

Student Number.....

Queen's University at Kingston
FACULTY OF ARTS AND SCIENCE
Department of Economics
ECON112_F24_Final Examination
Dec. 12, 2024

Instructor: Rajni Dogra

Time Limit: 3 Hours

Instructions:

Important! Read the instructions carefully before you start your exam.

Put your student number on all pages of all answer booklets, including the front page and Scantron.

Mark your selections for **PART A**, multiple choice answers on the provided **Scantron**. If you make changes, be sure to erase completely. Please record your name and student number on Scantron. Hand in the Scantron inside your answer booklet.

Write your answers for **PART B** and **PART C** in the **Answer booklet PROVIDED**. Please record your name and student number on the answer booklet. Hand in the scantron for Part A inside the answer booklet.

Marking Scheme:

Part A [60 marks] **FOURTY** Multiple-choice questions – 1.5 marks each

Part B [20 marks] **FOUR** of **SIX** True/False/Uncertain questions – 5 marks each

Part C [20 marks] **ONE** problem solving question.

Calculators: Non-programmable calculators are permitted. (Examples: those with Blue and Gold stickers and the pre-approved Casio FX991 series).

Formulas are provided at the end page of this booklet.

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

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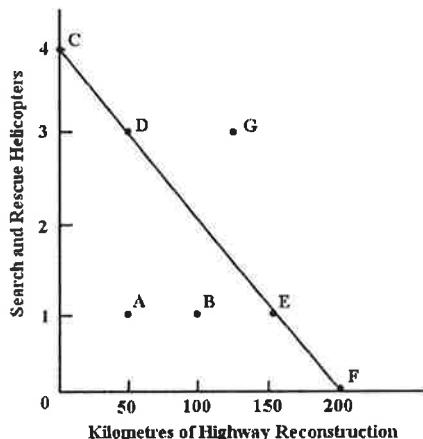
Part A

Multiple-Choice Questions (40)

[60 marks]

Each question is worth 1.5 marks. There is no negative marking for wrong answers.

1. With a budget of \$200 million, the government can choose to purchase 4 helicopters or repair 200 km of highway.



Refer to Figure above. If the government chooses to allocate all \$200 million to highway repair, we can say that

- A) the opportunity cost of the highway repair is uncertain.
- B) the opportunity cost of the highway repair is \$0.
- C) the opportunity cost of the highway repair is 4 search and rescue helicopters.
- D) there is no opportunity cost involved because the government has achieved its objectives.
- E) there is no opportunity cost involved because the government stayed within its budget.

2. A modern economy like Canada's is largely organized by

- A) governments at all levels coordinating the activities of firms and citizens.
- B) individuals forming cooperative enterprises and labour unions.
- C) individuals following their own self-interest, doing what seems best for themselves.
- D) benevolent individuals pursuing the public interest.
- E) the self-interested behaviour of a small number of individuals.

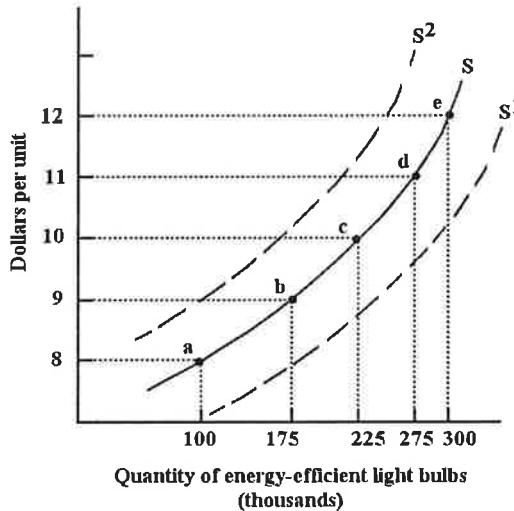
3. Suppose an individual wheat farmer's income is influenced by the region's average daily temperature. When examining the determinants of individual farmer income, the average daily temperature is a(n) _____ variable.

