Exam

Name_____

This exam has 47 questions for a total of 60 points. Every question is worth 1 point, unless indicated otherwise next to the question. Make sure to write and bubble in your name on the scantron form. Question 48 contains the version number of this test, please bubble it in position 48 on the form. At the end of the exam put your scantron form in this exam booklet and turn both in. Good luck!

1) Marvin's Metal Company produces screws that it sells to Ford, which uses the screws as a component of its cars. In the national income accounts, the screws are classified as
   A) capital goods.   B) inventory.
   C) intermediate goods.   D) final goods.

2) Fred the farmer purchased five new tractors at $20,000 each. Fred sold his old tractors to other farmers for $50,000. The net increase in GDP of these transactions was
   A) $125,000.   B) $100,000.   C) $50,000.   D) $150,000.

3) Monica grows coconuts and catches fish. Last year she harvested 1500 coconuts and 600 fish. She values one fish as having a worth of three coconuts. She gave Rachel 300 coconuts and 100 fish for helping her to harvest coconuts and catch fish, all of which were consumed by Rachel. Monica consumed the remaining fish and coconuts. In terms of fish, total consumption by both Monica and Rachel would equal
   A) 700 fish.   B) 900 fish.   C) 2700 fish.   D) 1100 fish.

4) In the country of Kwaki, people produce canoes, fish for salmon, and grow corn. In one year they produced 6000 canoes using labor and natural materials only, but sold only 4000, as the economy entered a recession. The cost of producing each canoe was $1000, but the ones that sold were priced at $1500. They fished $30 million worth of salmon. They used $3 million of the salmon as fertilizer for corn. They grew and ate $55 million of corn.
   What was Kwaki's GDP for the year? (Hint: Inventories are valued at the cost of production.)
   A) $95 million   B) $90 million   C) $93 million   D) $92 million

5) The country of Old Jersey produces milk and butter, and it has published the following macroeconomic data, where quantities are in gallons and prices are dollars per gallon.

Good	Year 1 Quantity	Year 1 Price	Year 2 Quantity	Year 2 Price
Milk	1200	$3	1800	$4
Butter	3000	$2	6000	$2

   Between Year 1 and Year 2, the percent change in real GDP (based on Year 1 as a base year) was   (2pts)
   A) 75%.   B) 81.25%.   C) 100%.   D) 130%.

6) Continue the previous question.
   Between Year 1 and Year 2, the GDP deflator (based on Year 1 as a base year) rose approximately
   A) 100.0%.   B) 33.3%.   C) 10.3%.   D) 20.0%.

7) By Marks buys a one-year German government bond (called a bund) for $400. He receives principal and interest totaling $436 one year later. During the year the CPI rose from 150 to 162, but he had thought the CPI would be at 159 by the end of the year. By Marks had expected the real interest rate to be _____, but it actually turned out to be _____.
   A) 8%; 1%   B) 1%; 3%   C) 3%; 1%   D) 6%; 3%

8) The Upstart Company has the following production function.

Number of Workers	Number of Cases Produced
0	0
1	10
2	19
3	26
4	31
5	34

If the company hires 4 workers, which of the following could be the real wage rate?
A) 6   B) 4   C) 2   D) 8

9) Suppose a firm's hourly marginal product of labor is given by $MPN = A(200 - N)$.
If $A = 0.2$ and the real wage rate is $10 per hour, how much labor will the firm want to hire?
A) $N = 100$.   B) $N = 150$.   C) $N = 50$.   D) $N = 200$.

10) The aggregate supply of labor is the
     A) total amount of time a person spends in the labor force over his or her lifetime.
     B) unemployment rate.
     C) sum of the labor supplied by everyone in the economy.
     D) total amount of time a person works over his or her lifetime.

