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

Econ 112 002, 003– Barber
April 17th, 2021

INSTRUCTIONS TO STUDENTS:
This examination is 3 HOURS in length.
There is one section to this examination.

The following aids are allowed:
All class materials

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.

Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Changes in productivity can be analyzed by looking at how GDP per employed worker changes over time or how GDP per hour worked changes over time. Why might one measure be more preferable than the other? 1) _____

A) GDP per employed worker is preferable because the number of employed workers has risen significantly over time.
B) GDP per hour worked is preferable because it eliminates the need to adjust for variations in productivity between employed workers.
C) GDP per employed worker is more accurate because the data available on the number of employed workers is more accurate than the data available on the number of hours worked.
D) GDP per hour worked is more accurate because the average number of hours worked per employed worker has changed over time.
E) Both measures are equally good.

2) *The table below shows total output for an economy over 3 years.* 2) _____

Year	Money GDP*	Deflator	Real GDP**
2016	$ _____	105	$760 000
2017	$820 000	106	$_____
2018	$855 000	_____	$800 000

* millions of dollars
** real GDP measured in millions of 2010 dollars

TABLE 20-7

Refer to Table 20-7. The growth rate of nominal output from 2016 to 2017 is
A) 4.09%. B) 5.00%. C) 2.76%. D) 4.27%. E) 3.36%.

3) *The table below shows total output for an economy over 3 years.* 3) _____

Year	Money GDP*	Deflator	Real GDP**
2016	$ _____	105	$760 000
2017	$820 000	106	$_____
2018	$855 000	_____	$800 000

* millions of dollars
** real GDP measured in millions of 2010 dollars

TABLE 20-7

Refer to Table 20-7. The growth rate of real output from 2017 to 2018 is
A) 4.27%. B) 3.41%. C) 3.25%. D) 1.03%. E) 1.84%.

4) *The table below shows total output for an economy over 2 years.* 4) _____

2017	Price	Quantity
coconuts	$1.00	100 units
bananas	$3.00	200 units
pineapples	$6.00	100 units
2018	Price	Quantity
coconuts	$2.00	120
bananas	$4.00	200
pineapples	$8.00	90

TABLE 20-8

Refer to Table 20-8. The implicit GDP deflator in 2018 (using 2017 as the base year) is
A) 139.7. B) 103.4. C) 114.6. D) 71.59. E) 100.

5) 5) _____

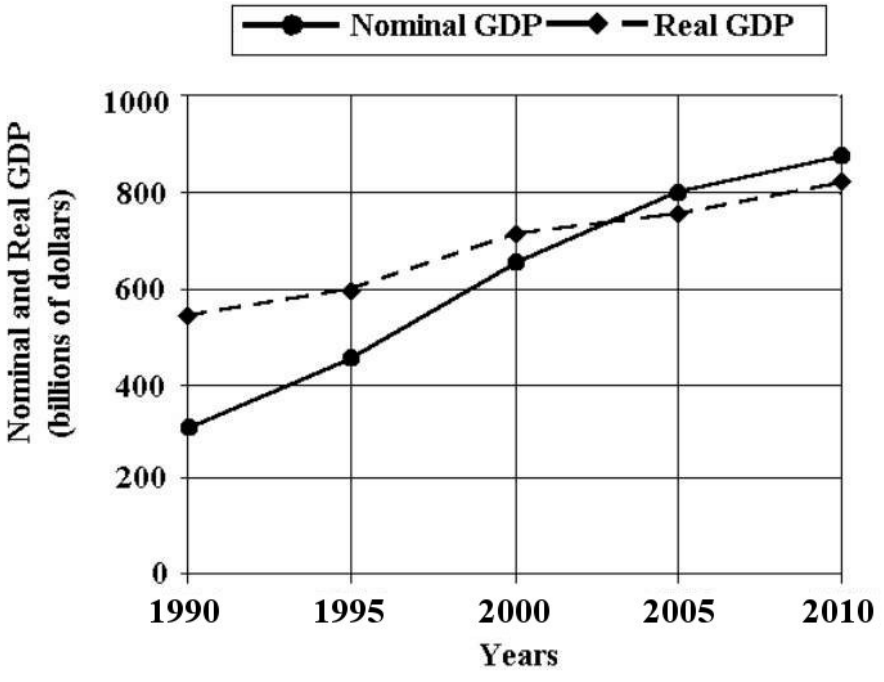

FIGURE 20-1

Refer to Figure 20-1. Nominal GDP increased by approximately _____% between 2000 and 2005.
A) 20 B) 100 C) 65 D) 85 E) 45