- A) endogenous
- B) exogenous
- C) flow
- D) dependent
- E) induced

4. When testing theories, economics is disadvantaged compared to the natural sciences because
- it deals with human behaviour and thus is not open to empirical testing.
 - it is usually not possible to conduct controlled experiments in economics, in contrast with certain other sciences.
 - economic hypotheses cannot be accepted with complete certainty, by contrast with the other sciences.
 - economic variables do not change enough to provide reliable data for testing hypotheses.
 - some economic variables are determined within the theory.

5. Which statement best describes the "law of demand"? Other things being equal, the quantity of tennis rackets demanded will be greater if the
- incomes of tennis players are higher.
 - price of tennis rackets is lower.
 - price of badminton rackets is higher.
 - number of tennis players is higher.
 - demand for tennis rackets rises.

6.



Refer to Figure. The movement along the supply curve, S, from point *a* to point *c*, could be caused by

- a decrease in the price of energy-efficient light bulbs.
- a decrease in the price of glass, a major input in the production of energy-efficient light bulbs.
- an increase in the number of suppliers of energy-efficient light bulbs.
- an increase in the price of energy-efficient light bulbs.
- a decrease in the price of ordinary light bulbs.

7. Choose the statement that best characterizes an economic theory. An economic theory

- is only useful if its underlying assumptions are realistic.
- will be useful as long as it is logically consistent.
- must be judged on its ability to explain and predict real-world phenomena.
- will predict more accurately if it contains a greater number of mathematical equations.
- will be useful only if all human behaviour is rational.

8. The table below provides macroeconomic data for a hypothetical economy. Dollar amounts are all in constant-dollar terms.

Year	Actual Output (billions of \$)	Potential Output (billions of \$)	Unemployment Rate (% of labour force)
2012	402	404	7.1
2013	408	411	7.2
2014	415	415	6.3
2015	420	418	5.9
2016	422	420	6.0
2017	420	423	7.0
2018	425	425	6.3

Refer to Table above. In the year 2015, it is probably the case that workers are _____ and factories are _____.

- A) facing cyclical unemployment; facing temporary shut downs
- B) working longer than normal hours; facing temporary shutdowns
- C) experiencing zero unemployment; operating extra shifts
- D) experiencing zero unemployment; operating beyond their normal capacity
- E) working longer than normal hours; operating beyond their normal capacity

9. The table below includes data for a one-year period required to calculate GDP for this economy. All figures are in billions of dollars.

Wages and salaries	3029
GST remittances	107
Exports	32
Gross investment	537
Depreciation	82
Consumption expenditure	2808
Government subsidies to firms	51
Business profit	423
Imports	35
Interest and investment income	276
Government purchases	524

Refer to Table. What is the value of GDP (in billions of dollars), as calculated from the expenditure side?

- A) \$3936
- B) \$3904
- C) \$3866
- D) \$3784
- E) \$3708

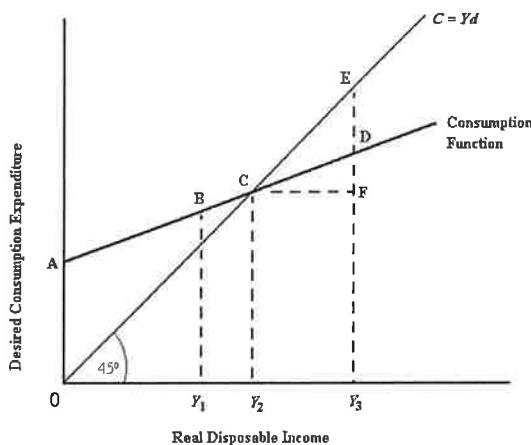
10. The table below shows total output for an economy over 2 years.

