

**NOTE:** This was the actual individual exam given at NET 2017. Please be aware the structure may change for this year.

# Northwestern Economics Tournament

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Individual Exam  
April 1, 2017

NAME: \_\_\_\_\_

SCHOOL: \_\_\_\_\_

There are 45 questions in this packet. You have 1 hour to complete the exam. When the moderator calls time, please put your pencil down and pass the answer sheet and this packet to the aisles for collection.

No calculators, notes, or any other helping tools may be used during the exam.

Use available space in the packet for scratch work. Should you need more scratch paper, we'll be happy to provide with you more.

**Place all answers on the answer sheet. Capital letters only.**

Good luck!

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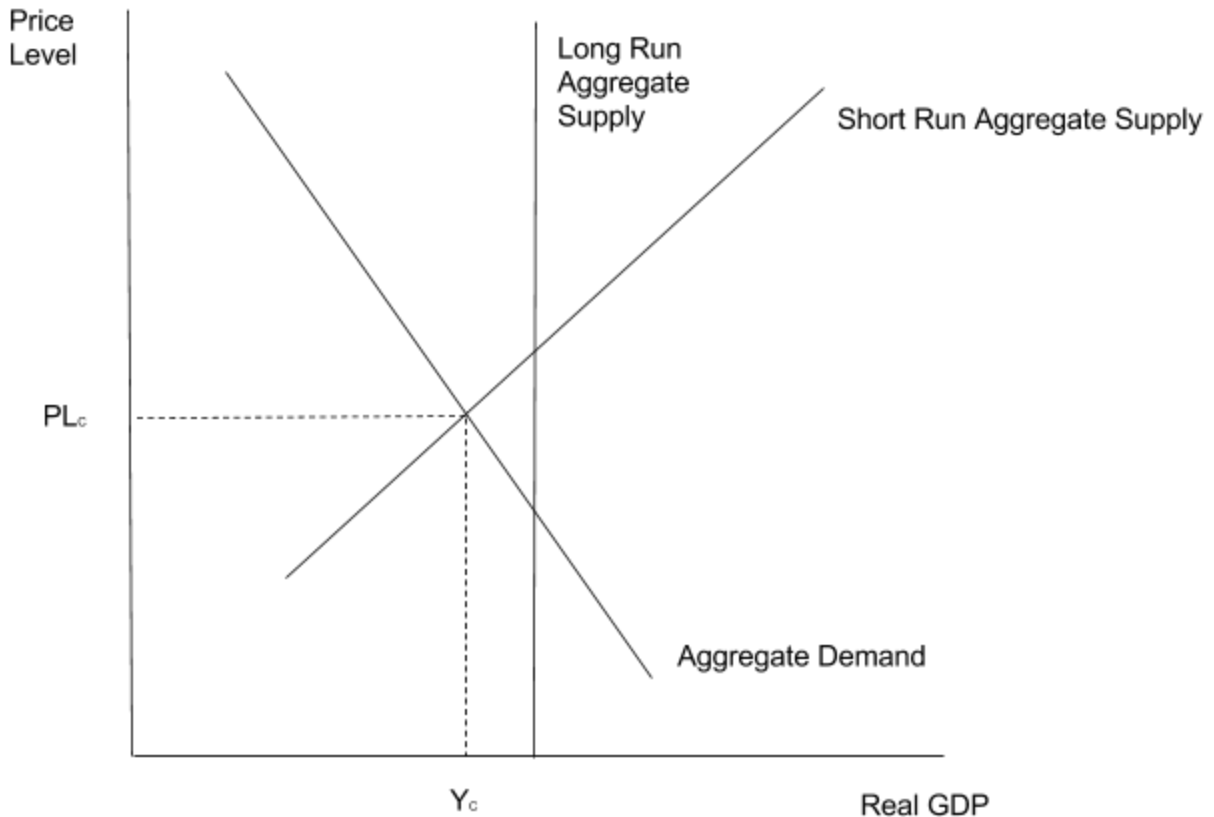
- Which of the following would cause the short run aggregate supply curve to shift to the right?
  - A drop in oil reserves
  - An increase in business taxes
  - A net increase in capital stock
  - An increase in federal minimum wage
- Which of the following components is **not** included in the calculation of GDP?
  - Consumption
  - Company stocks
  - Imports
  - Military expenditures
- Which is a form of price discrimination?
  - A firm hires marketing experts to increase brand loyalty.
  - A firm charges a different price for a bulk purchase.
  - A firm charges a price above marginal cost.
  - A firm bundles related products together to sell.
- The demand and supply functions for laptops in Laptopia are given by  $P = 1200 - 3Q$  and  $P = 500 + 7Q$ . Imposing a \$100 per unit tax on laptops, collected from buyers, will:
  - Decrease equilibrium quantity by 60 and increase the price that buyers pay by \$70.
  - Decrease equilibrium quantity by 60 and leave the price that buyers pay unchanged.
  - Decrease equilibrium quantity by 10 and increase the price that buyers pay by \$80.
  - Decrease equilibrium quantity by 10 and increase the price that buyers pay by \$70.
- If the marginal propensity to consume (MPC) of people in the US is 0.8 and the government decreases taxes by \$1000, by how much would planned aggregate expenditure change by?
  - \$ -4000
  - \$ 4000
  - \$ 5000
  - \$ -5000
- Which of the following will most likely happen in an economy if money demand is greater than money supply?
  - Interest rate increases
  - Investment spending increases
  - Money supply curve shifts left
  - Money demand curve shifts right