11) A permanent increase in the real wage rate has a _____ income effect on labor supply than a temporary increase in the real wage, so labor supply is _____ with a permanent wage increase than for a temporary wage increase.
     A) smaller; more   B) larger; less   C) larger; more   D) smaller; less

12) Suppose the marginal product of labor is $MPN = 200 - 0.5N$, where N is aggregate employment. The aggregate quantity of labor supplied is $300 + 8w$, where w is the real wage. If a supply shock increases the marginal product of labor by 10 (to $MPN = 210 - 0.5N$), by how much does employment increase?   (2pts)
     A) 4   B) 16   C) 0   D) 8

13) Desired national saving equals
     A) $C^d + I^d + G$.   B) $Y - I^d - G$.   C) $Y - C^d - G$.   D) $I^d + G$.

14) With expected inflation of 1% and a nominal interest rate $i = .04$, a person can trade off one unit of current consumption for _____ units of future consumption.
     A) 1.04   B) .04   C) 1.03   D) 1.05

15) When a person gets an increase in current income, what is likely to happen to consumption and saving?
     A) Consumption increases and saving increases.   B) Consumption decreases and saving increases.
     C) Consumption decreases and saving decreases.   D) Consumption increases and saving decreases.

16) An increase in expected future output while holding today's output constant would
     A) decrease today's desired consumption and decrease desired national saving.
     B) decrease today's desired consumption and increase desired national saving.
     C) increase today's desired consumption and increase desired national saving.
     D) increase today's desired consumption and decrease desired national saving.

17) Desired national saving would increase unambiguously if there were
    A) an increase in both expected future output and government purchases.
    B) an increase in both current output and expected future output.
    C) an increase in both expected future output and the expected real interest rate.
    D) a fall in both government purchases and expected future output.

18) David consumes 140 in the current period and 220 in the future period. David's present value of lifetime consumption is 340. The real interest rate is
    A) 10%.   B) 0%.   C) 20%.   D) 5%.

19) Calculate the user cost of capital of a machine that costs $100,000 and depreciates at a rate of 25%, when the nominal interest rate is 4% and the expected inflation rate is 1%.
    A) $28,000   B) $25,000   C) $29,000   D) $3,000

20) You are trying to figure out how much capacity to add to your factory. You will increase capacity as long as
    A) the expected marginal product of capital is greater than or equal to the marginal product of capital.
    B) the expected marginal product of capital is greater than or equal to the expected marginal product of labor.
    C) the expected marginal product of capital is greater than or equal to the user cost of capital.
    D) the expected marginal product of capital is positive.

21) At the start of the year, your firm's capital stock equaled $100 million, and at the end of the year it equaled $105 million. The average depreciation rate on your capital stock is 20%. Gross investment during the year equaled
    A) $25 million.   B) $7 million.   C) $5 million.   D) $1 million.

22) An invention that raises the future marginal product of capital would cause an increase in desired investment, which would cause the investment curve to shift to the _____ and would cause the real interest rate to

_____.
    A) right; decrease   B) left; decrease   C) left; increase   D) right; increase

23) The elasticity of output with respect to capital
    A) is always greater than one.
    B) is the percentage increase in output resulting from a 1 % increase in the capital stock.
    C) is the inverse of the elasticity of output with respect to labor.
    D) is the increase in output resulting from an increase in the capital stock.

24) Suppose the current level of output is 5000. If the elasticities of output with respect to capital and labor are 0.3 and 0.7, respectively, a 10% increase in capital combined with a 5% increase in labor and a 5% increase in productivity would increase the current level of output to
    A) 5325.   B) 6000.   C) 5015.   D) 5575.

25) The Solow model demonstrates that
    A) in the absence of productivity growth, economic growth will turn negative in the long run.
    B) productivity growth will inevitably decline due to diminishing marginal productivity.
    C) in the absence of productivity growth, economic growth will reach a steady state of zero per-capita growth in the long run.
    D) productivity growth must exceed the rate of growth in the population to avoid a steady state in the long run.