2018	Price	Quantity
Good A	\$1.00	100 units
Good B	\$2.00	200 units
Good C	\$5.00	100 units
2019	Price	Quantity
Good A	\$2.00	120 units
Good B	\$3.00	200 units
Good C	\$10.00	98 units

Refer to Table. The nominal Gross Domestic Product in 2019 was

- A) \$700.
- B) \$840.
- C) \$980.
- D) \$1740.
- E) \$1820.

11.



Refer to Figure above. The marginal propensity to save can be expressed as

- A) $DE/Y_1 Y_3$.
- B) $DE/Y_2 Y_3$.
- C) $DF/Y_2 Y_3$.
- D) $FE/Y_1 Y_3$.
- E) $FE/Y_2 Y_3$.

12. In a simple model of the economy, without government or taxes, a shock that causes an upward shift of the aggregate consumption function also causes _____ shift of the saving function.

- A) an equal upward
- B) a less-than-equal upward

- C) an equal downward
- D) a less-than-equal downward
- E) no

13. Consider the following information describing an economy with demand-determined output. There is no government or foreign trade. All dollar figures are in billions.

- 1. equilibrium condition is $Y = C + I$
- 2. marginal propensity to save = 0.20
- 3. the autonomous part of C is \$50
- 4. investment is autonomous and equals \$25

Refer to details above. The equilibrium level of national income is

- A) \$375.
- B) \$249.
- C) \$155.
- D) \$75.
- E) \$93.75.

14. Consider a simple macro model with a constant price level and demand-determined output. In the extreme situation where the marginal propensity to spend is one, the simple multiplier is

- A) zero.
- B) a positive number between zero and one.
- C) one.
- D) a positive number greater than one but less than infinity.
- E) infinitely large.

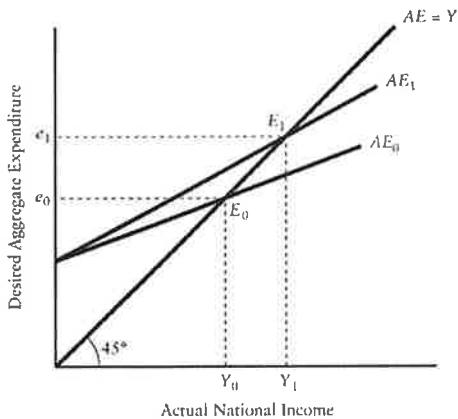
15. A decrease in domestic national income will cause a _____ the net export (NX) function.

- A) movement to the left along
- B) parallel downward shift of
- C) parallel upward shift of
- D) rotation upward in
- E) rotation downward in

16. In our simple macro model with government, consider the equation $T = (0.2)Y$. Which of the following statements about this equation is correct?

- A) Total tax revenues are equal to 20% of disposable income.
- B) Total tax revenues are equal to 20% of real GDP.
- C) Net tax revenues are equal to 20% of disposable income.
- D) If national income increases by \$1.00, then net tax revenue increases by \$0.20.
- E) If total tax revenue increases by \$0.20, then national income increases by \$1.00.

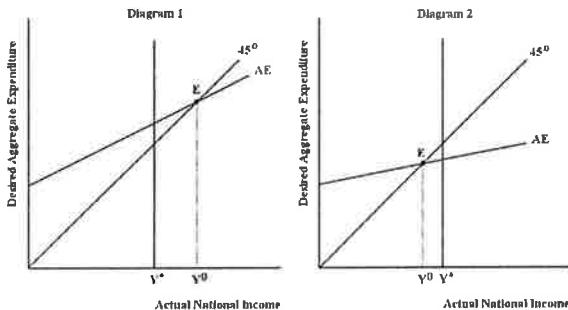
17.



Refer to Figure above. Autonomous expenditures _____ as the AE curve rotates from AE_1 to AE_0 and equilibrium national income _____.

- A) decrease; decreases
- B) increase; decreases
- C) remain constant; increases
- D) remain constant; decreases
- E) remain constant; remains constant

18.



