



MACROECONOMIC THEORY I
ECO2142 C
Winter 2015

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MIDTERM 1
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Version 1

Name.....

Student ID.....

This exam is closed book/closed notes.

The use of NONPROGRAMMABLE calculators is permitted. Cellular phones and all other electronic devices must be turned off and put away during the exam.

The exam consists of a total of 34 questions; the value of each question is given in the text.

You have 1 hour and 30 minutes to complete the 34 questions.

Good luck!

Questions 1-12 are worth 2.5 points each.

1. Two days ago, Diane went to her local RBC branch in Ottawa and purchased \$1,500 worth of shares of a stock fund. Diane's Financial Advisor at the RBC received a compensation of \$20 for the transaction. In the National Identity for Canada, which expenditure group is affected by this transaction?
 - a. Investment (I).
 - b. Consumption (C).
 - c. Exports (X).

2. The city of Ottawa has purchased a new Zamboni ice resurfer to smooth and clean the ice on the Rideau Canal. The machine was produced in a factory near Paramount, California (USA). In the National Identity for the USA, in which expenditure group is this transaction recorded?
 - a. In investment (I).
 - b. In consumption (C)
 - c. In exports (X).

3. Yesterday, Catherine went to her new favorite Salon in Ottawa, "Chez Philippe". She had a haircut and styling from Philippe, the owner of the Salon, and paid a total of \$50 for the service. Philippe is French, and moved to Ottawa only a few months ago. This transaction
 - a. increases GDP for Canada.
 - b. increases GDP for France.
 - c. does not affect GDP for either Canada or France.

4. The CPI for 2008 (with base year 2010) was 96. Between 2008 and 2010 this country experienced
 - a. inflation.
 - b. deflation.
 - c. we don't have enough information to answer this question.

5. Assume that Tom's marginal propensity to consume is 0.9. If Tom's income (Y) remains unchanged, but taxes (T) decrease by \$10, Tom's consumption will
 - a. increase by \$10.
 - b. increase by \$9.
 - c. decrease by \$9.

6. Assume that the economy is closed. In the Classical model, a decrease in government spending (G) will
 - a. decrease both public saving and national saving.
 - b. increase both public saving and national saving.
 - c. increase public saving and decrease national saving.

7. Which of the following policies could the Bank of Canada implement to decrease the money supply?
- A decrease in the bank rate.
 - An open market purchase of federal government bonds.
 - An open market sale of federal government bonds.
8. If the average currency-deposit ratio (cr) increases
- banks will use a larger fraction of their deposits to extend loans.
 - banks will be holding a larger fraction of their deposits as reserves.
 - people will be holding a larger fraction of their deposits as currency.
9. According to the Quantity Equation, if nominal GDP is \$10 billion and the velocity of money is equal to 4, then the quantity of money in the economy is:
- \$2.5 billion.
 - \$10 billion.
 - \$40 billion.
10. In a country that is experiencing inflation
- the growth rate of Nominal GDP will be higher than the growth rate of real GDP.
 - the growth rate of Nominal GDP will be lower than the growth rate of real GDP.
 - Nominal GDP and real GDP will grow at the same rate.
11. If the number of employed workers in a country increases while the number of unemployed workers remains unchanged
- the unemployment rate will decrease.
 - the unemployment rate will increase.
 - the unemployment rate will not change.
12. If the reserve-deposit ratio (rr) decreases, then the policies that the Central Bank can employ to change the monetary base will
- have a smaller impact on the money supply.
 - have a larger impact on the money supply.
 - become unable to change the money supply.

Questions 13-30 are worth 3 points each.

13. Assume that the economy is closed. In the Classical model, an increase in government spending (G) will
- increase the supply of loanable funds and increase investment I .
 - decrease the real interest rate and increase investment I .
 - increase the real interest rate and decrease investment I .
 - increase the supply of loanable funds and decrease investment I .

