GLA 1001H
MACROECONOMICS:
MARKETS, INSTITUTIONS AND GROWTH

Term Test

February 8, 2019

U of T E-MAIL: _____ @MAIL.UTORONTO.CA

SURNAME (LAST NAME):

GIVEN NAME (FIRST NAME):

UTORID (e.g., LIHAO118):

INSTRUCTIONS:

- The total time for this test is *1 hour and 50 minutes*.
- The only aid allowed is a *non-programmable* calculator.
- *Write your name and identifying information above but keep this test paper closed until the start of the test is announced.*
- There are three parts to the test: *Part I* consists of 9 multiple-choice questions (18 points); *Part II* consists of one quantitative problem (12 points); and *Part III* includes 3 short-answer questions (30 points). The *total* point-value of the test is *60 points*.
- The answers to the 9 multiple-choice questions of *Part I* must be recorded in the *bubble sheet* provided on **page 10** of this test paper. Only the answers recorded in the bubble sheet will be marked. Cells left blank will receive a zero mark for that question. No deductions will be made for incorrect answers.
- In *Parts II and III*, write your answers clearly and concisely in the space provided immediately after each question. *Your entire answer must fit in the designated space.* No extra space/pages are possible and you cannot use blank space for other questions.
- *It is best to write in PENCIL and use an ERASER as needed.* This way you can make sure to fit your final answer in the appropriate space.
- *Please write legibly.* If I can't read your handwriting, I can't award you any marks!

PART I   (18 points)

1. Consider an economy without depreciation of the capital stock and where personal income tax is the only source of government revenue. Suppose that national income is 9,000; disposable income is 7,700; consumption is 6,500; government budget deficit is 200; and net exports is 150. What is the level of investment?
   A) 1,150.
   B) 1,050.
   C) 950.
   D) 850.
   E) None of the above.

2. Suppose that an economy produces only apples and oranges, and that prices (in dollars) and quantities (in millions of pounds) are as shown in the following table:

Good	Year 2017		Year 2018	
	Quantity	Price	Quantity	Price
Apples	20	$5	16	$4
Oranges	5	$12	7	$15

   Using the chain method of estimating real GDP and rounding off to the nearest decimal, what was the percentage change in real GDP in 2018?
   A) 3.5 percent.
   B) 4.8 percent.
   C) 5.0 percent.
   D) 5.7 percent.
   E) None of the above.

Use this space for rough work

3. Janet's photocopy shop has revenues of $12,000 a month. Janet has monthly expenses of $500 in taxes, $200 in interest on a business loan, $3,500 in paper, $2,000 in ink-cartridges, $2,500 in wages, and $1,000 in rent. Her monthly profit is $2,300. What is Janet's monthly contribution to GDP?
   - A) $3,700.
   - B) $6,000.
   - C) $6,500.
   - D) $9,700.
   - E) $12,000.

4. Consider a closed economy with an expenditure multiplier (k) equal to 2.5 and a tax rate (t) equal to 0.25. If government purchases (G) increases by $100 million, the government budget surplus will decrease by
   - A) $100 million.
   - B) $75 million.
   - C) $62.5 million.
   - D) $37.5 million.
   - E) $35.5 million.

5. Which of the following would cause the *IS* curve to shift inwards?
   - A) A decrease in autonomous investment.
   - B) An increase in the rate of interest.
   - C) A decrease in the rate of interest.
   - D) A decrease in autonomous private savings.
   - E) Both A) and B).

6. The 3-equation model assumes that following an increase in nominal wages, firms immediately increase their products' prices in the same proportion. Therefore,
   - A) workers and firms are always content with the level of real wages.
   - B) workers immediately reduce the quantity supplied of labour when prices rise.
   - C) firms immediately reduce the quantity demanded of labour as nominal wages rise.
   - D) real wages always remain at the medium-run equilibrium level.
   - E) unemployment always remain at its medium-run equilibrium level.

Use this space for rough work

7. Which one of the following would cause the wage-setting (*WS*) curve to shift downward?
    A) An improvement in working conditions.
    B) A decrease in the level of unemployment.
    C) An increase in the disutility of work.
    D) An increase in unemployment benefits.
    E) A decrease in the nominal wage.

8. All else equal, which one of the following would cause the price-setting (*PS*) curve to shift upward?
    A) An increase in the marginal profit rate.
    B) An increase in unemployment benefits.
    C) An increase in the productivity of labour.
    D) An increase in average prices greater than in nominal wages.
    E) A decrease in the level of unemployment.

9. The wage-setting (*WS*) curve has a positive slope because
    A) the disutility of work increases with the level of employment.
    B) probability of getting another job rises as unemployment falls.
    C) income increases as employment rises.
    D) employers are willing to pay higher real wages as the economy expands.
    E) the rate of profit decreases as output increases.

Use this space for rough work

PART II   (12 points)

Consider a closed economy characterized by the following equations (all dollar figures in billions):

$$C = 275 + 0.75\ y^{disp}$$
$$I = 275 - 20\ r$$
$$G = 250$$
$$T = 0.2\ y$$
$$y_e = 1750$$

---

a) What is the equation for the aggregate demand curve (y^D)? **(2 points)** What is the size of the expenditure multiplier (k)? **(1 point)** What is the equation for the *IS* curve? **(2 points)**

---

b) If the central bank sets the rate of interest at 8 percent (i.e., $r = 8$), what is the level of income (y)? **(1 point)** What is the size of the government budget surplus (BS)? **(2 points)**

c) All else equal, by how much should government spending (G) increase to move the economy to medium-run equilibrium (i.e., to $y_e = 1750$)? **(2 points)**

d) If instead the government decides to achieve medium-run equilibrium through a change in the rate of interest, at what level should the central bank set the rate of interest? **(2 points)**

PART III   (30 points)

Instructions: Answer the following three questions in the space provided. Each question is worth 10 points. Marks will be given for your explanation.

1. Suppose the government increases the income tax on the rich and reduces it on the middle class in such a way that government total tax revenues remain unchanged at the initial level of real income. What will be the likely impact of such a policy on the level of real income? <u>Explain</u>.

2. Consider the 3-equation model and assume that the labour market is initially in medium-run equilibrium. Suppose that autonomous aggregate demand now increases. With the help of a diagram, describe the short-run impact on the level of output (y), the level of employment (N), nominal wages (W), real wages (w), and the price level (P). Explain.

3. Consider the 3-equation model and assume that the labour market is initially in medium-run equilibrium. Suppose that the productivity of labour increases while the firms' mark-up over unit labour cost remains unchanged. With the help of a diagram, describe the short-run impact on the level of output (*y*), the level of employment (*N*), the nominal wage (*W*), the real wage (*w*), and the price level (*P*). Explain.