

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

EXAM 2

- 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.
- Recall basic logic. “Water is wet” is a true statement. “Water is wet and leopards have stripes” is a false statement.
- *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. F Consumer durable | A. Money must be portable/divisible |
| 2. I Final | B. Money must be uniform |
| 3. E Intermediary good | C. Money cannot rot or decay |
| 4. G Market value | D. Example: paper towels |
| 5. H Produced | E. Example: timber |
| 6. C Store of value | F. Example: pans |
| 7. B Unit of account | G. Part of GDP's definition which captures quality |
| | H. Part of GDP's definition which excludes used goods and services |
| | I. Part of GDP's definition which prevents double counting a good or service |
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1. *A pan is something consumers buy and lasts a long time. Like houses, cars, and dishwashers, sales will be particularly harmed by a recession.*
 2. *"Final" means it's the good or service sold to consumers; this means you don't explicitly count anything made in the country that's going into something else made in the country. Otherwise, you'd count that thing twice (once when made and once when sold to the consumer).*
 3. *An intermediary good (or service) is a good (or service) used to produce something else and is consumed in the process; it transforms into something else. Timber is such a good, usually transforming into furniture or houses.*
 4. *"Market value" is used to distinguish high-quality items from low-quality items since high-quality items will typically have a higher market price.*
 5. *"Produced" means the items must have been made in the time period in question. Otherwise, it would be counted twice—once when it was sold initially and once when it is sold as a used item. Note that while you could have selected I for this question, you wouldn't have I for #2 and H for #2 is not correct.*
 6. *If money falls apart, or otherwise inherently loses value, it cannot keep its value over time. It will not function as a store of value.*
 7. *If different units of currency have different values, it will not be possible to determine how much something is worth. The value of "10 laptops" depends on the quality of the laptops in question.*

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

4 points each.

8. Suppose a country's GDP in 2013 is \$40 billion and in 2014 it grows to \$60 billion. What is the growth rate of that country's GDP?
- 20%
 - 33%
 - 50%**
 - 200%
 - None of the above

$\$60 \text{ billion} - \$40 \text{ billion} = \$20 \text{ billion}$. $\$20 \text{ billion} / \40 billion (our starting value) is 0.5, or 50%.

9. Which of the following is/are *not* included in the U.S. GDP but should be?
- The pollution a factory dumps into a river.**
 - The sale of a used car in the extralegal market.
 - A microchip made in the U.S.
 - A & B
 - None of the above

A microchip is either an intermediary good (it will be counted when a computer is sold) or a final good (if exported or sold directly to a consumer for some reason). While the extralegal market isn't included but should be, a used car sale definitely shouldn't be included; the car was counted when it was first made. But GDP should adjust for environmental damage.

10. In *The Economic Organization of a P.O.W. Camp*, describe the cigarette as it functioned as a currency.
- The price level was very stable, though sometimes it was high.
 - The price level was very unstable as supply and demand of cigarettes greatly fluctuated.**
 - Because of Gresham's law, the cigarette currency wasn't reliable.
 - Because everyone got the same bundle goods, the cigarette currency was rarely used.
 - Because German officers kept taking cigarettes for themselves, the currency was very hard to use.

The market for cigarettes was unreliable: it rose when new prisoners arrived and fell based on news of the war (as people smoked them). The desire for price stability was the main motivation for creating the Bully Mark.

11. Which of the follow is *not* included when calculating GDP using the income approach?
- a. **Imports**
 - b. Interest
 - c. Wages
 - d. B & C
 - e. None of the above

Only imports are not considered income; imports are used when calculating GDP using the spending approach (as part of net exports).

12. Which of the following is true?
- a. $C+I+G+NX = \text{wages}+\text{interest}+\text{rent}$
 - b. The longer you are unemployed, the harder it is to find a job.
 - c. Men are more likely to be unemployed than women.
 - d. **B & C**
 - e. All of the above

Option A is missing profits from the right-hand side of the equation. The others are true. Because men are more likely to be looking for work but have been hit by manufacturing loss, they are more likely to be unemployed. And being unemployed makes it harder to find a job because it puts your worth as an employee into question.

13. Most unemployment is usually *not*...
- a. Frictional
 - b. Structural
 - c. **Cyclical**
 - d. Inflationary
 - e. None of the above

Frictional and structural unemployment always exists. But cyclical unemployment only occurs when there's a recession. Inflationary is not a type of unemployment.

14. Suppose there's an expected increase in inflation. Who does this increase in inflation hurt?
- a. Borrowers
 - b. Savers
 - c. Creditors
 - d. B & C
 - e. **No one**

If the change in inflation is expected, it won't hurt anyone. Savers and creditors will see a higher nominal interest rate precisely to compensate. But if this increase in inflation was unexpected, then Option D would be the correct answer.

15. Suppose the velocity of money increased and GDP was the same. What could happen?
- a. The supply of money falls
 - b. Inflation
 - c. Deflation
 - d. A and/or B**
 - e. None of the above

Recall the monetary equation: $Mv = p_L Y_R$. If v , velocity, increases and Y is constant, then either the price level, p , must rise (inflation) or the amount in the money supply, M , falls. Either course of action would balance the equation. A mixture of the two could also happen, assuming their total effect equals that of the change in velocity.

