

Name: **KEY**
ECON 201—Montgomery College
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EXAM 3

- There are 110 possible points on this exam. The test is out of 100.
- You have one class session to complete this exam, but you should be able to complete it in less than that.
- Please turn off all cell phones and other electronic equipment.
- You are allowed a calculator for the exam. This calculator cannot be capable of storing equations. This calculator cannot double as a cell phone.
- Be sure to read all instructions and questions carefully.
- Remember to show all your work.
- Try all questions! You get zero points for questions that are not attempted.
- *Please print clearly and neatly.*

Part I: Matching. Write the letter from the column on the right which best matches each word or phrase in the column on the left. You will not use all the options on the right and you cannot use the same option more than once.

2 points each.

- | | |
|--|--|
| 1. A Core inflation | A. Excludes food |
| 2. H Cyclical unemployment | B. Excludes washing your own dishes |
| 3. G Discouraged workers | C. GDP doesn't include this, but it should |
| 4. B Gross Domestic Product | D. GDP doesn't include this, and it shouldn't |
| 5. E New consumer durables | E. GDP includes this, as it should |
| 6. I Toilet paper | F. GDP includes this, but it shouldn't |
| 7. D Transfer payments ¹ | G. Not in the labor force |
| | H. Not a part of the natural rate of unemployment but in the labor force |
| | I. Sales of this aren't strongly harmed during a recession |

1. Core inflation excludes particularly volatile prices: food and energy.
2. Cyclical unemployment is unemployment due to recessions. Such individuals are in the labor force (because they are looking for work) but should have a job if the economy was functioning well.
3. Such workers don't have a job and aren't looking for work. Like stay-at-home parents, the retired, and some students, they are therefore not in the labor force.
4. Washing your own dishes is nonmarket production; it create value but since it isn't a market transaction it's not included in the labor force.
5. Consumer durables which are brand new (not used) are a form of consumption. Since they were recently produced, they should be included in GDP. Such goods are included under C, or consumption.
6. Toilet paper is too important to not buy. While sales might drop a little during a recession, they won't fall very much. This is not a purchase many people are willing to put off.
7. When the government sends people money it hasn't purchased anything. Transfer payments are not included in GDP as they shouldn't; nothing was produced. This money will be counted, however, when the recipient uses it to buy things.

¹ As in, when the government gives someone money. Examples include unemployment insurance, welfare, and Social Security.

Part II: Multiple Choice. Choose the best answer to the following.

4 points each.

8. Which of the following goods is/are **never directly** counted as a part of GDP?
- Computer games
 - Used bicycles**
 - Airplane engines
 - A & C
 - B & C

*Used bicycles aren't produced (only new ones are) so they aren't included. Airplane engines sometimes aren't directly counted (because they are intermediary) **BUT they are explicitly counted when the engine is imported/exported.***

9. About what is the size of the U.S. economy?
- \$19 billion
 - \$190 billion
 - \$1.9 trillion
 - \$19 trillion**
 - \$190 trillion

As of 2016.

10. In *The Economic Organization of a P.O.W. Camp*, what kind of money were the currencies discussed in the reading?
- Cigarettes: commodity currency; German marks: fiat currency.
 - Cigarettes: commodity currency; bully marks: fiat currency.
 - Cigarettes: commodity currency; bully marks: representative currency.
 - Cigarettes: representative currency; bully marks: fiat currency.
 - Cigarettes: representative currency; bully marks: representative currency.

The value of the cigarette was the cigarette itself; it was a commodity currency. But the bully mark represented food; it was a representative currency. The reading did not discuss German marks.

11. We discussed many gaps, or problems, with how GDP is calculated. Which of the following is **not** such a gap?
- It doesn't include any steel sold to a local car company.**
 - It doesn't include cooking your own dinner.
 - It doesn't include cooking meth and the creation of other illegal substances.
 - B & C
 - None of the above

While it's true that it doesn't include steel sold to a car company, this is not a problem as such steel would be an intermediary good.

12. Which of the following would illustrate the fundamental problem of a CPI which only examines the price of various clothes?
- a. If the price of televisions increased, there would be no inflation.
 - b. An increase in the price of fabric would register as inflation.**
 - c. Both A & B are equally problematic.
 - d. There is nothing wrong with such a CPI.
 - e. There is something wrong, but none of them are listed here.

The CPI is used to calculate inflation. It does this by examining the prices of a variety of goods. It's important that there's a variety so price increases unique to an industry aren't mistaken for an increase in the price level.

So why isn't A also correct? While it may be problematic, it's not a fundamental issue. Just because an increase in the price of television doesn't result in inflation doesn't mean there's a problem. The whole point of a variety of goods is that no one good has undue sway.

13. In *The Economic Organization of a P.O.W. Camp*, the prisoners switched from a cigarette currency to a paper currency. What was the new currency backed by?
- a. Cigarettes
 - b. German currency
 - c. Alcohol
 - d. Food**
 - e. Nothing

The "bully mark" was backed by food; prisoners could exchange the paper currency for a certain amount of food.

14. Why did they adopt a paper currency?
- a. To help keep prices stable**
 - b. To discourage borrowing
 - c. To ensure everyone had money
 - d. B & C
 - e. None of the above

Using cigarettes as currency resulted in instability. When the Red Cross's regular deliveries were interrupted, prices fell due to the lack of cigarettes. When the Red Cross would deliver a bunch at once—four times a year—prices would explode. Being beholden to Red Cross deliveries during wartime made for an unstable currency.