26) An earthquake destroys a good portion of the capital stock. How would you expect this to affect the capital-labor ratio in the long run? There would be
   A) a leftward movement along the saving-per-worker curve and a decrease in the capital-labor ratio.
   B) no change in the long-run capital-labor ratio.
   C) a downward shift in the saving-per-worker curve and a decrease in the capital-labor ratio.
   D) a rightward movement along the saving-per-worker curve and an increase in the capital-labor ratio.

27) Which of the following changes would lead, according to the Solow model, to a higher level of long-run output per worker?
   A) A lower level of capital per worker   B) A decrease in the saving rate
   C) A rise in the rate of population growth   D) A decrease in the depreciation rate

28) A country has the per-worker production function $y_t = 5 k_t^{0.5}$, where y_t is output per worker and k_t is the capital-labor ratio. The depreciation rate is 0.2 and the population growth rate is 0.05. The saving function is $S_t = 0.2 Y_t$, where S_t is total national saving and Y_t is total output.
   What is the steady-state value of the capital-labor ratio?   (2pts)
      A) 16   B) 8   C) 2   D) 4

29) If the nominal money supply grows 5%, real income falls 2%, and the income elasticity of money demand is 0.8, then the inflation rate is
      A) 7.0%.   B) 3.0%.   C) 3.4%.   D) 6.6%.

30) You are advising New Zooland's central bank on monetary policy. The central bank has an inflation target of 4%. This year, it is expected that output grows by 5%. The econometricians working at the central bank provide you with an estimate for the elasticity of real money demand with respect to income, which is $\eta_Y = 0.6$.
   By how much would you advise the central bank to increase the money supply to achieve their inflation target?
                                                                                                          (2pts)
      A) 4%   B) 1%   C) -1%   D) 7%

31) An adverse productivity shock shifts the FE line to the left. What happens to the LRAS curve?
   A) Remains unaffected. In the long run price adjustment will restore general equilibrium which is why the LRAS curve is vertical.
   B) Remains unaffected. An adverse productivity shock shifts the AD curve to the left instead.
   C) It shifts left. The LRAS curve represents how much output is produced at the intersection of IS and LM curves for many different price levels, and an adverse shock shifts these to the left.
   D) It shifts left. The LRAS curve and the FE both represent full-employment output $\overline{Y}$.

32) In the country of Alpha, the production function is given as $F(K,N) = A\sqrt{K}\sqrt{N}$. This implies that the marginal product of labor is given as $MPN = A\frac{\sqrt{K}}{\sqrt{N}}$. Households' labor supply is $N^S = 100$ (for these households, income and substitution effect of a change in the real wage just cancel each other out). The capital stock is fixed in the medium run at $K = 9$, and the productivity level is $A = 2$.
   What is the full employment level of output and the real wage?   (2pts)
      A) $\overline{Y} = 100$, $w = 60$ B) $\overline{Y} = 60$, $w = 0.6$ C) $\overline{Y} = 600$, $w = 60$ D) $\overline{Y} = 60$, $w = 2$

33) Continue the previous question.

The desired investment of Alpha's investors is given by I^d = 20 - 600r. Households consume according to their desired consumption function C^d = 10 + 0.75Y - 400r. Alpha's government buys goods amounting to G = 15. Which equation describes Alpha's IS curve? (2pts)

    A) Y = 45 - 1000r B) Y = 45 - 4000r C) Y = 180 - 1000r D) Y = 180 - 4000r

34) Continue the previous question.

What is the real interest rate in general equilibrium? (2pts)

    A) r = 1%   B) r = 2%   C) r = 4%   D) r = 3%

35) Continue the previous question.

The nominal money supply in Alpha is M = 265. Households' real money demand is given by the function $L(Y,i)$ = 200 + 0.5Y - 250i. The current price level is P = 1 and people in Alpha have inflation expectations of π^e = 0.01.

Is the economy in general equilibrium? What is the short-run real interest rate? (3pts)

    A) No, the real interest rate is r = 1%.   B) No, the real interest rate is r = 2%.
    C) Yes, the real interest rate is r = 1%.   D) Yes, the real interest rate is r = 2%.