16. Gresham's Law occurs when what happens?
- a. When consumers buy more as the price falls.
 - b. When a currency becomes debased (reduce its inherent value).**
 - c. When the government prints a lot of money.
 - d. B & C
 - e. None of the above

Gresham's Law occurs because a currency must, by law, be accepted at face value (the value that's stamped on it). If you debase the currency—reduce how much inherent value it has by eliminating the precious metals—then people must accept good currency to the same degree they accept bad currency. Thus people spend the bad currency and keep the good one. The bad currency becomes the defacto currency; prices rise to adjust.

17. What is the Consumer Price Index?
- a. A basket of similar goods which is used to calculate inflation
 - b. A basket of a variety of goods which is used to calculate inflation**
 - c. A basket of a variety of goods which is used to calculate Gross Domestic Product
 - d. A basket of similar goods which is used to calculate Gross Domestic Product
 - e. None of the above

CPI is used to calculate inflation; by tracking a variety of goods, the BLS can assemble a broad picture of how prices change. If the goods were

similar, there would be a danger of changes in prices being isolated to one market and not capturing a change in the general price level.

18. GDP has many things it should include but it doesn't. Which of the following items are explicitly excluded from U.S. GDP but shouldn't be?
- a. Sales of homes previously lived in.
 - b. Water sold to Coca-Cola bottling plants.
 - c. **Industrial waste a spark-plug factory creates, which it dumps in a river.**
 - d. The combined market prices of all French wine Americans bought.
 - e. More than one of the above, but not all of them.

Option D is included (under imports); the first two options aren't included by they shouldn't be. One is used homes—so they weren't produced the year in question—and the other is an intermediary good.

19. Suppose France and England have similar economies, save inflation. Suppose France has 10% inflation and England has 6% inflation. If both levels of inflation are well established, compare these countries' nominal and real interest rates.
- a. France's nominal rate and real rate should be higher.
 - b. England's nominal rate and real rate should be higher.
 - c. **France's nominal rate should be higher and the real rate should be the same.**
 - d. England's nominal rate should be higher than the real rate should be the same.
 - e. None of the above

Because the economies of England and France are similar, they should have the same real interest rate. Since France has more inflation, its nominal rate must be higher to make the real rates the same. For example, if the real rate is 2%, England must have a nominal rate of 8% and France must have a nominal rate of 12%.

Part III: Short Answer. Answer the following.

16 points each.

20. 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 (millions)
<i>Employed Full Time</i>	110
<i>Employed Part Time</i>	40
<i>Frictional Unemployed</i>	30

<i>Discouraged Workers</i>	20
<i>Structural Unemployed</i>	10
<i>Cyclical Unemployed</i>	10
<i>Adult Population¹</i>	300
<i>Total Population</i>	500

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:

$$30+10+10 = 50$$

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: 110+40 = 150.

$$50+150=200$$

The unemployment rate is thus: $50 / 200 = 25\%$

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: $40 / 200 = 20\%$

The labor force participation rate is the labor force divided by the adult population (or, all the people who could be working): $200 / 300 = 66.67\%$

21. Briefly explain the difference between cost-push inflation and demand-pull inflation.

Demand-pull inflation is caused by printing more money. More money means people buy more things. All the pressure on additional production causes input prices to increase and, eventually, all prices rise.

¹ Civilian and noninstitutionalized

Cost-push inflation is caused by a key input getting more expensive. When that happens, input prices across the board increase. Companies are forced to raise prices to stay in business. Eventually all prices rise.

22. Use the hypothetical information below to calculate the nominal GDP growth rate from 2013 to 2014. Remember to show all your work. Round your answer to the nearest two decimal places, if necessary. Finally, there is something fundamentally wrong about this set of data. Indicate what is wrong in the lines below. (HINT: Remember there are two ways to calculate GDP.)

Item	In Billions for Dollar (\$)	
	Amounts	
	2013	2014
Total Consumption	\$18	\$24
Total Interest Earned	\$6	\$7
Total Investment	\$1	\$3
Total Imports	\$4	\$11
Total Profit	\$12	\$20
Total Exports	\$7	\$9
Total Rent	\$11	\$9
Total Government Spending	\$6	\$10

The first step is to remember there are two ways to calculate GDP: spending and income. We don't have wages, 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:

$$2013: 18+1+6+7-4 = 28$$

$$2014: 24+3+10+9-11 = 35$$

$$(35-28)/28 * 100 = 25\% \text{ growth}$$

*That's a very high growth rate; now for the interesting part. What's wrong? First, note some things which may seem wrong but are **not**:*

- In 2014, imports are greater than exports. That's not inherently a problem; countries have this happen all the time. Indeed, in some countries have exports greater than imports, others must have imports greater than exports.*

- *The growth rate is very high. Yes, that's unusual—10% is really high so 25% seems crazy—but it's not impossible.*

So what is wrong? The hint about two different ways to calculate GDP serves a dual purpose. It's not just for the first part; it's for the second part as well. Try calculating GDP using the income approach with what we have (interest + profit + rent):

$$2013: 6+12+11 = 29$$

$$2014: 7+20+9 = 36$$

In theory, GDP should be the same either way you calculated it. But here we have a higher GDP using the income approach and we didn't even use wages! That means people in this country must be making a negative wage. They are paying their employer to work! That can't be; wages cannot be negative.