15. Which of the following is *not* a function of money?
- a. Always used in every exchange
 - b. Prices of the same good should be the same everywhere**
 - c. Doesn't lose value over time
 - d. B & C
 - e. None of the above

Both A and C are functions (medium of exchange and store of value, respectively) but B is not.

16. According to the quantity theory of money, which of the following is true?
- a. Increasing the money supply (M) *always* leads to inflation.
 - b. The *only* way to get inflation is to increase the money supply (M).
 - c. Increasing real GDP *increases* the price level, all other things being equal.
 - d. Increasing real GDP *decreases* the price level, all other things being equal.**
 - e. None of the above

Remember the equation: $Mv = pY$. A isn't true because you can increase Y or decrease v to balance the equation. B isn't true because you can increase v or decrease Y to get inflation. C is the opposite of what actually happens when you increase Y : holding M and v the same, if Y increases, p must fall.

17. Russia is dangerously close to entering a recession. If Russia enters a recession, which of the following goods would be hit particularly hard?
- a. Soap
 - b. Carrots
 - c. Plates**
 - d. A & B
 - e. None of the above

Plates are consumer durables: they are used for many years and new plates will be put off as old ones wear out or break (plates that are still intact will be washed more). Carrots and soap are consumables and are not luxuries.

18. As we discussed, the labor force participation rate for women is substantially higher than it was 60 years ago. Which of the following is *not* a possible reason for this change?
- a. The decline of sexism in the workplace
 - b. The economy's greater emphasis on professional services
 - c. The invention of birth control
 - d. A & C
 - e. None of the above**

All of these things contributed to the increase in the female labor force participation rate.

19. Which of the following statements is/are true?
- a. It is possible for the number of net new jobs created to be unusually high and, at the same time, for the unemployment rate to rise.
 - b. Unexpected inflation hurts lenders because makes it more likely people will not be able to pay back their loans.
 - c. All the ways people in a country spend money equals all the ways people in that country make money.
 - d. **A & C**
 - e. All of the above are true

A is true if there are many discouraged workers. A large number of newly created jobs encourage people to start looking. These new entrants to the labor force increase unemployment. C is also true: the total income in a country equals the total spending in a country. That's why there are two different ways to calculate GDP: the income and the spending approaches.

But B is false. While unexpected inflation hurts lenders, it's because the inflation makes the resulting money less valuable. In fact, people are more likely, not less likely, to pay back their loans (because wages would increase).

Part III: Short Answer. *Answer the following.*

16 points each.

20. We discussed several reasons why the labor force participation rate changes over time. Briefly describe two of these reasons.
- 1) *Changes in demographics change the LFPR. If the elderly take up a larger share of the population (due to aging baby boomers and/or improved lifespan), LFRP falls as the percent of adults in retirement increases. If many immigrants enter the country, the LFPR may rise since immigrants tend to not only be of working age but they also immigrate to work. They would be either be looking for a job or already have one.*
 - 2) *Taxes and benefits change the LFPR. Reducing Social Security benefits for working seniors encourage them to leave the labor force. Generous benefits for needy people may discourage them from looking for a job.*

You could also discuss the new kinds of jobs available, improved technology (notably the Pill), and decreased sexism in the workplace, each of which encourage women to enter the labor force.

21. Use the hypothetical information below to calculate the *real* GDP growth rate from 2013 to 2014. Remember to show all your work. Round your answer to the nearest two decimal places, if necessary.

Item	In Billions for the Dollar (\$) Amounts	
	2014	2015
Total Consumption	\$77	\$118
Total Exports	\$42	\$62
Total Wages	\$86	\$99
Total Interest Earned	\$16	\$29
Total Investment	\$31	\$26
Total Imports	\$57	\$115
Total Government Spending	\$37	\$52
CPI	100	107

The first step is to remember there are two ways to calculate GDP: spending and income. We don't have rent or profit so we'll have to use the spending approach. That means we add consumption (C), investment (I), and government spending (G) together. Then we subtract imports from exports and add the result (NX). We will do this for each year:

$$2014: 77+31+37+42-57 = 130$$

$$2015: 118+26+52+62-115 = 143$$

$$(143-130)/130 * 100 = 10\% \text{ growth}$$

That's a high growth rate but we're not done yet. This question asks for the real growth rate. For that, we need the rate of inflation. We can see that the CPI was 100 in 2014 and became 107 in 2015. Inflation is thus 7%.

$$10\% - 7\% = 3\%$$

The real growth rate is 3%.

22. Using the hypothetical data below, calculate the unemployment rate, the natural rate of unemployment, and the labor force participation rate. Remember to show all your work. Round your answers to the nearest two decimal places, if necessary.

	Population (thousands)
<i>Employed Full Time</i>	350
<i>Employed Part Time</i>	200
<i>Frictional Unemployed</i>	22
<i>Discouraged Workers</i>	15
<i>Structural Unemployed</i>	8
<i>Cyclical Unemployed</i>	20
<i>Adult Population²</i>	750
<i>Total Population</i>	900

First, we need all the people who are unemployed. Remember, discouraged workers are not unemployed! So we add up the structural, frictional, and cyclical unemployment:

$$22+8+20 = 50$$

Now we add that number to the employed to get the labor force. The total employed are the full time and part time employed people are: $350+200 = 550$.

$$50+550=600$$

The unemployment rate is thus: $50 / 600 = 8.3\%$

The natural rate is calculated the same way, but we don't include cyclical unemployment in the numerator. We still include it in the denominator because the cyclically unemployed are still in the labor force.

The natural rate is thus: $30 / 600 = 5.0\%$

The labor force participation rate is the labor force divided by the adult population (or, all the people who could be working): $600 / 750 = 80.0\%$

² Civilian and noninstitutionalized