

Concordia University
Department of Economics

ECON 203 - INTRODUCTION TO MACROECONOMICS
Winter 2018

COMMON FINAL EXAMINATION - VERSION 1

FIRST NAME: _____ LAST NAME: _____

STUDENT NUMBER: _____

Please, read all instructions carefully:

1. The exam consists of two parts:
 - (i) Part I: 50 multiple-choice questions (100 marks);
 - (ii) Part II: Choose 4 out of 5 long questions (100 marks).
2. Write your name, student ID and answers for the multiple-choice questions on the computer scan-sheet with a **pencil**. Please, also write the **version** of the exam on the computer scan-sheet. For Part II, write all your answers on this exam. Do not use additional booklets.
3. You are allowed to use a non-programmable calculator and a paper dictionary, provided that they are approved by the invigilator(s). You may use either pen or pencil to provide your answers for Part II.
4. You are not allowed to tear any pages out of this exam.

Grades:

Part I: _____

Part II:

Problem #1: _____

Problem #2: _____

Problem #3: _____

Problem #4: _____

Problem #5: _____

Total: _____

Part I: Multiple Choice Questions. Write your answers on the computer sheet in PENCIL.(Total=100 marks)

1. Which of the following always correspond(s) to a fall in the short run output?
 - (a) The AS shifts right
 - (b) The resulting price level falls
 - (c) The AD shifts up
 - (d) None of the answers is correct
2. Suppose the multiplier is 2. The AE curve shifts down by 80 due to a fall in investment confidence. What will happen to the AD curve?
 - (a) It will shift to the right by 160
 - (b) It will shift to the left by 160
 - (c) It will shift to the right by 80
 - (d) It will shift to the left by 80
3. The aggregate demand is derived from which of the following conditions?
 - (a) By examining how government policies affect spending patterns
 - (b) By examining how price changes affect interest rates and spending
 - (c) By summing all micro demand curves
 - (d) All of the answers are correct
4. The aggregate demand curve is:
 - (a) Horizontal when there is considerable unemployment in the economy
 - (b) Vertical if full employment exists
 - (c) Downward sloping because production costs decrease as real output increases
 - (d) Downward sloping because of the interest-rate, wealth, and foreign trade effects
5. Which of the following add(s) to a country's capital stock?
 - (a) Net investment expenses
 - (b) Depreciation expenses
 - (c) A cut in sales taxes
 - (d) All of the answers are correct
6. Which of the following statements is INCORRECT?
 - (a) The value added measurement of GDP describes the demand side of the economy
 - (b) The output measurement of GDP describes the supply side of the economy

- (c) The income measurement of GDP describes the supply side of the economy
 - (d) The expenditure measurement of GDP describes the demand side of the economy
7. If induced spending increases from \$300 to \$315 when national income increases from \$500 to \$525, then the $(mpc - mpm)$ is equal to ----.
- (a) 0.7
 - (b) 0.6
 - (c) 0.9
 - (d) 0.8
8. If the mpc is equal to 0.75 and the mpm is equal to 0.15, what can we conclude?
- (a) A change in national income does not change induced expenditures
 - (b) Expenditures are high when our income is very low
 - (c) A rise in national income will cause a rise in aggregate expenditure
 - (d) All of the answers are correct
9. What do fiscal policy and monetary policy accomplish?
- (a) They can change aggregate demand to eliminate price changes
 - (b) They can change potential Y to eliminate output gaps
 - (c) They can change aggregate demand to eliminate output gaps
 - (d) All of the answers are correct
10. Which of the following is (are) example(s) of investment expenditure?
- (a) Buying bonds issued by Blackberry
 - (b) Buying a new mannequin for a window display
 - (c) Putting some money into an interest-bearing savings account
 - (d) All of the answers are correct
11. If we include discouraged workers when calculating the unemployment rate, what will happen?
- (a) The unemployment rate will fall
 - (b) The employment rate will remain constant
 - (c) The labour force will remain constant
 - (d) All of the answers are correct
12. Suppose autonomous expenditure is 230 and induced expenditure is $0.6Y$. What is the equilibrium Y ?
- (a) \$600
 - (b) \$575