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7. The current chairperson of the United States Federal Reserve Bank is:
  - a. Steve Mnuchin, appointed by President Trump
  - b. Janet Yellen, appointed by President Obama
  - c. Ben Bernanke, appointed by President George W. Bush
  - d. Alan Greenspan, appointed by President Ronald Reagan
  
8. Which of the following is true about accounting and economic profit?
  - a. Economic profit consists of revenue minus implicit and explicit costs.
  - b. Accounting profit consists of revenue minus implicit and explicit costs.
  - c. Economic profit consists of revenue minus implicit costs only.
  - d. Accounting profit consists of revenue minus implicit costs only.
  
9. If the cross-price elasticity of demand is negative, the goods are
  - a. Inferior
  - b. Substitutes
  - c. Complements
  - d. Normal
  
10. If the Federal Reserve conducts expansionary monetary policy, what will happen to the nominal interest rate?
  - a. Decrease
  - b. Increase
  - c. Stay the same
  - d. Not change
  
11. Which of the following is a method that unions use to increase wages for their members?
  - a. Increase demand for labor
  - b. Decrease supply of labor
  - c. Negotiate higher wages
  - d. All of the above
  
12. Suppose there are 1000 adults in an economy. Of the 1000, 200 are retired, 600 are employed full time, 100 are seeking jobs, and 100 are employed part time. What is the unemployment rate (rounded to the nearest integer) in this economy?
  - a. 13%
  - b. 18%
  - c. 20%
  - d. 25%

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13. If nominal GDP in 2016 was higher than nominal GDP in 2015, which of the following is definitely true?
- Prices in 2016 were higher than prices in 2015, but production was unchanged
  - Production in 2016 was higher than production in 2015, but prices were unchanged
  - Production in 2016 increased while prices decreased
  - Production or prices or both were higher in 2016 than in 2015



14. Which of the following economic conditions best describes the above graph?
- Inflation
  - Full employment with mild inflation
  - Recession
  - Rapid economic growth
15. The Trans-Pacific Partnership was which of the following?
- A global free-trade agreement, ratified by countries in the Pacific Rim, including China, the United States and Indonesia
  - Officially supported by both major presidential candidates in the 2016 election
  - Controversial in most countries due to classified negotiation channels
  - All of the above

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16. A natural monopoly occurs when:
- There are economies of scale over a relevant range of output.
  - Natural resources like air and water are sold.
  - Products are sold in their natural states.
  - The market is shared by several firms.
17. If total planned expenditure ( $E_p$ ) exceeds GDP, we will expect what to happen?
- Businesses to decrease production
  - Inventories to decrease
  - Government expenditure to increase
  - Inventories to increase

	Country X	Country Y
Microwaves	20	15
Toasters	30	21

18. Countries X and Y only produce microwaves and toasters. Using all its resources, Country X can produce either 20 microwaves or 30 toasters; Country Y can produce either 15 microwaves or 21 toasters. Which of the following is **incorrect**?
- Country X has an absolute advantage over Country Y in producing microwaves.
  - Country Y has a comparative advantage over Country X in producing microwaves.
  - Country Y has a comparative advantage over Country X in producing toasters.
  - Country X has a comparative advantage over Country Y in producing toasters.
19. If a monopoly were regulated to produce at the allocatively efficient quantity, what would we expect to happen?
- The monopoly would incur an economic loss.
  - Deadweight loss in the market would decrease.
  - The monopoly would incur an economic profit.
  - Deadweight loss in the market would increase.
20. Which of the following is true about the current United States Federal Reserve federal funds target rate?
- It is currently 1.5%.
  - It has consistently been less than 1% since the global economic crisis of 2007-2008 and is expected to increase in coming months.

