

**ECO 209Y – L0101
MACROECONOMIC THEORY**

Term Test #1

LAST NAME _____

FIRST NAME _____

STUDENT NUMBER _____

INSTRUCTIONS:

1. The total time for this test is 1 hour and 45 minutes.
2. Aids allowed: a simple calculator.
3. Use pen instead of pencil.

DO NOT WRITE IN THIS SPACE

Part I _____/38

Part II _____/12

Part III 1. _____/10

2. _____/10

3. _____/10

TOTAL _____/80

PART I (38 marks)

Instructions:

- Enter your answer to each question in the table below.
- Each correct answer is worth 2 marks. **Note that a deduction of 0.5 mark will be made for each incorrect answer.** Table cells left blank will receive a zero mark (i.e., no deduction).
- Do NOT guess your answers!

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	

Correct: _____ Incorrect: _____ Blank: _____

- Justin pays \$150,000 to buy a newly-built house on July 1, 2014. Knowing that the rent for a similar house is \$20,000 per year and that Justin previously lived rent-free with his parents, what is the impact of this transaction on 2014 GDP?
 - Consumption rises by \$10,000 and investment rises by \$150,000.
 - Consumption rises by \$150,000 and investment is unchanged.
 - Consumption is unchanged and investment rises by \$150,000.
 - Consumption rises by \$10,000 and investment is unchanged.
 - GDP is unchanged.
- John buys a one-year government bond for \$400. He receives principal and interest totalling \$436 one year later. During the year the Consumer Price Index (CPI) rose from 150 to 162. The nominal interest rate on the bond was _____ percent, and the real interest rate was _____ percent.
 - 9; 3.
 - 9; 1.
 - 9; -1.
 - 36; 24.
 - 36; 12.

Use this space for rough work.

The information in the following table describes a hypothetical economy, where prices are expressed in dollars and quantities in units. Use this data to answer questions 3 to 6 below.

	2013		2014	
	Price	Quantity	Price	Quantity
Good A	4	45	5	40
Good B	10	40	6	60
Good C	10	10	10	8

3. Compared to its level in 2013, nominal GDP _____ by approximately _____ percent in 2014.
- A) increased; 4.5.
 - B) increased; 5.2.
 - C) increased; 5.7.
 - D) decreased; 5.2.
 - E) decreased; 5.9.
4. In constant 2013 dollars, real GDP _____ by approximately _____ percent in 2014.
- A) increased; 18.5.
 - B) increased; 23.5.
 - C) increased; 28.5.
 - D) decreased; 15.2.
 - E) decreased; 28.5.
5. Using the chain method, real GDP _____ by approximately _____ percent in 2014.
- A) increased; 18.9.
 - B) increased; 20.4.
 - C) increased; 25.7.
 - D) decreased; 15.2.
 - E) decreased; 25.9.
6. According to the GDP deflator, the annual rate of inflation was approximately _____ percent in 2014.
- A) 18.6.
 - B) 21.9.
 - C) -21.6.
 - D) -23.8.
 - E) -28.1.

Use this space for rough work.

7. Assume that the government budget deficit decreased by \$15 billion, private saving decreased by \$20 billion, exports increased by \$10 billion, and imports increased by \$15 billion. By how much did investment change?
- A) Investment decreased by \$10 billion.
 - B) Investment decreased by \$20 billion
 - C) Investment increased by \$10 billion.
 - D) Investment increased by \$20 billion
 - E) Investment did not change at all.
8. Suppose that GDP is \$5,200, disposable income is \$4,400, consumption is \$4,100, the government budget deficit is \$150, and net exports is \$110. In this economy, what is the level of investment?
- A) 70.
 - B) 60.
 - C) 40.
 - D) 30.
 - E) 20.
9. A Toronto dealership imports 40 new cars at a cost of \$16,000 per car in July of 2014, and by December 31, 2014 has sold 20 of these cars at a price of \$20,000 each. The remaining cars were sold in January 2015 at a price of \$18,000 each. As a result of these transactions, GDP increased by _____ in 2014.
- A) \$400,000.
 - B) \$320,000.
 - C) \$120,000.
 - D) \$80,000.
 - E) none of the above.
10. Jim's Nursery produces and sells \$1,300 worth of flowers. Jim uses \$200 in seeds and fertilizer, pays his workers \$700 in wages, pays \$100 in taxes, pays \$200 in interest on a loan, and makes a profit of \$100. What is Jim's contribution to GDP?
- A) \$900.
 - B) \$1,000.
 - C) \$1,100.
 - D) \$1,200.
 - E) \$1,300.

Use this space for rough work.