- (c) \$625
 - (d) \$700
13. When does potential output Y_p change?
- (a) When the size of the labour force changes
 - (b) When government policy changes
 - (c) When the price level changes
 - (d) When central bank policy changes
14. In an economy where there are only consumption expenditure and investment expenditure, what is the value of saving when $Y=AE$?
- (a) Some positive value
 - (b) Equal to investment
 - (c) Zero
 - (d) Some negative value
15. Which of the following is (are) goal(s) of government and central bank intervention in the economy?
- (a) To maximize economic growth
 - (b) To minimize economic downturns
 - (c) To keep inflation rates low
 - (d) All of the answers are correct
16. We cannot look at the direction of discretionary fiscal policy by looking at the changes in the actual fiscal budget. What is the reason?
- (a) Those changes may reflect changes in the tax revenues as a result of the change in GDP
 - (b) Those changes may reflect the changes in consumption habits
 - (c) Those changes may reflect changes in the tax revenues as a result of the change in potential GDP
 - (d) Those changes may reflect the changes in investment confidence
17. Suppose that the government decreases its autonomous spending by \$100 billion and also decreases its autonomous taxes by \$100 billion. How would this affect the economy?
- (a) No effect on the level of GDP
 - (b) GDP will fall
 - (c) GDP may rise or fall depending on the size of the mpc
 - (d) GDP will rise
18. The actual (observed) government balance depends simply on:

- (a) Government support for social programs and national defense
 - (b) Government net tax rates, government expenditures on goods and services and the actual level of nominal GDP
 - (c) The net tax rates set by the government
 - (d) Government expenditures on goods and services
19. What does fiscal policy refer to?
- (a) Using government spending and taxes to stabilize domestic output and employment
 - (b) Using government spending and taxes to increase equality in the distribution of income
 - (c) Using interest rates and exchange rates to increase equality in the distribution of income
 - (d) Using interest rates and exchange rates to balance the fiscal budget
20. What does "discretionary" fiscal policy refer to?
- (a) It involves specific changes in T and G by the government
 - (b) It involves specific changes by the country's central bank
 - (c) It occurs automatically as the country's GDP changes
 - (d) All of the answers are correct
21. Which of the following statements is (are) CORRECT?
- (a) The higher the reserve ratio, the lower is the deposit creation
 - (b) The Bank of Canada cannot fully control the reserve ratio and the currency ratio
 - (c) The higher the cash withdrawals by customers, the lower is the deposit creation
 - (d) All of the answers are correct
22. Suppose Person A deposits \$100 into the Royal Bank of Canada. This bank has a reserve ratio of 0.2. This means that if Person B walks in and wants to get a loan, this person can get a loan of maximum -----.
- (a) \$500
 - (b) \$80
 - (c) \$20
 - (d) \$100
23. Continue with the previous question: Suppose Person B pays this amount to his landlord, Person C. Person C deposits this amount into the Bank of Montreal. This bank also has a reserve ratio of 0.2. If Person D walks in and wants to get a loan, the maximum amount he can borrow is equal to -----.
- (a) \$400
 - (b) \$18

- (c) \$64
 - (d) \$80
24. How is the reserve ratio in the banking system defined?
- (a) Cash balances held by banks relative to their liabilities
 - (b) Cash balances held by banks relative to their equity
 - (c) Cash and central bank deposits held by banks relative to their outstanding loans
 - (d) Cash and central bank deposits held by banks relative to their deposit liabilities
25. Suppose Mandy deposits \$500 cash to her bank account. Later that afternoon Jason borrows \$2,000 from the same bank. What has happened to the money supply?
- (a) Increased by \$10,000
 - (b) Increased by \$2,000
 - (c) Increased by \$20,000
 - (d) Increased by \$2,500
26. Which of the following is NOT a function of the Bank of Canada?
- (a) Earns profits for the federal government of Canada
 - (b) Issues legal tender
 - (c) Provider of monetary base
 - (d) A lender of last resort
27. Households and businesses often hold some of their wealth as non-interest earning money balances because
- (a) Money balances offer a better protection against rising prices than do many other assets
 - (b) Money balances always pay lower rates of return than the non-money assets
 - (c) The opportunity cost of holding money balances is lower than that of other assets
 - (d) Money balances provide convenience and lower risk than many other assets
28. What is the main goal of holding a diversified financial portfolio?
- (a) To maximize return
 - (b) To minimize risks
 - (c) To eliminate risks
 - (d) To maximize liquidity
29. An increase in the demand for Canadian oil and gas by countries such as China and India will lead to a(n) ____ in the Canadian dollar. The value of our net exports will ____.
- (a) Appreciation; rise or fall

