

MACROECONOMIC THEORY I

ECO2142 B

Fall 2019

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MIDTERM 2

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VERSION 1 - ANSWERS

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 33 questions each worth 3 points. Question n. 34 asks you to fill in the version of your exam; this question will give you 1 additional point to reach a total of 100. In addition, there is one bonus question worth 5 points.
- Remember that we are looking for the best answer among those given.
- Use the provided scantron sheet to answer the questions; make sure to follow the marking directions reported on the front page of this scantron sheet.
- You have 1 hour and 20 minutes to complete the 34 + 1 questions.
- Good luck!

Problem 1 - Use the following information to answer questions 1 - 6

This morning, the price of an Ikea Vedbo armchair was CAD 280 on Ikea.com/ca (Canadian website), USD 300 on Ikea.com/us (U.S. website), and EUR 300 on Ikea.com/es (Spanish website). At the same time, the nominal exchange rates between these currencies were 0.77 USD/1 CAD and 0.70 EUR/1 CAD.

1. Convert the price of an Ikea Vedbo armchair in Canada, the U.S., and Spain into the same currency. Which of the following statements is correct?
 - (a) The Ikea Vedbo armchair is the cheapest in Spain.
 - (b) The Ikea Vedbo armchair is the cheapest in Canada.
 - (c) The Ikea Vedbo armchair is the most expensive in the U.S.
 - (d) The Ikea Vedbo armchair is more expensive in Canada than in Spain.

2. Assume that there are no transportation or other transaction costs. Which of the following actions would allow us to take advantage of arbitrage opportunities and make a profit?
 - (a) Buying the Ikea Vedbo armchair in the U.S. at the U.S. price and selling it in Spain at the Spanish price.
 - (b) Buying the Ikea Vedbo armchair in the U.S. at the U.S. price and selling it in Canada at the Canadian price.
 - (c) Buying the Ikea Vedbo armchair in Spain at the Spanish price and selling it in the U.S. at the U.S. price.
 - (d) Buying the Ikea Vedbo armchair in Spain at the Spanish price and selling it in Canada at the Canadian price.

3. Given the nominal exchange rate between the USD and the CAD and the nominal exchange rate between the EUR and the CAD, the nominal exchange rate between the EUR and the USD is:
 - (a) 0.7 EUR/1 USD
 - (b) 1.3 USD/1 EUR
 - (c) 1.43 EUR/1 USD
 - (d) 1.1 USD/1 EUR

4. Consider the information for Canada and Spain. Given the price of a Ikea Vedbo armchair in Canada and the nominal exchange rate between the CAD and the EUR, what price of the Ikea Vedbo armchair in Spain would make the Purchasing Power Parity (PPP) theory hold?
 - (a) EUR 280
 - (b) EUR 300
 - (c) EUR 400
 - (d) EUR 196

5. Use the prices of a Ikea Vedbo armchair in Canada, the U.S., and Spain, to compute the nominal exchange rates that would make the Purchasing Power Parity (PPP) theory hold. Compare these PPP implied nominal exchange rates with the current nominal exchange rates given above. Which of the following statements is true?
- (a) The CAD is currently overvalued with respect to the EUR compared to the PPP implied nominal exchange rate between these two currencies.
 - (b) The current nominal exchange rate between the CAD and the USD is equal to the PPP implied nominal exchange rate between these two currencies.
 - (c) The CAD is currently undervalued with respect to the USD compared to the PPP implied nominal exchange rate between these two currencies.
 - (d) The CAD is currently overvalued with respect to the USD compared to the PPP implied nominal exchange rate between these two currencies.
6. Consider the prices of a Ikea Vedbo armchair in Canada and in the U.S, and the nominal exchange rate between the CAD and the USD. What is the real exchange rate between the Canadian Ikea Vedbo armchair and the U.S. Ikea Vedbo armchair? (Round your numbers to four decimal places).
- (a) 0.7187 “Canadian” Ikea Vedbo armchairs can be exchanged for 1 “U.S.” Ikea Vedbo armchair.
 - (b) 1 “Canadian” Ikea Vedbo armchair can be exchanged for 1 “U.S.” Ikea Vedbo armchair.
 - (c) 1.2987 “Canadian” Ikea Vedbo armchairs can be exchanged for 1 “U.S.” Ikea Vedbo armchair.
 - (d) 1.3915 “Canadian” Ikea Vedbo armchairs can be exchanged for 1 “U.S.” Ikea Vedbo armchair.