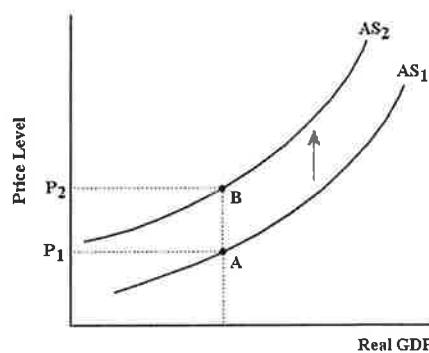
Refer to Figure above. Diagram 1 illustrates an economy that is experiencing a(n) _____ gap. The goal of stabilization policy would be to _____ national income until it is equal to _____.

- A) recessionary; increase; actual national income
- B) inflationary; reduce; potential GDP
- C) inflationary; reduce; actual national income
- D) inflationary; increase; potential GDP
- E) recessionary; increase; potential GDP

19. Consider a simple macro-model with demand-determined output. An exogenous increase in the domestic price level will _____ the real value of the private sector's wealth, which leads to _____ in autonomous consumption and thus _____ shift in the AE function.

- A) increase; a decrease; a downward
- B) increase; an increase; a downward
- C) increase; an increase; an upward

- D) reduce; a decrease; a downward
 E) reduce; an increase; an upward
20. Which of the following could cause a leftward shift in the aggregate demand (*AD*) curve?
 A) an increase in autonomous exports
 B) an increase in autonomous government purchases
 C) an increase in government transfer payments to households
 D) an increase in desired investment
 E) an increase in autonomous desired savings
21. Consider the *AD* curve in the simple macro model. Suppose there is an increase in autonomous desired consumption at a given price level. The result is
 A) the *AE* curve shifts downward and the *AD* curve shifts to the left.
 B) the *AE* curve shifts downward and the *AD* curve shifts to the right.
 C) the *AE* curve shifts upward and the *AD* curve shifts to the left.
 D) the *AE* curve shifts upward and the *AD* curve shifts to the right.
 E) no change in either the *AE* or the *AD* curve.
22. Consider two economies, A and B. Economy A has a marginal propensity to consume of 0.9, a net tax rate of 0.3 and a marginal propensity to import of 0.3. Economy B has a marginal propensity to consume of 0.9, a net tax rate of 0.1 and a marginal propensity to import of 0.3. Suppose there is an increase in autonomous investment of \$5 billion in each of these economies. Which of the following statements is true?
 A) The *AD* curve shifts farther to the left in Economy B than Economy A.
 B) The *AD* curve shifts farther to the right in Economy B than Economy A.
 C) The *AD* curve shifts to the left the same amount in both economies.
 D) The *AD* curve shifts to the right the same amount in both economies.
 E) The simple multiplier is larger in Economy A.
23. Which of the following could cause a movement along the economy's *AS* curve?
 A) a change in labour productivity
 B) a change in the cost of capital
 C) a change in the price level
 D) a change in technology
 E) a change in the wage rate
- 24.



Refer to Figure above. Which of the following events could cause the upward shift of the *AS* curve?

- A) improvements in communications technology
- B) a decrease in business confidence that reduces desired investment
- C) a recession in the U.S. that reduces our net exports
- D) a major discovery of new oil reserves that will increase the world supply
- E) a massive drought that reduces agricultural output

25. An aggregate demand (*AD*) shock will have a small effect on real GDP and a large effect on the price level when

- A) the *AS* curve is steep.
- B) the *AD* curve intersects the *AS* curve on the downward-sloping portion of the *AS* curve.
- C) the *AS* curve is close to horizontal.
- D) the *AD* curve is steep.
- E) the *AD* curve is flat.