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- c. It has been relatively stable in the past 7 years, has been between 1% and 2%, and is not expected to change significantly over the next year.
- d. All of the above
21. What is the slope of a long run Phillips Curve?
- 1
  - 1
  - 0
  - Undefined
22. Which of the following sequence of events follows the effect of a contractionary monetary policy?
- Interest rate ↓ ⇒ Investment ↓ ⇒ Aggregate Expenditure ↓ ⇒ GDP ↓
  - Interest rate ↑ ⇒ Investment ↑ ⇒ Aggregate Expenditure ↓ ⇒ GDP ↑
  - Interest rate ↑ ⇒ Investment ↓ ⇒ Aggregate Expenditure ↓ ⇒ GDP ↓
  - Interest rate ↓ ⇒ Investment ↑ ⇒ Aggregate Expenditure ↑ ⇒ GDP ↑
23. A \_\_\_\_\_ tax collects a larger percentage of revenue from families with \_\_\_\_\_ incomes, while a \_\_\_\_\_ tax collects a large percentage of revenue from families with \_\_\_\_\_ incomes.
- Progressive, larger; proportional, smaller
  - Progressive, smaller; regressive, larger
  - Progressive, larger; regressive, smaller
  - Regressive, larger; progressive, smaller
24. If the Federal Reserve has pursued a policy of lower domestic interest rates relative to foreign interest rates, which of the following scenarios will occur in the short run (assuming a flexible exchange rate economy)?
- Net foreign capital outflow and a depreciation of the US Dollar
  - Net foreign capital outflow and an appreciation of the US Dollar
  - Net foreign capital inflow and a depreciation of the US Dollar
  - Net foreign capital inflow and an appreciation of the US Dollar
25. Mary is the sole proprietor of a photography studio. She receives all accounting profits earned by her firm, and a \$40,000 annual salary she pays herself. If she agrees to work for a larger firm, she would earn \$46,000 a year. If she had invested her capital outside her studio, she estimates that would have returned \$32,000 a year. Last year, her accounting profit was \$60,000. What was her economic profit?
- \$54,000
  - \$28,000

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- c. \$14,000
  - d. \$22,000
26. Suppose Jonah, a US Citizen, is working in Canada and earns \$7000 in the past fiscal year. Also suppose Jeffrey, a Canadian Citizen, is working in the United States and earns \$6000 in the past fiscal year. What is the contribution to US GNP if only Jonah and Jeffrey are considered?
- a. \$13,000
  - b. \$1,000
  - c. \$6,000
  - d. \$7,000
27. The price of oil is unusually low because...?
- a. The OPEC cartel increasing its target supply
  - b. Significant discoveries of new crude oil fields in the United States and Canada
  - c. Decreasing demand due to globally-increasing energy efficiency
  - d. Price controls and strategic reserves in the United States
28. Which of the following is true for first-degree price discrimination?
- a. It does not reach the efficient quantity
  - b. It does not generate any deadweight loss
  - c. All surplus goes to consumer surplus
  - d. It is easy for companies to carry out the first-degree price discrimination
29. An inflationary gap could be reduced by...?
- a. Increasing money supply
  - b. Reducing income tax rate
  - c. Tighter fiscal policy
  - d. Lowering reserve requirements

<b>Alternatives</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
Consumer goods per period	0	1	2	3	4	5
Capital goods per period	30	28	24	18	10	0

Table 1: Production Possibilities Schedule

30. Consider the Production Possibilities Schedule above. What is the opportunity cost of producing the third unit of consumer goods?
- a. 18
  - b. 1
  - c. 6

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- d. 8
31. Which of the following is likely to have the most elastic demand?
- A good with vertical demand curve
  - Cigarettes
  - Luxury goods
  - Life-sustaining medicine
32. Current equilibrium output is \$2,500 and potential/natural output is \$3,200. With a MPC of 0.8, which of the following policy combinations will cause equilibrium output to be equal to natural output?
- A \$100 increase in government expenditures and a \$50 decrease in taxes
  - A \$120 increase in government expenditures and a \$20 decrease in taxes
  - A \$100 decrease in government expenditures and a \$50 increase in taxes
  - A \$120 decrease in government expenditures and a \$20 increase in taxes
33. Firms with the following market structures maximize profits by producing where marginal cost equals marginal revenue.
- Perfect competition
  - Oligopoly
  - Monopoly
  - Monopolistic Competition
- I and II only
  - I and III only
  - I, III, and IV only
  - I, II, III, and IV
34. The strategy where both players choose not to confess in the Prisoners' Dilemma can be described as:
- Non-Pareto optimal and unstable
  - Pareto optimal and unstable
  - Non-Pareto optimal and stable
  - Pareto optimal and stable
35. Real income is redistributed from \_\_\_\_\_ in the case of \_\_\_\_\_ inflation.
- Creditors to debtors, unanticipated
  - Debtors to creditors, unanticipated
  - Creditors to debtors, anticipated
  - Debtors to creditors, anticipated



