supply curves are the same as the explanations for the slope of demand and supply curves for specific goods and services.
73. Technological progress shifts the long-run aggregate supply curve to the right.
74. Increased uncertainty and pessimism about the future of the economy decreases investment spending shifting aggregate demand to the left.
75. In response to a decrease in output the economy would revert to its original level of prices and output whether the decrease in output was caused by a decrease in aggregate demand or a decrease in aggregate supply.
76. Economists mostly agree that the Great Depression was the result of a very large adverse supply shock.
77. If the government increased the money supply in response to a decrease in aggregate supply, unemployment would return towards its natural rate, but prices would rise even more.
78. A recession has no benefit to society--it represents a sheer waste of resources.
79. Most economists agree that stabilization policy is likely to work despite lags in the effects of policy.
80. The cost of inflation reduction is a small but permanent increase in unemployment
81. The federal government has committed to eliminate federal public debt by 2021.

**Short-Answer Questions (24 points)**

*Answer in the space provided.*

82. (4 points) Explain why sustained government deficits are likely to lead to lower living standards in the long run. You may want to use a diagram.

83. (10 points) Suppose that the economy is in a long-run equilibrium.
- Use a diagram to illustrate the state of the economy. Be sure to show aggregate demand, short-run aggregate supply and long-run aggregate supply.
  - Now, suppose that firms become pessimistic about future business conditions and significantly cut their capital investments. Use your diagram to show what happens to output and the price level in the short run. What happens to the unemployment rate?
  - Assuming no change in policy, what would happen to output, employment and the price level in the long-run? Explain. (For now, assume that there is no change in the long-run aggregate supply curve).

d. Is there anything the government and/or the Bank of Canada could do in the short-run to soften the impact on the economy? Explain.

e. How might the drop in capital investment affect the long-run aggregate supply curve?

84. (5 points) In the 1970s people had become accustomed to high inflation. In 1979, the Bank of Canada decided to fight inflation and decreased the money supply growth rates. Many people thought that the Bank of Canada's action would cause a recession.
- a. Is this thinking consistent with the aggregate demand and aggregate supply model? Explain.
- b. According to the sticky wage theory what should have happened to output if people had believed the Bank of Canada's commitment to reduce the inflation rate and had perfectly anticipated the drop in prices. Explain.

85. (5 points) On April 22, the Bank of Canada will announce whether it increases, decreases or does not change the bank rate. What do you expect the announcement to be? Explain. (I am not looking for exact numbers, just the direction of the change if a change is announced; you may want to use a diagram to explain your answer).