26. Which of the following are the defining assumptions of the *short run* in macroeconomics?

- A) Factor prices are exogenous, and technology and factor supplies are changing.
- B) Factor prices adjust to output gaps, and technology and factor supplies are constant.
- C) Factor prices are exogenous, and technology and factor supplies are constant.
- D) Factor prices adjust to output gaps, and technology and factor prices are changing.
- E) Factor prices are exogenous, technology and factor prices are endogenous.

27. If wages rise faster than increases in labour productivity, then unit labour costs will

- A) fall and the *AS* curve will shift left.
- B) fall and the *AS* curve will shift right.
- C) rise and the *AS* curve will shift left.
- D) rise and the *AS* curve will shift right.
- E) not change because only total labour costs change.

28. The table below shows data for five economies of similar size. Real GDP is measured in billions of dollars. Assume that potential output for each economy is \$340 billion.

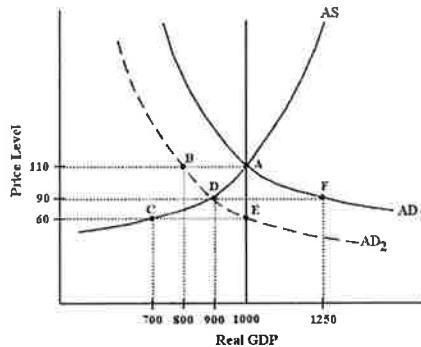
	Real GDP	Rate of Wage Change
Economy A	300	-1.0%
Economy B	320	-0.5%
Economy C	340	0%
Economy D	360	+3.5%
Economy E	380	+6.0%

Refer to Table above. Which of the following statements best describes the situation facing Economy B?

- A) There is a recessionary gap of \$40 billion and wages are falling slowly.
- B) There is an inflationary gap of \$40 billion and wages are rising.

- C) There is a recessionary gap of \$20 billion and wages are falling slowly.
 D) There is no output gap and wages are stable.
 E) There is an output gap of \$20 billion and wages are rapidly adjusting.

29. The diagram below shows an AD/AS model for a hypothetical economy. The economy begins in long-run equilibrium at point A.



- Refer to Figure above. A negative shock to the economy shifts the AD curve from AD_1 to AD_2 . At the new short-run equilibrium, the price level is _____ and real GDP is _____.
 A) 90; 900
 B) 110; 800
 C) 60; 1000
 D) 60; 700
 E) 90; 1250

30. Over the long term, by far the most potent force for raising average material living standards is
 A) economic growth.
 B) reducing inefficiencies.
 C) redistributing income.
 D) increasing the money supply.
 E) appropriate fiscal policies.

31. Doug is saving money in order to purchase a new snowboard next winter. This represents using money as
 A) a medium of exchange.
 B) a store of value.
 C) a unit of account.
 D) a medium of deferred payment.
 E) a method of barter.

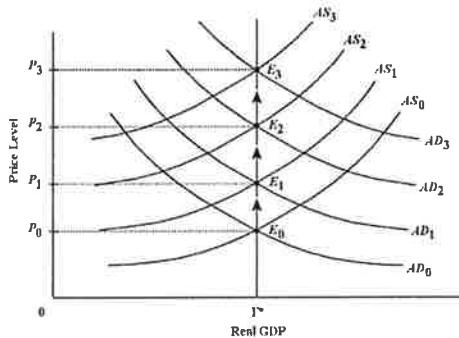
32. Why is the possibility of a bank run extremely small in Canada today?
 A) The Bank of Canada guarantees the deposits at all commercial banks in Canada, eliminating the danger of a rush of withdrawals.
 B) The Department of Finance guarantees the deposits at all commercial banks in Canada, eliminating the danger of a rush of withdrawals.

- C) The Canadian Deposit Insurance Corporation provides deposit insurance on eligible deposits, so most depositors would not feel the need to withdraw all of their money in a panic.
- D) The Office of the Superintendent of Financial Institutions provides deposit insurance on eligible deposits, so most depositors would not feel the need to withdraw all of their money in a panic.
- E) The banking superintendent of Canada guarantees the deposits at all commercial banks in Canada, eliminating the danger of a rush of withdrawals.