36) In the country of Beta, full employment output is $\overline{Y}$ = 100. Beta's IS curve is given as Y = 150 - 2500r. The nominal money supply is M = 180. Households' liquidity demand is $L(Y,i)$ = 300 + Y - 1000i, and they expect inflation of 2%.

In general equilibrium, what is the price level in the Beta's economy? (3pts)

    A) P = 1.5   B) P = 2   C) P = 0.5   D) P = 1

37) Continue the previous question.

Unfortunately, Beta's economy suffers a confidence crisis that reduces firms' investment. The new IS curve is Y = 50 - 250r. The nominal interest rate has hit the zero lower bound so that the economy is now in a liquidity trap.

Which equation describes the new LM curve? (2pts)

    A) Y = .02   B) r = 0   C) r = .02   D) r = -.02

38) Continue the previous question.

What is the new output level of Beta's economy in the short run? (2pts)

    A) 55   B) 45   C) 65   D) 75

39) Continue the previous question.

Given that production is below its full-employment level and nominal interest rates are still at zero, which of the following policies should we expect to increase Beta's output?

    A) Expansionary fiscal policy: Increase government purchases G
    B) Do nothing: Prices will adjust and eventually restore general equilibrium and full employment.
    C) Expansionary monetary policy: Increase the money supply M.
    D) All of the above.

40) A series of natural resource discoveries have recently been made, acting like a beneficial supply shock. What are the effects on the economy?

    A) Employment, real wage, and output increase, real interest rate decreases, temporary deflation.
    B) Employment and output increase, real wage and real interest rate decrease, temporary inflation
    C) Employment, real wage, output and real interest rate increase, temporary inflation
    D) Real wage and output increase, employment and real interest rate decrease, temporary deflation

41) If an economy is in general equilibrium and the government engages in expansionary fiscal policy, which effect do you NOT expect?
    A) Temporary inflation   B) Higher real wage
    C) Lower private invesmtent   D) Higher real interest rate

42) A country is experiencing an rise in productivity. At the same time it is seeing an increase in immigration. What are the expected results on the labor market?
    A) Real wage increases, employment effect unclear
    B) Real wage and employment effects are both unclear
    C) Real wage increases, employment increases
    D) Real wage effect unclear, employment increases

43) What is frictional unemployment?
    A) Unemployment arising as workers search for suitable jobs and firms search for suitable workers.
    B) Long-term, chronic unemployment that exists even when the economy is not in a recession.
    C) Unemployment arising because workers lack necessary skills or the ability to acquire them.
    D) The difference between the actual rate of unemployment and the natural rate of unemployment.

44) One of the main differences between Classicals and Keynesians is that Classicals think that the primary cause of business cycles are shocks to the _____ whereas Keynesians think that most can be explained by shocks to the _____ .
    A) FE line; IS curve or LM curve   B) IS curve or LM curve; FE line
    C) FE line or LM curve; IS curve   D) IS curve; FE line or LM curve

45) According to the theory of efficiency wages, what the reason workers increase their work effort when they are paid above market wage?
    A) Fear of losing the job and the above-market pay
    B) Workers feel like they owe something to employer in exchange
    C) Extra motivation because they feel their work is appreciated
    D) All of the above

46) The recent new payment system 'cryptcoin' reduces households' real money demand. What are the effects on output and the real interest rate in the short run?
    A) Real interest rate increases, output increases   B) Real interest rate decreases, output increases
    C) Real interest rate increases, output decreases   D) Real interest rate decreases, output decreases

47) The stock market has been doing very well recently and households feel richer. What are the effects on the IS curve and the economy in the short run?
    A) Households save more, so the IS curve shifts to the right. Production and real interest rate increase.
    B) Households consume more, so the IS curve shifts to the right. The real interest rate falls and production increases.
    C) Households save more, so the IS curve shifts to the left. Production and real interest rate decrease.
    D) Households consume more, so the IS curve shifts to the right. Production and real interest rate increase.

48) This is version C of the exam. Please bubble this version number into position 48 on the scantron form.