6) 6) _____

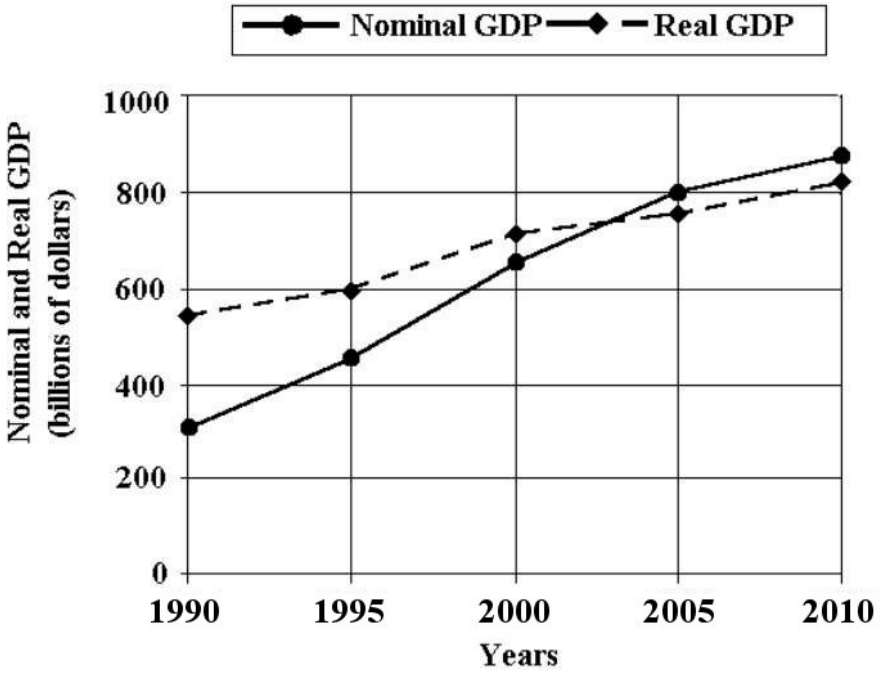

FIGURE 20-1

Refer to Figure 20-1. Real GDP increased by approximately _____% between 1995 and 2010.
A) 9 B) 75 C) 52 D) 17 E) 35

7) Researchers have been developing broad indexes of "social well-being" as an alternative to measures of per capita GDP. What are they trying to capture with such a measure? 7) _____
A) Movement in variables that are important to people's well-being, such as environment, education, and leisure, that are not captured in current measures of per capita income.
B) Detailed measures of the various components of GDP that have meaningful impact on the social well-being of individuals and households.
C) Variation in aggregate income adjusted for variations in the country's net foreign asset position.
D) Variations in the true purchasing power of income, especially as influenced by changes in interaction between prices and the exchange rate.
E) The variation in aggregate consumption because consumption is a better measure of individual well-being than income.