33. The economy's investment demand function describes the

- A) positive relationship between desired investment, the rate of interest, and aggregate expenditure.
- B) positive relationship between desired investment and the rate of interest.
- C) negative relationship between the demand for money and the interest rate.
- D) negative relationship between desired investment and aggregate expenditure.
- E) negative relationship between the interest rate and desired investment.

34. Consider the AD/AS model below with a constant rate of inflation. No exogenous AD or AS shocks are occurring.



Refer to Figure above. Suppose the constant rate of inflation is 3%. In this case,

- A) equilibrium GDP and the price level are each increasing at a constant rate of 3% per year.
- B) the AS curve is shifting upward by 3% per year and the AD curve remains stationary.
- C) the AD curve is shifting upward by 3% per year and the AS curve remains stationary.
- D) an annual shift upward of each of the AS and AD curves by 1.5% leads to a constant rate of inflation of 3%.
- E) an annual shift upward of the AS curve by 3% is matched by an annual shift upward of the AD curve by 3%.

35. Suppose we know the following information about a hypothetical economy:

- real GDP = \$550 billion
- potential GDP = \$500 billion
- inflation rate = 4%

If the central bank tries to keep real GDP constant at \$550 billion, the inflation rate is likely to

- A) remain constant at 4%.
- B) fall below 4%.

- C) rise above 4%.
- D) cause stagflation.
- E) cause a recession.

36. Consider the federal government's budget constraint. If the government's overall budget deficit is \$27 billion and its debt-service payments are \$29 billion, then its

- A) primary budget deficit is \$2 billion.
- B) primary budget deficit is \$56 billion.
- C) primary budget surplus is \$2 billion.
- D) primary budget surplus is \$56 billion.
- E) Not enough information to determine.

37. The concept of "national saving" refers to the

- A) difference between private saving and government saving.
- B) sum of private saving and government saving.
- C) money supply measure, $M3$.
- D) difference between the two measurements of the money supply, $M3 - M2$.
- E) total saving of the private sector.

38. There will be no gains from specialization and trade between two countries if

- 1) neither country has an absolute advantage in the production of any good;
- 2) neither country has a comparative advantage in the production of any good;
- 3) opportunity costs are the same in the two countries.

- A) 1 only
- B) 2 only
- C) 3 only
- D) 1 and 2
- E) 2 and 3

39. The concept of comparative advantage in international trade is based on _____ as opposed to absolute costs.

- A) relative prices
- B) absolute prices
- C) opportunity costs
- D) average cost
- E) total cost

40. Bitcoin will not be considered "money" unless which of the following conditions is satisfied?

- A) It is generally accepted as a medium of exchange, a store of value, and a unit of account.
- B) It is traded as currency on the major exchanges around the world.
- C) The use of Bitcoin passes a threshold in terms of dollar value of transactions as determined jointly by the G20 countries.
- D) It is accepted as payment for Internet transactions.
- E) It is officially issued as currency by at least one country's central bank.

Part B
True/False/Uncertain Questions (06)

[20 marks]

Each question is worth 5 marks.

Answer any four of the following six questions in the answer booklet. Only the first four answers will be counted towards scores.

Explain why the following is True, False, or Uncertain according to economic principles. Use diagrams and/or numerical examples where appropriate. Unsupported answers will receive no marks. It is the explanation that is important.

1. The table below includes data for a one-year period required to calculate GDP for this economy. All figures are in billions of dollars.

