QUEEN'S UNIVERSITY FINAL EXAMINATION
FACULTY OF ARTS AND SCIENCE
DEPARTMENT OF ECONOMICS

Econ 110 Sections (003, 004) - Barber
April 18th 2019

INSTRUCTIONS TO STUDENTS:
This examination is 3 HOURS in length.
There are two sections to this examination.
Please answer all multiple choice questions on the scantron. Please answer all short answer questions in the booklet provided.

The following aids are allowed:
Casio FX-991 calculator

Put your student number on all pages of all answer booklets, including the front.
The exam has two parts: Part I consists of twenty (20) multiple choice questions. Each question is worth 2 marks for a total of 40 marks. Part II consists of short answer questions, marks are noted in parenthesis. There are a total of 50 marks in Part II. There is NO choice, please answer all the questions. The exam is 180 minutes, please budget your time carefully. **Make sure you fill in your scantron sheet in PENCIL, and mark TEST FORM A on your scantron sheet. Failure to follow these instructions will result in a 2 point penalty.** GOOD LUCK!

PLEASE NOTE:
Proctors are unable to respond to queries about the interpretation of exam questions. Do your best to answer exam questions as written.

PART I: Answer the following multiple choice questions (2 Marks each). **WRITE YOUR ANSWERS IN PENCIL IN THE SCANTRON SHEET PROVIDED.**

1. The real interest rate must be

   (a) positive if the nominal rate of interest is greater than the rate of inflation.

   (b) high if the nominal interest rate is high.

   (c) high if the inflation rate is greater than the nominal interest rate.

   (d) low if the nominal interest rate is high.

   (e) negative if the nominal rate of interest is greater than the rate of inflation.

2. Suppose that in 2015, ABC Corporation produced $6 million worth of natural gas pipes but was able to sell only $5 million worth. Is the remaining $1 million of unsold pipes part of GDP for 2015?

   (a) No, since changes in inventories are part of actual investment.

   (b) No, since they are added to existing inventories.

   (c) Yes, since they are part of the economy's output in 2015.

   (d) No, since they are part of the economy's output only when sold.

   (e) Yes, since changes in inventories are part of consumption expenditures.

The table below shows the total output and prices for an economy that produces only two goods, potatoes and oil. Data is provided for the years 2005 and 2015.

	Quantities Produced			Prices	
	Potatoes (kilograms)	**Oil** (barrels)		**Potatoes** ($/kilogram)	**Oil** ($/barrel)
2005	1000	50		4	55
2015	1100	65		6	60

TABLE 20–6

3. Refer to Table 20-6. If 2005 is the base year, the GDP deflator in 2015 was

   (a) 131.67.

   (b) 59.1.

   (c) 85.7.

   (d) 159.1.

   (e) 100.

4. On a graph of a consumption function, what is the significance of the 45-degree line?

   (a) It shows the slope of the average consumption function, against which we measure other consumption functions.

   (b) It connects all points where desired consumption equals desired saving.

   (c) Desired consumption is zero at all points along the 45-degree line.

   (d) It connects all points where desired consumption equals desired expenditure.

   (e) It connects all points where desired consumption equals actual disposable income.

The table below shows disposable income and desired consumption for a closed economy with no government.

Disposable Income	Desired Consumption
0	10
50	30
150	70
300	130

TABLE 21-1

5. Refer to Table 21-1. The marginal propensity to save is equal to

   (a) 0.6.
   (b) 0.67.
   (c) 0.8.
   (d) 0.4.
   (e) 0.2.

6. If the Jones family's disposable income increases from \$1200 to \$1700 and their desired saving increases from -\$100 to +\$100, then the family's

   (a) marginal propensity to consume is 0.60.
   (b) average propensity to consume is 0.60.
   (c) marginal propensity to consume is 0.40.
   (d) average propensity to consume is 0.40.
   (e) marginal propensity to save is 1.

7. Consider the following aggregate expenditure function: AE = \$300 billion + (0.87)Y. Assuming that we have no government, no international trade and desired investment is autonomous and is equal to \$56 billion, then which of the following is the correct statement of the consumption function?