8) 8) _____

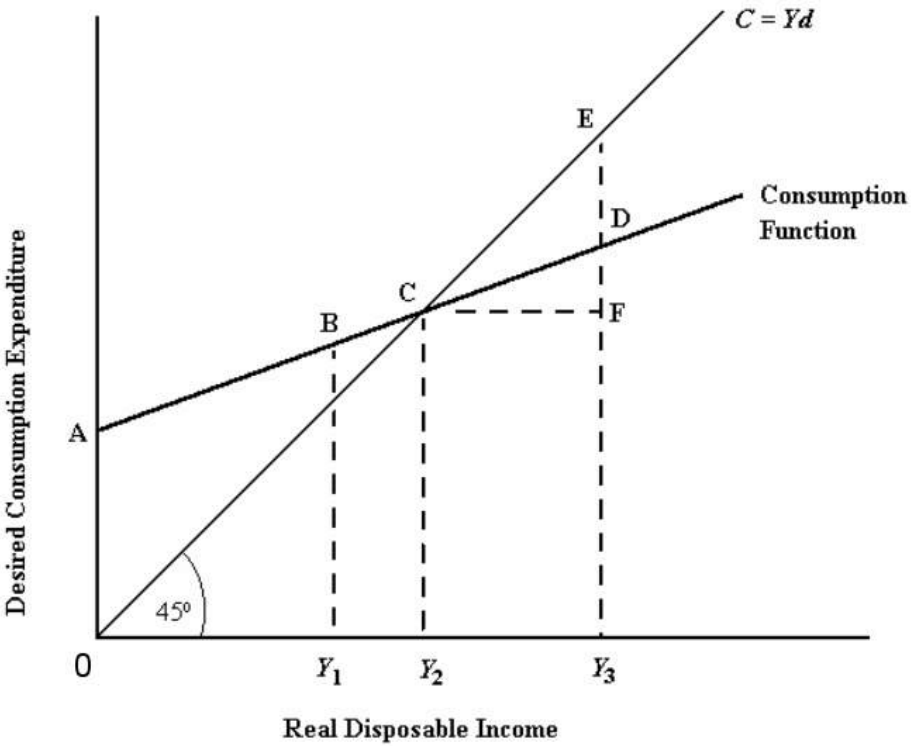

FIGURE 21-1

Refer to Figure 21-1. The marginal propensity to consume is equal to
A) DF/Y_2Y_3. B) EF/Y_2Y_3. C) EF/DF. D) ED/Y_2Y_3. E) ED/CF.

9) 9) _____

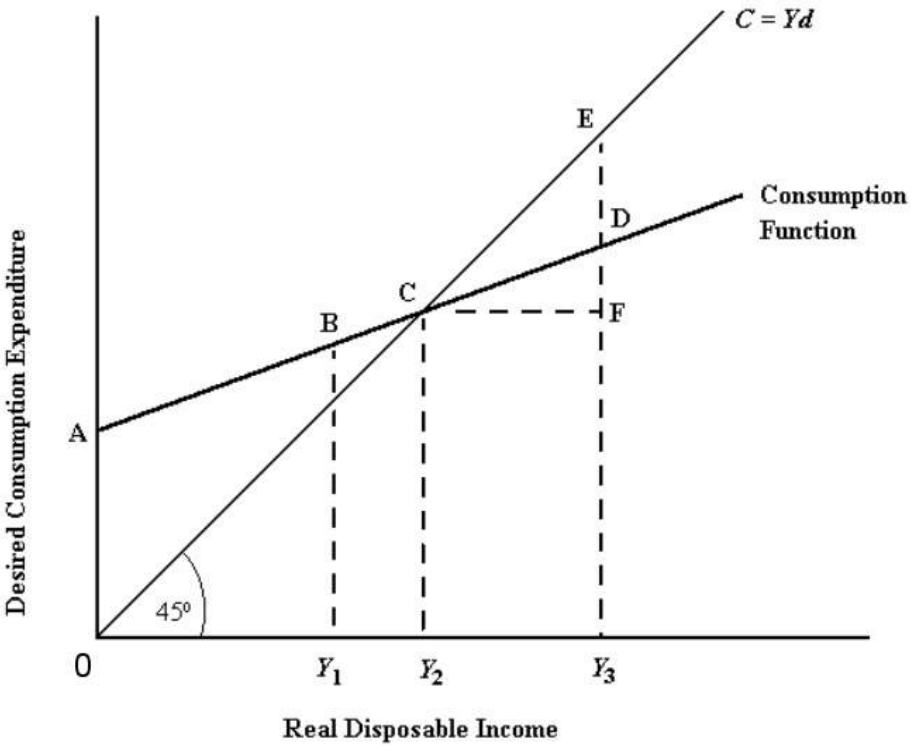

FIGURE 21-1

Refer to Figure 21-1. The marginal propensity to save can be expressed as
A) DF/Y_2Y_3. B) FE/Y_1Y_3. C) FE/Y_2Y_3. D) DE/Y_1Y_3. E) DE/Y_2Y_3.