- (b) Appreciation; rise
 - (c) Depreciation; fall
 - (d) Depreciation; rise or fall
30. Which of the following will affect money demand?
- (a) Income
 - (b) Interest rates
 - (c) The CPI
 - (d) All of the answers are correct
31. What is a twenty-dollar bill issued by the Bank of Canada?
- (a) Its capital consumption allowance
 - (b) Its liability
 - (c) Its asset
 - (d) Its net worth
32. During the 2008-2009 financial crisis, which of the following policies was NOT adopted by central banks in North America and Europe?
- (a) "Quantitative easing" by the central banks
 - (b) Raising target overnight interest rates
 - (c) Open market purchases of bonds by the central banks
 - (d) Conducting SRAs to defend the target overnight interest rates
33. Let the demand for money to be given as $M_d = 900 - 5000i$, where i is the interest rate. An interest rate of 10% is entered into the equation as 0.10. The supply of money is set at \$300 billion. Suppose all commercial banks have a reserve ratio equal to 20%. What is the equilibrium interest rate?
- (a) 12%
 - (b) 18%
 - (c) 6%
 - (d) 24%
34. Why is the Bank of Canada unable to control both the overnight interest rate (ONR) and the money supply simultaneously?
- (a) If it sets a particular money supply, it has to let money demand determine the size of the ONR
 - (b) If it sets a particular ONR, it has to let money demand determine the size of the money supply
 - (c) If it desires a high ONR, the corresponding money supply has to fall

- (d) All of the answers are correct
35. How can a central bank decrease the money supply?
- (a) By decreasing the target overnight interest rate
 - (b) By selling securities
 - (c) By engaging in "quantitative easing"
 - (d) All of the answers are correct
36. Which of the following statements is CORRECT?
- (a) The real interest rate is equal to the nominal interest rate plus inflation rate
 - (b) The real interest rate cannot be negative
 - (c) If the nominal interest rate is 5%, while inflation rate is 3%, then real interest rate is 2%
 - (d) If the inflation rate is unexpectedly high, lenders of money benefit
37. If $Y < Y_p$, what monetary policies should be adopted?
- (a) Cutting income taxes
 - (b) Sale of bonds in the open market
 - (c) Increasing monetary base
 - (d) All of the answers are correct
38. How does a central bank influence the economy?
- (a) By being a banker for the federal government
 - (b) By setting currency ratios for the public
 - (c) By changing the money supply, interest rates and the availability of credit to the public
 - (d) All of the answers are correct
39. With the inflation rate on the vertical axis and output on the horizontal axis, the long run aggregate supply curve
- (a) Is vertical because Y_p is independent of the inflation rate
 - (b) Is upward-sloping because a higher inflation rate implies higher profits for the firms
 - (c) Is upward-sloping because of money illusion
 - (d) Is horizontal because of money illusion
40. The short run AS_π curve showing the relationship between inflation rates and:
- (a) Central bank monetary policy
 - (b) The expenditure plans of households and businesses
 - (c) The government sector budget balance
 - (d) Current output of goods and services

41. The higher the degree of capital mobility, the
- (a) The more volatile is a flexible exchange rate
 - (b) Easier it is to maintain a fixed exchange rate
 - (c) The more stable are GDP growth rates
 - (d) All of the answers are correct
42. Which of the following choices is INCORRECT?
- (a) If $KA < 0$, then this country is a lender
 - (b) If CA is -7 , KA is $+2$, then this central bank has sold some of its foreign exchange reserves
 - (c) If KA is -4 and CA is $+15$, then this country's currency will depreciate under a flexible exchange rate regime
 - (d) If KA is -6 , CA is $+10$, then this central bank has accumulated more foreign exchange reserves
43. Which of the following is (are) likely to lead to increased capital inflow into Canada?
- (a) The Bank of Canada cuts interest rates
 - (b) Foreign countries cut their interest rates
 - (c) Canadian government increases business taxes
 - (d) All of the answers are correct
44. Under a fixed exchange rate, if the central bank has to constantly sell foreign currencies, it should let its domestic currency and its GDP is likely to
- (a) Depreciate; worsen
 - (b) Appreciate; worsen
 - (c) Appreciate; improve
 - (d) Depreciate; improve
45. Which of the following describe(s) a country's balance of payments?
- (a) It is always balanced, equal to zero
 - (b) It is a record of the country's receipts from and payments to other countries
 - (c) It is a record of government expenditure and tax revenues
 - (d) All of the answers are correct
46. For a given constant level of productivity, growth rates in per-capita GDP are constant if
- (a) Labour growth rates are positive
 - (b) Capital growth rates are positive
 - (c) Capital growth rates are higher than labour growth rates

- (d) Capital growth rates are the same as labour growth rates
47. The simple growth model identifies the steady-state rate of growth as the growth in ----- just enough to keep ----- constant.
- (a) Productivity; capital per capita
 - (b) Savings; productivity per capita
 - (c) Productivity; total output
 - (d) Capital stock; capital per capita
48. Which of the following is an example of a good that has positive externalities in consumption, meaning that one user's value increases when there are many other users?
- (a) Clothing
 - (b) Steel
 - (c) World wide web
 - (d) Food
49. What does the Solow residual capture?
- (a) The productivity growth of inputs
 - (b) Adoption of new technology or innovation
 - (c) Invention of new technology
 - (d) All of the answers are correct
50. If the production function is given by $Y/N = (K/N)^{0.8}$, then doubling K/N will
- (a) Increase Y/N by more than double
 - (b) Double Y/N
 - (c) Increase Y/N by less than double
 - (d) Cannot be determined