   (a) C = \$244 billion + (0.87)Y
   (b) C = \$356 billion + (0.13)Y
   (c) C = \$244 billion + (0.13)Y
   (d) C = \$356 billion + (0.87)Y
   (e) C = \$300 billion + (0.13)Y

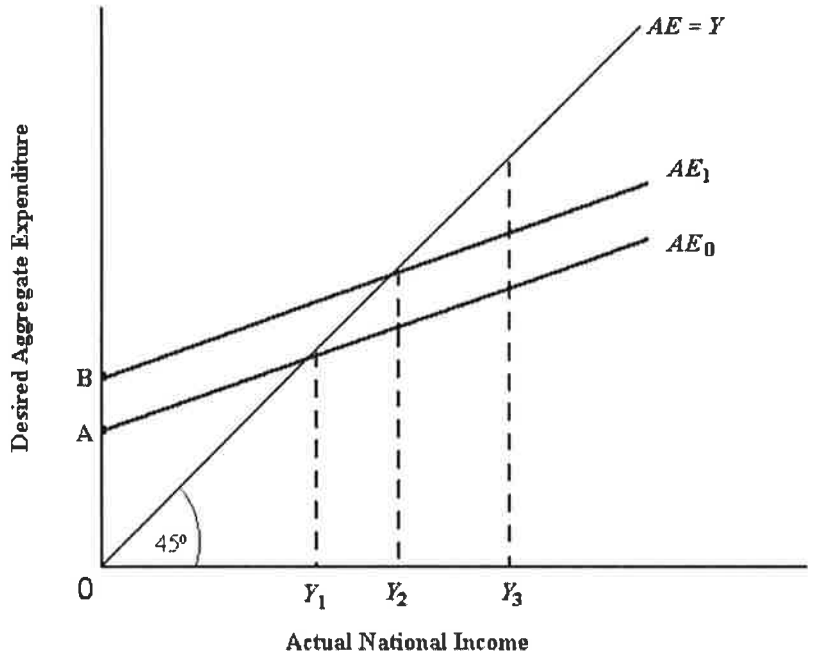

FIGURE 21–3

8. Refer to Figure 21-3. In this demand-determined model of the macro economy, the price level is

   (a) increasing as the economy moves from E0 to E1.

   (b) assumed to be constant.

   (c) measured by Y2/0B.

   (d) derived from the slope of the AE function.

   (e) measured by Y1Y2/AB.

   Consider the following information describing a closed economy with no government and where aggregate output is demand determined. All dollar figures are in billions.

   - the equilibrium condition is Y = C + I
   - the marginal propensity to save = 0.25
   - the autonomous part of C is $30
   - investment is autonomous and is $40

9. At the equilibrium level of national income, desired saving ($billions) will be

   (a) $200.

   (b) $240.

   (c) $40.

   (d) zero.

   (e) $70.

10. Consider the simplest macro model with demand-determined output. If desired aggregate expenditure is greater than actual national income, then

    (a) inventories will likely begin to fall, causing firms to increase production.

    (b) actual national income must be less than the equilibrium level.

    (c) inventories will likely begin to rise, causing firms to reduce production.

    (d) actual national income must be greater than the equilibrium level.

    (e) both A and B are correct.

11. Consider the simplest macro model in which aggregate output is demand-determined. If autonomous consumption increases by \$2 billion causing equilibrium national income to rise by \$6 billion, the marginal propensity to spend must be

    (a) 0.2.

    (b) 0.5.

    (c) 3.0.

    (d) 1.0.

    (e) 0.67.