Problem 2 - Use the following information to answer questions 7 - 12

Assume that the world works according to the Classical model. In a small open economy, output is produced according to the production function $Y = (50)K^{0.5}L^{0.5}$, consumption is equal to $C = 40 + 0.75(Y - T)$ and the investment function is $I = 270 - 30r$. In addition, you know that Private saving is \$250, Public saving is $-\$40$, and the world real interest rate is 3% ($r^* = 3$).

7. If exports X are equal to \$50, then imports M are equal to:
 - (a) \$60
 - (b) \$10
 - (c) \$20
 - (d) \$30

8. Assume that the government of this Country decreases spending G by \$10 while everything else in this Country and in the rest of the world remains unchanged. As a consequence of the decrease in government spending G
 - (a) National Saving will increase and Net Capital Outflows will increase.
 - (b) National Saving will decrease and Net Capital Outflows will increase.
 - (c) National Saving will decrease and Net Capital Outflows will decrease.
 - (d) Investment will decrease and Net Capital Outflows will decrease.

9. Assume again that the government of this Country decreases spending G by \$10 while everything else in this Country and in the rest of the world remains unchanged. As a consequence of the decrease in government spending G , this country will now be experiencing
 - (a) a trade surplus of \$40.
 - (b) a trade deficit of \$30.
 - (c) balanced trade.
 - (d) the same trade balance as before the decrease in G .

10. Assume once more that the government of this Country decreases spending G by \$10 while everything else in this Country and in the rest of the world remains unchanged. As a consequence of the decrease in government spending G
 - (a) the real exchange rate of this Country will appreciate and domestic goods will become relatively more expensive.
 - (b) the real exchange rate of this Country will appreciate and domestic goods will become relatively cheaper.
 - (c) the real exchange rate of this Country will depreciate and domestic goods will become relatively more expensive.
 - (d) the real exchange rate of this Country will depreciate and domestic goods will become relatively cheaper.

11. Consider the original situation, in which the investment function is $I = 270 - 30r$, Private saving is \$250, Public saving is $-\$40$, and the world real interest rate equal to 3% ($r^* = 3$). Assume now that most countries in the rest of the world implement expansionary fiscal policies, while no change in policy is implemented in this Country and everything else remains unchanged. As a consequence of the world policies
- (a) the world real interest rate will decrease and National Saving in this Country will increase.
 - (b) the world real interest rate will increase and National Saving in this Country will decrease.
 - (c) the world real interest rate will increase and Investment in this Country will decrease.
 - (d) the world real interest rate will decrease and Investment in this Country will decrease.
12. Consider again the original situation, in which the investment function is $I = 270 - 30r$, Private saving is \$250, Public saving is $-\$40$, and the world real interest rate equal to 3% ($r^* = 3$). Assume again that most countries in the rest of the world implement expansionary fiscal policies, while no change in policy is implemented in this Country and everything else remains unchanged. As a consequence of the world policies
- (a) the real exchange rate of this Country will appreciate and its trade surplus will become smaller.
 - (b) the real exchange rate of this Country will depreciate and its trade surplus will become larger.
 - (c) the real exchange rate of this Country will depreciate and the Country will now be experiencing a trade deficit.
 - (d) the real exchange rate of this Country will appreciate and the Country will now be experiencing a trade deficit, balanced trade, or a trade surplus, depending on the sizes of the world expansionary fiscal policies.