Part II: Answer FOUR of the following FIVE questions. If more than four questions are answered, only the first four attempted will be marked.(Total=100 marks)

1. Suppose that the economy of the Republic of MontReal is based on two goods, smoked meat and hotel stays. Smoked meat is measured in kilograms, and hotel stays are measured in nights (e.g. if a family of four stays in a hotel room for two nights that equals eight nights of hotel stays). The prices and quantities in 2015 and 2016 are provided in the table below.

Good	2015 price (dollars)	2015 quantity	2016 price (dollars)	2016 quantity
Smoked meat (kg)	4	200,000	4	200,000
Hotel stays (nights)	100	2,000	200	5,000

- (a) In general, what is the difference between nominal and real Gross Domestic Product? (5 marks)
- (b) Using the above information, if the base year is 2015, what are the values of nominal GDP and real GDP in 2016? (5 marks)
- (c) Find the growth rate of nominal and real GDP from 2015 to 2016. (5 marks)
- (d) Given the values in b) what is the rate of inflation from 2015 to 2016? Using 2015 output to represent the basket of goods, find the growth rate of the CPI between 2015 and 2016. (5 marks)
- (e) What are some of the limitations of using GDP (or GDP per capita) as a measure of standard of living? (5 marks)

2. Consider the following economic model:

$$C = 220 + 0.8Y^d$$

$$T = 75 + 0.25Y$$

$$I_0 = 160$$

$$G_0 = 410$$

$$X_0 = 50$$

$$IM = 0.1Y$$

- (a) Solve for the equilibrium income (GDP) and calculate equilibrium consumption. (5 marks)
- (b) Calculate the expenditure multiplier. (5 marks)
- (c) Find the government budget balance $BB = T - G$, given your Y in (a). Is the government running a surplus or deficit or neither? (5 marks)
- (d) Suppose potential output is 1660\$. Determine the nature of the gap and calculate it (in percentage). (5 marks)
- (e) Suppose government decides to eliminate the gap by changing the government expenditure. How much should the government change G_0 ? (5 marks)

3. In this question we analyze how the economy of CONCORDLAND is described by the goods and money markets. The simplified economy is specified as follows:

A. Goods market, all values C , I , G and NX values are in billions of C\$:

$$C = 300 + 0.9(Y - T)$$

$$I = 2500 - 4000i$$

$$G = 900$$

$$T = 900$$

$$X = 150$$

$$IM = 100$$

B. Money market, all M^d values are in billions of C\$:

$$i = 0.03 \text{ or } 3\%$$

$$M^d = 3000 - 30000i$$

$$rr = 20\%$$

Given the above information, solve for the following:

- (a) The equilibrium Y , money supply, C and I . (5 marks)

Due to a global financial crisis in CONCORDLAND, the consumer confidence falls to weakest level since the last 10 years, which led to the following new consumption function:
 $C = 200 + 0.9(Y - T)$.

- (b) Find the value of the goods market multiplier. (5 marks)

- (c) Find the new Y , by either using the long calculation method or by using the multiplier. (5 marks)

Suppose the Bank of CONCORDLAND (BOC) is trying to reverse this adverse effect on the economy. For simplicity, it is not concerned about inflation for now. The BOC can drop the bank rate in order to stimulate investment spending (I). Suppose you work for the BOC and your boss has just dropped by your office to ask you what he should do.

- (d) Find the new interest rate that is required to stimulate I. The increase in I has to be sufficient to push the overall Y level back to the original Y level that you have found in part (a). (5 marks)

- (e) Calculate the size of the change in the monetary base (MB) induced by this change in interest rate. (5 marks)

5. Suppose you have the following information for two economies:

	Country A	Country B
Labour force growth rate	2.5%	4%
Capital stock growth rate	3.5%	3.5%
Labour income share	2/3	2/3

- (a) Assuming a constant state of technology, which of these two countries will have the faster rate of growth in total real GDP? (5 marks)
- (b) Which of the two countries will have the faster rate of growth in per capita real GDP? (5 marks)
- (c) What differences, if any, do you see in the growth rates of the capital to labour ratios in the two countries? (5 marks)
- (d) Explain the reasons for the differences in growth rates you have found. (5 marks)
- (e) In the long-run, what is the most important determinant of standards of living? (5 marks)