14. Paula's marginal propensity to consume is 0.8. You observed that, after a change in her disposable income, Paula's saving decreased by \$4. Then you can deduce that Paula's disposable income has
- increased by \$5.
 - increased by \$16.
 - decreased by \$16.
 - decreased by \$20.
15. Two days ago, Marc bought a 1991 Ford Bronco that was produced in the Ford plant in Mississauga, ON. Marc paid a total of \$2,100 to the dealer; \$2,000 for the car and \$100 for a new spare tire to be attached on the back of the car. What is the contribution of this transaction to Canada's 2015 GDP?
- \$2,100
 - \$2,000
 - \$1,900
 - \$100
16. Assume that the marginal product of labor is $MPL = 10(K/L)^{0.5}$. If the stock of capital in the economy is $\bar{K} = 180$, and the stock of labor in the economy is $\bar{L} = 20$, then the equilibrium real wage in the market for labor is:
- \$30
 - \$20
 - \$9
 - We don't have enough information to answer this question.
17. Stearn Estates is an Icewine winery located in Niagara-on-the-Lake, Canada. The Icewine produced by this farm is mostly sold to customers in the United States. An increase in the price of the Icewine produced by Stearn Estates would
- increase the GDP deflator for Canada.
 - increase the GDP deflator for the United States.
 - increase the GDP deflator for the United States only if this Icewine is included in the typical basket consumed by a US citizen.
 - increase the GDP deflator for the United States, and decrease the GDP deflator for Canada.
18. Assume that the economy is closed and operates according to the Classical model. Consider the market for loanable funds, and assume that savings are fixed and do not depend on the real interest rate. You know that the Investment function is $I = 100 - 4r$ (where r is the real interest rate) and that the amount of private saving in the economy is \$120. If the equilibrium real interest rate is $r = 5$, then in equilibrium
- taxes (T) must be greater than government spending (G).
 - taxes (T) must be smaller than government spending (G).
 - taxes (T) must be equal to government spending (G).
 - public saving must be equal to private saving.

19. Assume that the reserve-deposit ratio (rr) is 0.16 and that the currency-deposit ratio (cr) is 0.05. If the Bank of Canada increases the monetary base by \$4 million, then the money supply will
- increase by \$0.84 million.
 - increase by \$4 million.
 - increase by \$20 million.
 - decrease by \$4 million.
20. Assume that the Quantity Theory of Money holds, and that the economy operates according to the Classical model. If real GDP in the economy is constant, and the Central Bank decides to increase the growth rate of the money supply, then
- the real interest rate will increase.
 - the inflation rate will increase.
 - the inflation rate will decrease.
 - nominal GDP will decrease.
21. Consider the money demand function obtained from the quantity equation: $(M/P)^d = (1/V)Y$. Assume that a rapid development of new electronic forms of payment significantly increases the rate at which money circulates in the economy, while real GDP remains unchanged. As a consequence, the quantity of real money balances that people want to hold will
- increase.
 - decrease.
 - remain unchanged.
 - become negative.
22. Assume that the economy is closed, and operates according to the Classical model. In addition, assume that consumption is equal to $C = 0.8Y^d$ where $Y^d = (Y - T)$ is disposable income. Everything else constant, an increase in the stock of labor \bar{L} would
- increase output, private saving, and national saving.
 - increase output and public saving, but decrease private saving.
 - increase output and public saving, but leave private saving unchanged.
 - decrease output and private saving, but increase national saving.
23. If you go to the ATM and withdraw \$50 from your checking account
- both M1 and M2 will remain unchanged.
 - M1 will increase while M2 will decrease.
 - M1 will remain unchanged while M2 will decrease.
 - both M1 and M2 will decrease.
24. Which of the following would increase the money supply?
- An decrease in the reserve-deposit ratio (rr) that banks keep.
 - An open market sale of federal government bonds.
 - An increase in the currency-deposit ratio (cr) that individuals keep.
 - A switch of government deposits away from chartered banks.