Wages and salaries	3029
GST remittances	107
Exports	32
Gross investment	537
Depreciation	82
Consumption expenditure	2808
Government subsidies to firms	51
Business profit	423
Imports	35
Interest and investment income	276
Government purchases	524

Refer to Table above. The value of GDP (in billions of dollars), as calculated from the expenditure side is = \$3378. Show your calculations to support your answer. [5 marks]

2. In an open economy with government and demand-determined output, a decrease in the equilibrium level of national income could be caused by a decrease in desired consumption at all levels of income. Explain. [5 marks]
3. Between 2006 and 2012, the Canadian government reduced both personal and corporate income taxes. This is a supply-side policy. Explain? [5 marks]
4. All of the following items are considered money in the Canadian economy – A Canadian \$10 bill, A visa credit card, the balance in an interest-earning saving account, and a \$1 bill of Canadian tire money. Explain your answer by discussing the functions of money. [5 marks]
5. In the short run, demand inflation tends to be accompanied by an increase in real GDP above its potential level, while supply inflation tends to be accompanied by a decrease in real GDP below its potential level. [5 marks]
6. A decline in private investment spending as a result of an increase in government spending and borrowing is known as crowding-in and Bank of Canada designs contractionary monetary policy to deal with the increase rate of interest caused due to this government action. [5 marks]

Part C
Problem Solving Question (01)

[20 marks]

Answer all parts of the following question in the answer booklet.

There are 3 sub-parts to this question. Read each part of the following question very carefully. Answer all parts of the question and show all steps of your calculations to get full marks. Use diagrams where required. Answer questions up to one decimal accuracy.

- Suppose you are given the following information for an economy without government spending, exports, or imports. C is desired consumption, I is desired investment, and Y is national income. C and I are given by

$$C = 1400 + 0.8Y$$

$$I = 400$$

- What is the equation for the aggregate expenditure (AE) function? [1 mark]
- Applying the equilibrium condition that $Y = AE$ determine the level of equilibrium national income. [2 marks]
- Using your answer from part (b), determine the values of consumption, saving, and investment when the economy is in equilibrium. [2 marks]

- The economy of Cloverland has the AD and AS schedules shown in the accompanying table. Denote Y_{AD} as the level of real GDP along the AD curve; let Y_{AS} be the level of real GDP along the AS curve. GDP is shown in billions of 2012 dollars.

Price Level	Y_{AD}	Y_{AS}
40	1350	825
60	1300	950
80	1250	1075
100	1200	1200
120	1150	1325
140	1100	1450

- Plot the AD and AS curves on a scale diagram. [2 marks]
- What is the price level and level of real GDP in Cloverland's macroeconomic equilibrium? [1 mark]
- Suppose that the price level in Cloverland is 60. At this price level, what amount of total output are firms willing to supply? What is desired expenditure? Describe this disequilibrium. [2 marks]
- Suppose the price level in Cloverland is 120. At this price level, what amount of total output are firms willing to supply? What is desired expenditure? Describe this disequilibrium. [2 marks]
- Now suppose the price and output are at the equilibrium levels determined in part (b), but the level of potential output for Cloverland is \$1225 billion. What do we call such an output gap? [2 marks]

3. Several years ago, the Canadian government announced a plan to modify the employment-insurance (EI) program, which led to a great deal of debate over the appropriate level of generosity for EI.
- Explain what problem can be caused by having an EI system that is too generous. [2 marks]
 - Explain what problem can be caused by having an EI system that is not generous enough. [2 marks]
 - If EI generosity were reduced and the NAIRU declined as a result, is this necessarily a desirable outcome? Explain. [2 marks]

Formulas

1. *GDP Expenditure Method* = $C + I + G + (X - M)$
2. $MPC + MPS = 1$
3. *Nominal GDP* = *Current year Quantitiy* \times *Current year Price*
4. *Opporuntiy Cost* = $\frac{\text{Give-up}}{\text{Get}}$
5. *Output Gap* = *Real GDP* – *Potential GDP*
6. *Primary Budget Deficit* = $G - T$
7. *Simple Multiplier* = $\frac{1}{1 - [MPC(1-t)-m]}$
8. *Simple Multiplier* = $\frac{1}{1 - MPC}$
9. $Y_D = C + S$