11. Suppose that Future Shop had 2,000 computers in its warehouse on December 31, 2013. Each computer was valued at \$500. By December 31, 2014, Future Shop had 2,500 computers in its warehouse, each valued at \$450. In 2014, Future Shop's inventory investment was _____.
- A) \$250,000.
 - B) \$225,000.
 - C) \$1,125,000.
 - D) \$237,500.
 - E) \$125,000.
12. According to the Aggregate Expenditure model of the economy, an increase in government expenditure has a larger effect on income when
- A) exports are greater than imports.
 - B) the marginal propensity to save is relatively small.
 - C) investment is relatively large.
 - D) the marginal propensity to import is relatively large.
 - E) the marginal propensity to consume is relatively small.
13. Consider a closed economy with a fixed price-level and a balanced government budget at the initial equilibrium. A drop in government purchases will cause
- A) consumption to fall, business inventories to rise, and a government surplus.
 - B) business inventories to rise and a government surplus, but no change in consumption.
 - C) both consumption and business inventories to fall, but no change in the government budget balance.
 - D) both consumption and business inventories to fall, and a government surplus.
 - E) a government surplus but no change in either consumption or business inventories.
14. Suppose that the government has a balanced budget, the tax rate (t) is 0.10, the expenditure multiplier (α_{AE}) is 4, and full-employment income (Y^*) is 900. If $Y = 700$ and the government wants to move the economy to full-employment while keeping a balanced budget, then the government could
- A) decrease G by 20 in combination with expansionary monetary policy.
 - B) increase G by 20 in combination with contractionary monetary policy.
 - C) increase G by 20 in combination with expansionary monetary policy.
 - D) increase taxes by 20 in combination with expansionary monetary policy.
 - E) decrease taxes by 20 in combination with contractionary monetary policy.

Use this space for rough work.

15. Consider a closed economy with a fixed-price level. If investment is insensitive to the interest rate, which one of the following statements would be correct?
- A) The LM curve will be steep.
 - B) The IS curve will be flat.
 - C) Monetary policy will have a large effect on nominal interest rates.
 - D) Monetary policy will have a large effect on output.
 - E) The LM will be flat.
16. Suppose that the money supply varies directly with the interest rate. Then, compared to the situation when the money supply is fixed,
- A) the IS will be steeper.
 - B) the IS will be flatter.
 - C) the LM curve will be steeper.
 - D) the LM curve will be flatter.
 - E) the slopes of the IS and LM curves will not change.
17. Which of the following is true when savings decrease at all levels of disposable income?
- A) The IS curve shifts down to the left.
 - B) The IS curve shifts up to the right.
 - C) The LM curve shifts down to the right.
 - D) The LM curve shifts up to the left.
 - E) None of the above is true.
18. Fiscal policy is more effective in increasing national income when
- A) investment is not very responsive to interest rate changes.
 - B) the marginal propensity to save is high.
 - C) money demand is not very responsive to interest rate changes.
 - D) the income tax rate is very high.
 - E) money demand is very responsive to real income changes.
19. If people suddenly wish to hold more money at all levels of the rate of interest,
- A) the money supply curve will shift to the right.
 - B) the equilibrium rate of interest will fall.
 - C) the LM curve will shift down to the right.
 - D) the IS curve will shift down to the left.
 - E) equilibrium real income will fall.

Use this space for rough work.

PART II (12 marks)

Consider the following model of the economy:

$$C = 100 + 0.9YD$$

$$I = 300 - 20i$$

$$G = 400$$

$$TR = 250$$

$$TA = 50 + 0.2Y$$

$$NX = 100 - 0.12Y$$

$$Y_{fe} = 3000$$

a) What is the equation for the IS curve in this model? Show all your work. (2 marks)

b) What is the level of equilibrium income (Y^*) when $i = 6$? (1 mark) What is the size of the aggregate expenditure multiplier (α_{AE})? (2 marks) Show all your work.

- c) What is the level of private saving (S) when the economy is in equilibrium at $i = 6$? **(1 mark)**
What is the level of government saving (or budget surplus, BS) at this equilibrium? **(1 mark)**
Show all your work.

- d) Given the situation of the economy and the budgetary situation of the government you have described above, what should the government do to improve this situation? Explain your answer. **(5 marks)**

PART III (30 marks)

Instructions: Answer the following three questions in the space provided. You may continue your answer on page 12 if additional space is required (***but clearly indicate that your answer continues on page 12***). Each question is worth 10 marks.

1. Consider a closed economy consisting of only three sectors: energy & electricity, cement & construction material, and wood & agricultural products. The table below provides information about the total revenues and expenditures of these three sectors. Assume that households purchase all output not sold to these three sectors.

Energy & Electricity		Cement & Construction Material		Wood & Agricultural Products	
Total sales:	\$1800	Total sales:	\$1400	Total sales:	\$1400
Expenditures on:		Expenditures on:		Expenditures on:	
Wages	800	Wages	300	Wages	300
Cement	400	Cement	250	Cement	350
Wood	100	Wood	100	Wood	100
Energy	200	Energy	400	Energy	200
Profits:	300	Profits:	350	Profits:	450

Answer the following questions by showing exactly what items must be *included* or *excluded* — i.e., you must show all your work and not just the final numerical answer.

a) Calculate GDP using the value added approach. **(4 marks)**

b) Calculate GDP using the value of final goods. **(3 marks)**

c) Calculate GDP using the income approach. **(3 marks)**

2. Critically comment on the following statement:

“A responsible government should always try to keep a balanced budget. Therefore, it should reduce expenditures when running a budget deficit and decrease taxes when running a budget surplus.”

3. Critically comment on the following statement:

“Expansionary fiscal policy would be more effective if investment expenditure were an increasing function of income.”

Show your answer algebraically and explain the economics. Consider the *aggregate expenditure model* of a closed economy as developed in class.

(Continue on this page if necessary)