25. Assume that the economy operates according to the Classical model. If the production function is $Y = AK^{0.4}L^{0.6}$, then the capital's share of national income in this economy is equal to:
- the value of the parameter A .
 - 0.4
 - 0.6
 - 1
26. The number of unemployed workers in the economy is 10,000, the number of employed workers is 50,000, and the job separation rate is 2%. If the labor force in the economy remains unchanged, in order for the unemployment rate to decrease we would need the job finding rate to be
- zero.
 - 2%
 - between 2% and 10%
 - larger than 10%
27. Assume that the economy operates according to the Classical model. If the marginal product of capital is $MPK = 4(L/K)^{0.5}$, what is the optimal amount of capital demanded by firms when the real rental price of capital is $R/P = 8$ and the stock of labor is $L = 40$?
- $K = 4$
 - $K = 8$
 - $K = 10$
 - $K = 40$
28. A fundamental characteristics of the Classical model is the Classical dichotomy, which implies that:
- monetary policy can affect real wages, real GDP, and the real interest rate.
 - the nominal variables in the economy will not influence the real variables.
 - the equilibrium in the loanable funds market will determine the inflation rate.
 - the demand of real money balances will determine the level of output produced in the economy.
29. Assume that in the labor market for waiters the equilibrium real wage is \$10 per hour. If the demand for waiters shifts to the left, but real wages are rigid and do not adjust after this change, then
- there will be more waiters demanded than waiters available to work.
 - there will be more waiters available to work than waiters demanded.
 - the number of waiters demanded will be equal to the number of waiters available to work.
 - the number of waiters demanded at the real wage of \$10 per hour will increase.
30. The long-run unemployment, or Natural rate of unemployment, might be caused by all of the following except
- the time that it takes for a worker to find a job whose attributes match his abilities.
 - minimum wage laws.
 - business cycle fluctuations.
 - the strong presence of unions.

Questions 31-34 are worth 4 points each.

31. Assume that Country A operates according to the Classical model, and produces output using a Cobb-Douglas production function. Assume that this country suddenly experiences a large migration outflow, which considerably reduces the stock of labor \bar{L} while leaving the stock of capital \bar{K} unchanged. Which of the following do you expect to observe?

- a. The real wage will increase, while the real rental price of capital will remain unchanged.
- b. The real wage and the real rental price of capital will both increase.
- c. The real wage will decrease, while the real rental price of capital will increase.
- d. The real wage will increase, while the real rental price of capital will decrease.
- e. The real wage and the real rental price of capital will both decrease.

32. Assume that the economy is closed, and that output is produced according to a Cobb-Douglas production function. According to the Classical model, which of the following would **not** affect the real interest rate?

- a. A change in taxes or government spending.
- b. An open market purchase of federal government bonds implemented by the Bank of Canada.
- c. A change in the average marginal propensity to consume of the population of this country.
- d. A change in the stock of capital in the economy.
- e. A major technological improvement, which increases the value of the parameter A in the Cobb-Douglas production function.

33. Consider the money demand equation $(M/P)^d = L(i, Y)$ together with the Fisher equation $i = r + E\pi$. If people expect that the Central Bank will increase the growth rate of the money supply in the future

- a. expected inflation will increase, the nominal interest rate will increase, and the quantity of real money balances demanded will decrease.
- b. expected inflation will increase, the nominal interest rate will increase, and the quantity of real money balances demanded will increase.
- c. expected inflation will increase, the real interest rate will increase, and the quantity of real money balances demanded will increase.
- d. expected inflation will decrease, the nominal interest rate will decrease, and the quantity of real money balances demanded will increase.
- e. expected inflation will decrease, the nominal interest rate will decrease, and the quantity of real money balances demanded will decrease.

34. Assume that the steady-state unemployment rate is 5%, and the actual unemployment rate is 6%. If the government successfully implements a set of policies aimed at increasing the job finding rate, then you would expect

- a. the steady state unemployment rate to increase, and the actual unemployment rate to increase in the long run.
- b. the steady state unemployment rate to increase, and the actual unemployment rate to remain unchanged in the long run.
- c. both the steady state unemployment rate and the actual unemployment rate to remain unchanged.
- d. the steady state unemployment rate to decrease, and the actual unemployment rate to decrease in the long run.
- e. the steady state unemployment rate to decrease, and the actual unemployment rate to increase in the long run.

Answers

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|------|-------|-------|-------|-------|
| 1. b | 8. c | 15. d | 22. a | 29. b |
| 2. c | 9. a | 16. a | 23. a | 30. c |
| 3. a | 10. a | 17. a | 24. a | 31. d |
| 4. a | 11. a | 18. b | 25. b | 32. b |
| 5. b | 12. b | 19. c | 26. d | 33. a |
| 6. b | 13. c | 20. b | 27. c | 34. d |
| 7. c | 14. d | 21. b | 28. b | |