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36. If the demand for a product is elastic, then a rise in price will
- Cause total spending on the good to increase.
  - Cause total spending on the good to decrease.
  - Keep total spending the same, but reduce the quantity demanded.
  - Keep total spending the same, but increase the quantity demanded.
37. Brandon takes 2 hours to make a batch of guacamole and 5 hours to make a tub of salsa. Joshua takes 4 hours to make a batch of guacamole and 4 hours to make a tub of salsa. In order to make the most efficient use of their time, \_\_\_\_\_.
- Brandon should make guacamole and salsa on his own
  - Joshua should make guacamole and salsa on his own
  - Brandon should make guacamole and Joshua should make salsa
  - Joshua should make guacamole and Brandon should make salsa
38. Which of the following is **not** an obstacle that Trump's economic vision will likely encounter
- A lack of support from the Senate and House of Representatives for tax and welfare reform
  - A tight labor market
  - An increase in the federal deficit
  - All of these will be likely obstacles
39. The slope for an indifference curve with good X on horizontal axis and Y on vertical axis indicates
- Cross elasticity of demand
  - The relative price of Y in terms of X
  - Changes in price for Y and X
  - Marginal rate of substitution
40. The marginal rate of technical substitution is the rate at which the quantity of capital can be reduced for every one-unit increase in the quantity of labor, holding the quantity of output constant. On one isoquant curve, how would the marginal rate of technical substitution change as the labor increases?
- Increase
  - Decrease
  - Constant
  - Uncertain

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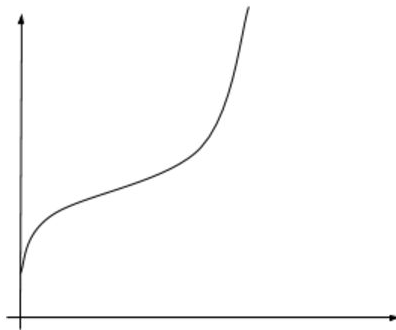
41. The law of decreasing marginal utility or decreasing marginal value implies that individuals will
- produce less goods on the margin as the number of workers increase.
  - place the most value on goods for which they are the lowest cost producers.
  - value the seventh hotdog they consume more than the eighth.
  - spend less of their income on necessities as consumer incomes increase.

42. Consider the following game:

	L	R
T	(1, 5)	(4, 4)
B	(2, 1)	(3, 0)

Which of the following statements is correct:

- (B, L) is a Nash equilibrium
  - (2,1) is a Nash equilibrium
  - (T, R) is a Nash equilibrium
  - The game has no Nash equilibrium
43. The line in the figure is most similar to a typical



- Total cost curve
  - Total production curve
  - Average production curve
  - Marginal cost curve
44. If actual real GDP in 2015 was higher than potential/natural GDP, which of the following statements is definitely true?
- The economy experienced a recession
  - Productivity growth (output per hour) has accelerated

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- c. Actual unemployment rate has increased
  - d. Inflation rate has increased
45. Consider a game where players 1 and 2 are bargaining over how to split one dollar. Both players simultaneously name the amount of shares they like to have,  $s_1$  and  $s_2$ , where  $s_1, s_2$  are in the interval  $[0, 1]$ . If  $s_1$  and  $s_2$  satisfy the condition that  $s_1 + s_2 \leq 1$ , then the players can receive the share they named; if  $s_1 + s_2 > 1$ , then both of them get zero. What is/are the all Nash Equilibrium/Equilibria of this game?
- a.  $\{(0.5, 0.5)\}$
  - b.  $\{(1, 1)\}$
  - c.  $\{(a, 1-a): 0 \leq a \leq 1\}$
  - d.  $\{(a, 1-a): 0 \leq a \leq 1\} \cup \{(1,1)\}$

## ANSWER DOCUMENT

NAME: \_\_\_\_\_

SCHOOL: \_\_\_\_\_

1.	16.	31.
2.	17.	32.
3.	18.	33.
4.	19.	34.
5.	20.	35.
6.	21.	36.
7.	22.	37.
8.	23.	38.
9.	24.	39.
10.	25.	40.
11.	26.	41.
12.	27.	42.
13.	28.	43.
14.	29.	44.
15.	30.	45.

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### Answer Key

1. C
2. B
3. B
4. D
5. B
6. A
7. B
8. A
9. C
10. A
11. D
12. A
13. D
14. C
15. C
16. A
17. B
18. C
19. B
20. B
21. D
22. C
23. C
24. A
25. D
26. B
27. A
28. B
29. C
30. C
31. C
32. A
33. C
34. B
35. A
36. B
37. C
38. A
39. D
40. B
41. C

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- 42. A
- 43. A
- 44. D
- 45. D