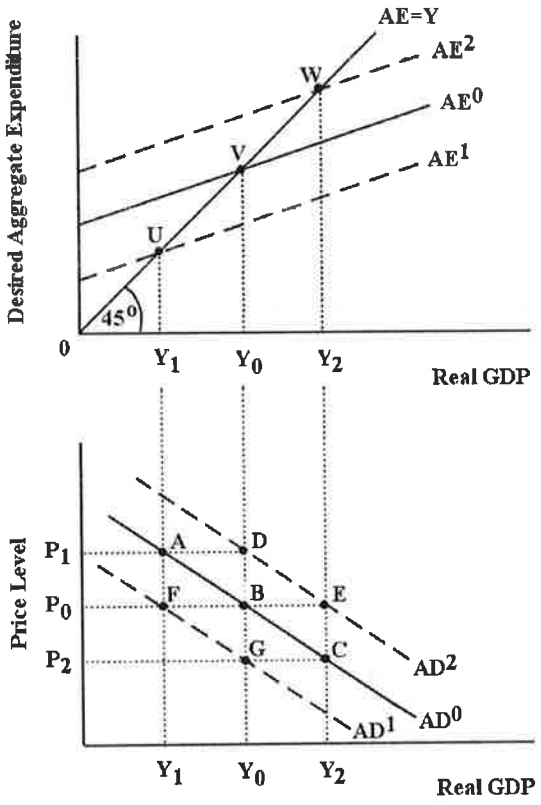

FIGURE 23-1

12. Refer to Figure 23-1. Assume the economy is initially in equilibrium with desired aggregate expenditure equal to real GDP at point V. The price level is P0. Now, suppose there is an exogenous rise in the price level to P1. Which of the following statements describes the likely macroeconomic effects?

    (a) The AE curve shifts to AE1, a new equilibrium is established at point U, and the AD curve shifts from AD0 to AD1, and equilibrium from point B to point D.

    (b) The AE curve shifts to AE2, a new equilibrium is established at point W, and the AD curve shifts from AD0 to AD1, and equilibrium moves from point B to point D.

    (c) The AE curve shifts to AE2, a new equilibrium is established at point W, and the economy moves from point B to point C along AD0.

    (d) The AE curve shifts to AE1, a new equilibrium is established at point U, and the economy moves from point B to point A along AD0.

13. Consider two economies, A and B. Economy A has a marginal propensity to consume of 0.9, a net tax rate of 0.2 and a marginal propensity to import of 0.2. Economy B has a marginal propensity to consume of 0.7, a net tax rate of 0.2 and a marginal propensity to import of 0.2. Suppose there is an increase in autonomous investment of $5 billion in each of these economies. Which of the following statements is true?

    (a) There is a larger decrease in real GDP in Economy A as a result of the change in autonomous investment.

    (b) There is an equal effect on real GDP in Economies A and B as a result of the increase in autonomous investment.

    (c) There is a larger decrease in real GDP in Economy B as a result of the change in autonomous investment.

    (d) There is a larger increase in real GDP in Economy A as a result of the change in autonomous investment.

    (e) There is a larger increase in real GDP in Economy B as a result of the change in autonomous investment.

14. Many economists think discretionary fiscal policy is of limited effectiveness in stabilizing the economy because:

    - the multiplier effects associated with fiscal policy take a long time;
    - changes in government spending and taxation are too small in relation to the size of the economy to have much effect;
    - there are long and uncertain lags in implementing fiscal policy.

    (a) 1 only

    (b) 2 only

    (c) 3 only

    (d) 1 and 2

    (e) 1 and 3

15. Consider the basic AD/AS macro model in long-run equilibrium. An expansionary AD shock will _____ the price level and _____ output in the short run. In the long run, the price level will _____ and output will _____.

    (a) increase; increase; increase further; be restored to potential output

    (b) increase; increase; increase further; increase further

    (c) increase; decrease; increase further; be restored to potential output

    (d) decrease; decrease; decrease further; decrease further

    (e) decrease; decrease; decrease further; be restored to potential output

16. The paradox of thrift does not exist in the long run because

    (a) not everyone increases saving in the long run.

    (b) changes in aggregate demand have no impact on real GDP in the long run.

    (c) aggregate supply has an impact on real GDP only in the short run.

    (d) potential output is determined by changes in the price level.

    (e) everyone increases consumption in the long run.

17. Income taxes in Canada can be considered to be automatic stabilizers because tax

    (a) revenues are changed through discretionary fiscal policy to keep the budget balanced.

    (b) revenues decrease when income increases, thereby intensifying the increase in aggregate demand.

    (c) structures can be changed when the Minister of Finance brings down a budget.

    (d) revenues increase when income increases, thereby offsetting some of the increase in aggregate demand.

    (e) revenues are changed through discretionary fiscal policy to create surpluses in recessions.

18. In our simple macro model with government, which statement correctly describes the following equation: $Y_D = (0.75)Y$?

    (a) Net tax revenue is equal to 75% of national income.

    (b) If national income increases by \$1.00, then disposable income increases by \$0.25 and net tax revenue increases by \$0.75.

    (c) Net tax revenue is equal to 25% of disposable income.

    (d) If disposable income increases by \$0.75, then national income increases by \$1.00 and total tax revenue rises by \$0.75.

    (e) If national income increases by \$1.00, then disposable income increases by \$0.75 and net tax revenue increases by \$0.25.