10) Consider a consumption function of the following form: C = 50 + (0.6)Y_D. At what level of disposable income will desired savings be equal to zero? 10) _____
A) 83.33 B) 50 C) 125 D) 31.25 E) 208.33

11) *The table below shows disposable income and desired consumption for a closed economy with no government.* 11) _____

Disposable Income	Desired Consumption
0	10
30	34
70	66
130	114

TABLE 21-2

Refer to Table 21-2. The marginal propensity to save is equal to
A) 0.6. B) 0.4. C) 0.2. D) 0.67. E) 0.8.

12) *The table below shows disposable income and desired consumption for a closed economy with no government.* 12) _____

Disposable Income	Desired Consumption
0	10
30	34
70	66
130	114

TABLE 21-2

Refer to Table 21-2. The marginal propensity to consume is equal to
A) 0.8. B) 0.6. C) 0.2. D) 0.4. E) 0.67.

13) 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? 13) _____
A) C = $244 billion + (0.13)Y
B) C = $356 billion + (0.87)Y
C) C = $244 billion + (0.87)Y
D) C = $356 billion + (0.13)Y
E) C = $300 billion + (0.13)Y

14) Consider the following aggregate expenditure function: AE = $500 billion + (0.75)Y. Assuming no government, no international trade, and desired investment is autonomous and equal to $120 billion, then which of the following is the correct statement of the *consumption* function? 14) _____
A) C = $500 billion + (0.75)Y
B) C = $620 billion + (0.25)Y
C) C = $500 billion + (0.25)Y
D) C = $620 billion + (0.75)Y
E) C = $380 billion + (0.75)Y

15) Consider the simplest macro model with demand-determined output. If desired aggregate expenditure is greater than actual national income, then 15) _____
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.

16) 16) _____

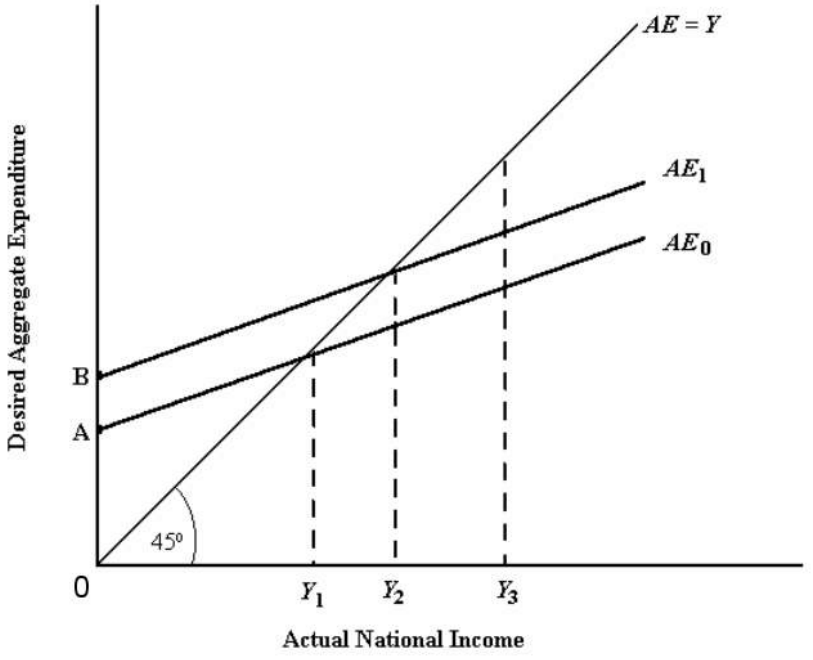

FIGURE 21-3

Refer to Figure 21-3. Consider the simplest macro model with no government and no foreign trade, and the aggregate expenditure function AE = C + I. If there was zero autonomous expenditure and the marginal propensity to consume was equal to one, then the AE function would be

A) flatter than the 45-degree line.
B) coincident with the 45-degree line.
C) above the 45-degree line at all points.
D) steeper than the 45-degree line.
E) below the 45-degree line at all points.

17) *Consider the following information describing a closed economy with no government and where aggregate output is demand determined. All dollar figures are in billions.* 17) _____

1. the equilibrium condition is $Y = C + I$
2. the marginal propensity to consume is 0.90
3. the autonomous part of C is $300
4. investment is autonomous and is $100

TABLE 21-3

Refer to Table 21-3. At the equilibrium level of national income, desired saving ($billions) is

A) $3900. B) $4000. C) $100. D) $300. E) $1000.