Problem 3 - Use the following information to answer questions 13 - 16

Consider an economy that operates according to the Classical model. You want to study the natural rate of unemployment in this economy, computed as the steady state unemployment rate. Assume that in this economy the job separation rate is 3% (0.03) and the job finding rate is 47% (0.47). Assume as well that at the steady state the labor force is composed of 80,000 workers.

13. The steady state unemployment rate in this economy is:
 - (a) 15.67%
 - (b) 3%
 - (c) 5%
 - (d) 6%

14. At the steady state, how many workers are employed in this economy?
 - (a) 48,000 workers.
 - (b) 75,200 workers.
 - (c) 77,600 workers.
 - (d) 80,000 workers.

15. At the steady state, the number of workers who become unemployed in each period is
 - (a) 29,600 workers.
 - (b) 2,256 workers.
 - (c) 2,400 workers.
 - (d) 4,000 workers.

16. If everything else remains unchanged, which of the following would increase the steady-state unemployment rate?
 - (a) An increase in the job finding rate to 52% due to a new Government job training program.
 - (b) An increase in the steady state labor force to 85,000 workers due to the consequences of a baby boom.
 - (c) An increase in the job finding rate to 49% due to the creation of a new internet-based employment agency.
 - (d) An increase in the job separation rate to 4% due to a new employment protection law.

Problem 4 - Use the following information to answer questions 17 - 20

In the Keynesian cross diagram, $C = 0.75(Y - T)$, $I = \$200$, $G = \$30$, and $T = \$40$.

17. The equilibrium level of output Y in the Keynesian cross diagram for this economy is:
- (a) \$230.
 - (b) \$190.
 - (c) \$920.
 - (d) \$800.
18. If planned expenditure in this economy is currently equal to \$875, then the level of output is currently equal to:
- (a) \$875.
 - (b) \$800.
 - (c) \$665.
 - (d) \$900.
19. Assuming the everything else remains unchanged, which of the following would shift the planned expenditure line up?
- (a) An increase in taxes from $T = \$40$ to $T = \$60$.
 - (b) A contemporaneous decrease in taxes from $T = \$40$ to $T = \$20$ and decrease in government spending from $G = \$30$ to $G = \$10$.
 - (c) A decrease in government spending from $G = \$30$ to $G = \$10$.
 - (d) An increase in investment from $I = \$200$ to $I = \$220$.
20. Assuming the everything else remains unchanged, which of the following would decrease the equilibrium level of output?
- (a) An increase in investment from $I = \$200$ to $I = \$220$.
 - (b) An increase in taxes from $T = \$40$ to $T = \$80$.
 - (c) A change in the consumption function from $C = 0.75(Y - T)$ to $C = 0.8(Y - T)$.
 - (d) An increase in government spending from $G = \$30$ to $G = \$50$.

