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ECON 201—Montgomery College
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EXAM 2

Practice Exam A

- 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** Deficit
2. **I** Final
3. **C** Intermediary good
4. **G** Market value
5. **H** Produced
6. **F** Store of value
7. **E** Unit of account

A. Adds to total debt
B. Example: paper towels
C. Example: timber
D. Money must be portable/divisible
E. Money must be uniform
F. Money cannot rot or decay
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

1. *When there's a government deficit, there's a shortfall between what the government pays out and what it takes in as revenue. Loans make up the difference and thus whenever there's a government deficit, government debt (all money owed) increases.*
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. *Circle 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?
   a. 20%
   b. 33%
   c. **50%**
   d. 200%
   e. None of the above

$60 billion – $40 billion = $20 billion. $20 billion / $40 billion (our starting value) is 0.5, or 50%.

9. We discussed many reasons for why economic growth occurs. Which of the following was one of the reasons?
   a. Availability of education
   b. **Rule of law**
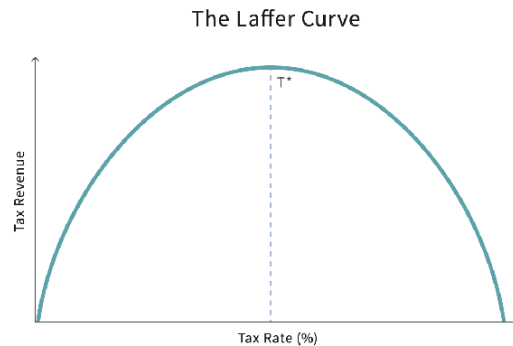   c. Lots of capital and equipment
   d. B & C
   e. None of the above

The main theme of origins of economic grow was economic freedom and the rule of law—equal treatment under the law—is one such consideration. While education and capital are also important for growth, they are less fundamental than economic freedom.

10. In *The Economic Organization of a P.O.W. Camp*, describe the cigarette as it functioned as a currency.
    a. The price level was very stable, though sometimes it was high.
    b. **The price level was very unstable as supply and demand of cigarettes greatly fluctuated.**
    c. Because of Gresham's law, the cigarette currency wasn't reliable.
    d. Because everyone got the same bundle goods, the cigarette currency was rarely used.
    e. 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. The Laffer Curve depicts the relationship between the tax rate and the tax revenue as an inverted-U shape (with the far right-handed side being 100%). While the exact peak of the curve is up for debate, it should not be surprising that, sometimes, increasing tax rates would cause tax revenues to fall. Why?

The Laffer Curve

a. Because of the progressive tax system, higher tax rates can cause the amount you owe in taxes to get lower.
b. Because a higher tax rate results in misallocation of resources.
c. **Because if you increase the tax rate, you increase the incentive to avoid taxes.**
d. A & C
e. None of the above

The answer lies in basic economics of incentives. Just as the progressive tax system focuses on marginal tax rates to avoid taxes resulting in a lower after-tax income, taxes can change incentives in other ways. Taxes reduce earnings. The higher taxes are, the lower earnings are and thus there's reduced incentive to work.

But wait! Isn't the government collecting a larger share of dollars earned? How can we be sure revenue would go down at some point? It's useful to think it terms of extremes, which is why I specified the far right depicts a 100% tax rate. At that rate, where the government collects all money earned, it's easy to see how few—if any—people would want to work (at least legally). Everything you earned is collected by the government. Clearly, revenue is at or near zero. If revenue is at zero, then total revenue must be declining because revenue is can be positive. Since, logically, zero taxes also result in zero revenue, the only depiction that makes sense is an inverted-U shape.

Yes, we never discussed the Laffer Curve (at least in the notes; I might've mentioned it in class if it came up) but I like trying to make the practice exams harder than the actual exams. And all this question really asks you to do is apply ideas we've discussed before.

12. Which of the following is true?
    a. C+I+G+NX = wages+interest+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. In theory, poor countries should catch up with wealthy countries. Why?
    a. Because poor countries have relatively little capital
    b. Because poor countries will trade more with wealthy countries
    c. Because wealthy countries tend to have stable governments
    d. A & C
    e. None of the above

There is diminishing productivity of capital; because wealthy countries have a lot of capital and poor countries have little capital, additional capital in poor countries add a lot of productivity. Therefore, it's relatively easy to increase income/productivity in poor countries compared to wealthy countries. Thus, poor countries should grow faster and catch up to poor ones.

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 inherit value is 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 the 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 <u>broad</u> 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 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. Answer the following.
   a. We noted the government hasn't run a surplus since the late 1990s and explained it using public choice. What was the reasoning?
   b. Employers pay Social Security and Medicare taxes (called payroll taxes) for employees but at least some of this money functionally come from employees, not employers. Why is that true?
   c. Fines set to a particular amount are a kind of regressive tax—though they are not technically a tax, they are regressive. Why are they regressive?

   a. *The people who will have to pay back the money being borrowed are either children or haven't been born yet. Either way, they can't vote and thus their concerns carry little weight in the minds of elected officials. But such officials care a lot about living adults, especially ones who vote, and spending money helps secure their votes. This is an application of*

concentrated benefits, dispersed costs. Recall CBDC works because you spread the costs around and thus people don't act on it. Here, you're putting costs on people who can't act on it but the political calculation is the same.

b. *For any new employee, employers consider what kind of costs such an employee will incur and that factors into how much they are willing to offer for salary. Larger payroll taxes make employees more expensive so employers will offer less salary to compensate. Exactly how much depends on factors beyond the scope of this course but it's a myth that employees don't functionally pay any of the payroll tax.*

c. *Fines set to a particular amount are regressive because it's the same amount of money regardless of how much you make. Thus a $100 fine is a minor inconvenience to a rich person and a major hardship for a poor person. While the dollar amount is the same, the <u>rate</u> decreases as income rises—the opposite of progressive.*

21. While countries with higher GDPs per person tend to be happier countries, GDP and GDP per capita are not perfect measures of wellbeing. We discussed three reasons why this is true. Name them and ***briefly*** explain why GDP doesn't include them.

Note my "brief" explanations tend to be longer than you'd need if this was an actual exam.

<u>Income inequality</u>. GDP measures the total market value of final goods and services which is the same as total income. GDP per capita is thus the average income. But nothing in GDP describes how that income is distributed within an economy. A society where everyone makes the same amount could have the same GDP as an economy where one person makes the vast majority of income and everyone else struggles in terrible poverty.

<u>Environmental considerations</u>. GDP measures output; it does not consider how that output is achieved. If two countries produce the same amount of stuff, but one pollutes a lot and one doesn't, then GDP for each country would be the same. GDP does not consider reductions to the "environmental endowment."

<u>Leisure</u>. GDP measures total spending but not all activities we do involve spending money. Leisure that includes walks, writing poetry, even reading

(assuming the book was borrowed and not bought) are not included in GDP. If there are two countries that produce the same amount of stuff, but one country works fewer hours a week, the countries would have the same GDP but one country would clearly be a better place to live. Just as there's non-monetary production, there's non-monetary consumption.

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% 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, is 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.