18) *Consider the following information describing a closed economy with no government and where aggregate output is demand determined. All dollar figures are in billions.* 18) _____

1. the equilibrium condition is $Y = C + I$
2. the marginal propensity to save = 0.25
3. the autonomous part of C is $30
4. investment is autonomous and is $40

TABLE 21-4

Refer to Table 21-4. At the equilibrium level of national income, desired saving ($billions) will be
A) $200. B) zero. C) $40. D) $240. E) $70.

19) Consider a simple macro model with demand-determined output. Using such a model, if economists want to estimate the effect of a given change in desired investment on equilibrium national income, they would multiply the change in desired investment by the reciprocal of one minus 19) _____
A) the equilibrium level of national income.
B) the marginal propensity to save.
C) the marginal propensity to spend.
D) the average propensity to save.
E) the marginal propensity not to spend.

20) Consider the simplest macro model with demand-determined output. Suppose an increase in business confidence leads firms to increase investment in new equipment by $30 million. The marginal propensity to spend in this economy is 0.9. What is the eventual total new expenditure in this economy due to the increase in investment? 20) _____
A) $27 million
B) $30 million
C) $300 million
D) $270 million
E) $3 million

Q1.

a) Consider a demand determined economy described by the following equations:

Consumption: $C=a+bYd$
Autonomous Investment: $I=I0$
Autonomous Government Purchases: $G=G0$
Autonomous Exports: $X=X0$
Imports: $IM=mY$
Tax Revenue: $T=\tau+tY$

Where: a is autonomous consumption, b is the marginal propensity to consume, m is the marginal propensity to import, τ is lump-sum taxes (autonomous taxes), and t is the tax rate.

Suppose the government increases government spending and decides to fund it completely through an increase in lump-sum taxes. Would anything happen to equilibrium? Carefully explain. (4 marks)

b) The government is looking to stimulate the economy. They are considering three different policies:

i) a retroactive tax cut.
ii) a decrease to the tax rate tt
iii) an increase in government spending.

Discuss the effects of these policies, as well as their advantages and disadvantages. 2 marks for each policy. (6 marks)

Q2.

a) This question will concentrate on using our AS-AD model to understand the economic consequences of the COVID-19 pandemic, as well as policies currently being enacted or considered.

Imagine it is January of 2020, the US economy has record-low unemployment rates, and GDP is above potential GDP.

As awareness about COVID spreads, businesses begin to enact heightened cleaning routines and social distancing which results in a fall in productivity. The stock market falls due to low consumer confidence, and spending on travel and restaurants plummet.

Using an AS-AD diagram (as well as an AE-Y diagram to show the mechanics of any shift to AD), show the effects of these events, discussing real GDP, price levels, and unemployment. (4 marks)

b) As the economy begins to worsen Claudia Sahm (formerly director of macroeconomic policy at the Washington Center for Equitable Growth) proposes a new policy that provides American's with an automatic lump-sum stimulus payment when the three-month average national unemployment rate rises by at least .5 % compared to its low in the last year.

What kind of policy is this? Discuss the effects of this policy proposal if it was in place as the changes in (a) took place. (3 marks)

c) As vaccines become more available, the US Government is looking for ways to stimulate the economy.

The congression Budget Office (CBO) provides the estimated multipliers from a large stimulus package in 2015 (the American Recovery and Reinvestment Act):

Fiscal Policy	Estimated Multiplier
One-time transfer Payments to Individuals	0.4 to 2.1
Tax cuts to low-middle income	0.3 to 1.5
Tax cuts to high income	0.1 to 0.6
Corporate Tax cuts influencing cash-flow	0.0 to 0.4

What factors do you think are influencing the relative size of these multipliers? (3 marks)

d) The President of the United States proposes "The American Jobs Plan" to help stimulate the economy. The following article provides a breakdown of the plan.

Biden - Infrastructure Plan.pdf

How do you think this proposal would influence the economy in the short run? What about the long run? Carefully explain using the specific policy proposals from the article.

(6 marks)