REGULAR MULTIPLE CHOICE QUESTIONS

21. Consider a small open economy that operates according to the Classical model. If all foreign countries maintain their policies unchanged, which of the following domestic policies would allow this country to reduce its trade deficit?
- (a) An increase in government spending G .
 - (b) A policy that removes quotas on a number of imported goods.
 - (c) An increase in taxes T .
 - (d) An investment subsidy aimed at encouraging investment demand.
22. Consider a small closed economy that operates according to the Classical model. Assume that in this country the investment demand function is $I = 1000 - 50r$, Private Saving is \$870 and Public Saving is \$30. The authorities of this country decide to open to international capital mobility and trade. If the world real interest rate is 3% ($r^* = 3$)
- (a) the quantity of investment demanded in this country will increase and the country will experience negative net capital outflows (i.e., net capital inflows).
 - (b) the quantity of investment demanded in this country will increase and the country will experience positive net capital outflows.
 - (c) the quantity of investment demanded in this country will decrease and the country will experience negative net capital outflows (i.e., net capital inflows).
 - (d) the quantity of investment demanded in this country will decrease and the country will experience positive net capital outflows.
23. Consider the following information about Canada and the U.K. The nominal exchange rate between the Canadian dollar (CAD) and the British Pound sterling (GBP) is 0.60 GBP/1 CAD. You know that the price level in Canada is $P_{CA} = \text{CAD } 175$ and the price level in the U.K. is $P_{UK} = \text{GBP } 100$. If the price level in the U.K. increases to GBP 110 while everything else remains unchanged
- (a) the real exchange rate of Canada with respect to the U.K. will appreciate, and the net exports of Canada with the U.K. will decrease.
 - (b) the real exchange rate of Canada with respect to the U.K. will depreciate, and the net exports of Canada with the U.K. will decrease.
 - (c) the real exchange rate of Canada with respect to the U.K. will depreciate, and the net exports of Canada with the U.K. will increase.
 - (d) the real exchange rate of Canada with respect to the U.K. will appreciate and the purchasing power parity (PPP) will hold.

24. Myland is a small open economy that operates according to the Classical model. You know that at the current equilibrium real exchange rate Myland is experiencing a trade deficit. Assume that the government of Myland implements tariffs on a wide range of imported goods, while everything else in Myland and in the rest of the world remains unchanged. According to the Classical model, as a consequence of these tariffs
- (a) the equilibrium real exchange rate will decrease and Myland will reach balanced trade.
 - (b) the equilibrium real exchange rate will decrease and Myland will be operating at a trade surplus.
 - (c) the equilibrium real exchange rate will increase and Myland will still be operating at a trade deficit.
 - (d) the equilibrium real exchange rate will increase and Myland will be operating at a trade surplus.
25. Consider two small open countries, Country Alfa and Country Beta. You know that the inflation rate is 5% in Country Alfa and 3% in Country Beta. You also know that the purchasing power parity (PPP) theory holds between these two countries. Given this information, you would expect the nominal exchange rate of Country Alfa with respect to Country Beta to
- (a) depreciate over time.
 - (b) appreciate over time.
 - (c) remain unchanged over time.
 - (d) appreciate at first, and then remain unchanged.
26. Assume that the current unemployment rate is 3% while the natural rate of unemployment is 4%. Which of the following statements is correct?
- (a) The economy is currently experiencing an expansion and the unemployment rate will be increasing as the economy returns to its long-run equilibrium.
 - (b) The economy is currently experiencing an expansion and the unemployment rate will be decreasing as the economy returns to its long-run equilibrium.
 - (c) The economy is currently at its long-run equilibrium.
 - (d) The economy is currently experiencing a recession and the unemployment rate will be decreasing as the economy returns to its long-run equilibrium.
27. Assume that a new law increases the minimum real wage from \$9/hour to \$13/hour for all the workers in the economy. Which of the following labor markets is likely to be the most affected by this new law?
- (a) The labor market for baristas, which is currently in equilibrium with a real wage of \$20/hour.
 - (b) The labor market for surgeons, which is currently in equilibrium with a real wage of \$60/hour.
 - (c) The labor market for soccer players, which is currently in equilibrium with a real wage of \$200/hour.
 - (d) The labor market for strawberry pickers, which is currently in equilibrium with a real wage of \$10/hour.