19. Consider a simple macro model with a constant price level and demand-determined output. The equations of the model are: C = 120 + 0.86Y, I = 300, G = 520, T = 0, X = 180, IM = 0.12Y. If national income is 2400, then desired aggregate expenditure is

    (a) 1120.

    (b) 3472.

    (c) 1776.

    (d) 3184.

    (e) 2896.

20. Consider a simple macro model with a constant price level and demand-determined output. The equations of the model are: C = 150 + 0.84Y, I = 400, G = 700, T = 0, X = 130, IM = 0.08Y. The trade balance at equilibrium national income is a

    (a) surplus of 125.0.

    (b) surplus of 15.3.

    (c) deficit of 504.8.

    (d) deficit of 330.0.

    (e) deficit of 460.0.

PART II: Short Answer Questions

1. Consider a **demand determined** economy described by the following equations:

$$\begin{aligned} \text{Consumption:} \quad & C = a + bY_d \\ \text{Autonomous Investment:} \quad & I = I_0 + \kappa Y \\ \text{Autonomous Government Purchases:} \quad & G = G_0 \\ \text{Autonomous Exports:} \quad & X = X_0 \\ \text{Imports:} \quad & IM = mY \\ \text{Tax Revenue:} \quad & T = \tau + tY \end{aligned}$$

Where: a is autonomous consumption, b is the marginal propensity to consume out of disposable income, κ is the marginal propensity to invest, m is the marginal propensity to import, τ are lump sum taxes, and t is the tax rate.

   (a) Algebraically solve for the equilibrium level of national income, the simple multiplier & draw a diagram of the equilibrium. Make sure to show all your steps, and label all important points on your graph. **Total of 6 Marks** (4 marks for algebra, 2 marks for graph)

   (b) What would happen if the Canadian dollar appreciated in value? **Total of 6 Marks** (4 marks for explanation, 2 marks for graph)

2. The 2007-2009 financial in the United States saw a credit crisis and shortage of bank funds which made it harder for individuals and business to borrow. Additionally, there were large decreases in housing prices, and reduced ability to buy new houses.

   (a) Use an AS/AD curve to show the short-run effects of the above events on the economy of the United States (assume the United States was at long-run equilibrium before this event). Carefully explain the reasoning for the effects that you illustrate on your diagram. Be sure to discuss price levels, unemployment, and real GDP levels. **Total of 10 Marks** (6 marks for explanation, 4 marks for diagram)

   (b) Explain how government policies such as unemployment insurance (UI) and the Supplemental Nutrition Assistance Program (SNAP) influence shocks such as those seen in Part (a) above. **Total of 5 Marks**

   If you are not aware of these programs, a brief description:

   - Unemployment Insurance: the government provides benefits to eligible workers who have lost a job "through no fault of their own," for a maximum of 26 weeks.
   - SNAP is a federal program that helps millions of low-income Americans put food on the table.

   (c) What would have happened if the United States government did nothing in the face of these macroeconomic shocks? Carefully explain using your diagram. Be sure to discuss price levels, unemployment, and real GDP levels. **Total of 4 Marks** (2 marks for explanation, 2 marks for diagram)

   (d) Instead of doing nothing, imagine that the government reacted to anger about the recession by greatly reducing legal immigration to the United States. What do you think would happen? Carefully explain using a diagram.**Total of 4 Marks** (3 marks for explanation, 1 marks for diagram)

3. Consider the following equations describing the economy of Canada:

$$AD : Y_{AD} = 1500 - 10P + 2.5G \tag{2a}$$
$$AS : Y_{AS} = 20 + 30P - 3P_{raw} \tag{2b}$$

Where: P is the price level, Y is real national income, P_{raw} is the price of raw materials and G is government purchases.

(a) Solve for equilibrium real national income and price level and show a diagram of this equilibrium. Carefully label the important points on the diagram. **Total of 6 Marks** (3 marks for explanation, 3 marks for diagram)

(b) What would happen in the short-run if there was a marginal increase in government government purchases in this model? Use the equations above and a diagram to explain. Carefully label the diagram, including the simple multiplier and the multiplier of this economy. **Total of 6 Marks** (3 marks for explanation, 3 marks for diagram)

(c) What would happen in the short-run if there was a marginal decrease in the price of raw materials? Use the equations above and a diagram to explain. **Total of 3 Marks** (2 marks for explanation, 3 marks for diagram)