28. Which of the following statements about the Keynesian cross diagram is correct?
- If the current level of output is equal to its equilibrium level, firms are experiencing an unplanned increase in inventory.
 - If the current level of output is smaller than the equilibrium level, firms will be experiencing an unplanned increase in inventory.
 - If the current level of output is smaller than the equilibrium level, firms will be experiencing an unplanned decrease in inventory.
 - If the current level of output is smaller than the equilibrium level, firms will be reacting by cutting their production.
29. Consider the Keynesian cross diagram and assume that the MPC is equal to 0.75. The increase in output Y following from an increase in government spending G by \$40 will be
- larger than the increase in Y following from a decrease in taxes T by \$40.
 - smaller than the increase in Y following from a decrease in taxes T by \$40.
 - the same as the increase in Y following from a decrease in taxes T by \$40.
 - the same as the increase in Y following from an increase in taxes T by \$40.
30. Consider the AS/AD model with fixed prices and assume that the economy is currently operating at its long run equilibrium. Assume that an adverse shock suddenly shifts the AD to the left. If there is no change in monetary policy and everything else remains unchanged in this economy, as a consequence of this shock
- prices will decrease in the short run and output will decrease in the long run.
 - output will increase in the short run and prices will increase in the long run.
 - output and prices will both decrease in the long run.
 - output will decrease in the short run and prices will decrease in the long run.
31. Consider the AD built from the demand for real money balances $(M/P)^d = kY$, where k is a constant parameter. Assume that M_A and M_B are two different levels of the money supply, with $M_A > M_B$. Consider two AD points: the point (P, Y_A) , obtained from the money supply M_A , and the point (P, Y_B) , obtained from the money supply M_B . Notice that the price level P is the same in both points. Which of the following statements is correct?
- The points (P, Y_A) and (P, Y_B) will be on the same AD curve, with $Y_A > Y_B$.
 - The points (P, Y_A) and (P, Y_B) will be on two different AD curves, with $Y_A > Y_B$.
 - The points (P, Y_A) and (P, Y_B) will be on two different AD curves, with $Y_A < Y_B$.
 - The points (P, Y_A) and (P, Y_B) will be on two different AD curves, with $Y_A = Y_B$.

32. Consider the AD/AS model with fixed prices and assume that the full employment level of output is $\bar{Y} = 5,000$. You know that the economy is currently operating at the short run equilibrium point B, with output level $Y_B = 4,800$. As the economy adjusts towards its long run equilibrium
- output will remain unchanged while prices and wages will be decreasing.
 - output will be increasing while prices and wages will be decreasing.
 - output will be increasing while prices and wages will remain unchanged.
 - output, prices, and wages, will all be increasing.
33. Consider the AD/AS model with fixed prices and assume that the economy is operating at the long run equilibrium point A, with $Y_A = \bar{Y} = 5,000$ and $P_A = 120$. Assume that an adverse shock suddenly shifts the short-run AS upward. If the central bank of this country decides to increase the money supply to stabilize output
- the new long run level of output will be lower than $Y_A = \bar{Y} = 5,000$.
 - the new long run level of output will be higher than $Y_A = \bar{Y} = 5,000$.
 - the new long run price level will be lower than $P_A = 120$.
 - the new long run price level will be higher than $P_A = 120$.
34. Fill in your exam version (you can find this information on the front page).
- Version 1
 - Version 2
 - Version 3
 - Version 4
35. **BONUS QUESTION.** Assume that Mycountry is a closed economy. In the Keynesian cross diagram for Mycountry, $C = 0.8(Y - T)$, $G = \$70$, and $T = \$40$. Assume that in Mycountry planned investment I is a function of the real interest rate r , and can be written as: $I = 240 - 30r$. In this setup, the Keynesian cross diagram would predict that, everything else unchanged, higher real interest rates are associated with
- lower investment I , but higher output Y and consumption C .
 - lower investment I , output Y , and consumption C .
 - higher investment I , output Y , and consumption C .
 - higher investment I and output Y , but lower consumption C .
 - lower investment I and consumption C , but higher output Y .

Answers:

1. b	8. a	15.b	22. d	29. a
2. a	9. a	16. d	23. c	30. d
3. d	10. d	17. d	24. c	31. b
4. d	11. c	18. d	25. a	32. b
5. c	12. b	19. d	26. a	33. d
6. d	13. d	20. b	27. d	34. a
7. c	14. b	21. c	28. c	35. b