Economics 362 Hanes Name (given name surname)_____

Fall 2014

Final examination. The exam has 65 multiple choice questions for 5 points each, and no written questions. Good luck!

1) Suppose the BLS surveys people about their activities and gets the following results.

	Number of people (in millions)
Employed or self-employed	4
Not employed, searching for a job	1
Not employed, not searching for a job	1
Not employed, retired	2

What is the unemployment rate as calculated by the BLS?

a) 10% b) 20% c) 25% d) 33% e) None of the above

2) Which of the following indicates total dollar income of U.S. residents?

a) Real GDP b) Nominal GDP c) Real GNP d) Nominal GNP e) None of the above

3) Which of the following indicates total dollar value-added of enterprises located in the U.S.?

a) Real GDP b) Nominal GDP c) Real GNP d) Nominal GNP e) None of the above

The following information is for 4)- 6) For a *Laspeyres* price index, you weight prices by the quantities purchased in the earlier year. For a *Paasche* price index, you weight prices by the quantities purchased in the later year.

4) What kind of price index is the GDP price index?

a) Laspeyres b) Paasche c) Fisher (or Fisher ideal) d) A mix of Laspeyres and Fisher
e) None of the above

5) People tend to buy less of a good if its price has been rising relatively fast. Which type of price index tends to give the highest rate of inflation between an earlier year and a later year?

a) Laspeyres b) Paasche c) Fisher (or Fisher ideal) d) A mix of Laspeyres and Fisher
e) None of the above

6) What kind of price index uses geometric averages?

a) Laspeyres b) Paasche c) Fisher (or Fisher ideal) d) A mix of Laspeyres and Fisher
e) None of the above

7) What is the geometric average of 2 and 18?

a) 4 b) 5 c) 6 d) 7 e) 9

8) Here is some information about a factory that makes shoes. What is value added for this factory?

Revenue from sales of shoes	$10
Wages and salaries of employees	$5
Cost of leather	$1
Cost of fuel to run the factory	$2
Rent paid to factory building owner	$2

Value added is

a) $0 b) $1 c) $2 d) $3 e) None of the above

9) What's bigger, GDP or GNP?

a) GDP is bigger b) GNP is bigger c) They must be equal d) Either one can be bigger - it depends.

10) What's bigger, GDP or NDP (net domestic product)?

a) GDP is bigger b) NDP is bigger c) They must be equal d) Either one can be bigger - it depends.

11) The graphs below plot labor's share of income over time in four countries. Which country might have an aggregate production function that looks like this: $Y = K^{1/4} L^{3/4}$

a)

b)

c)

d)

12) When a country breaks up into two countries, total real GDP of the two countries is usually about the same as the real GDP of the original country before the break-up. This shows aggregate production functions have which property?
a) Cobb-Douglas form b) Euler's theorem c) Diminishing marginal product d) Constant returns to scale
e) None of the above

13) Which of the following productions has constant returns to scale?

a) $Y = K^2 L^3$ b) $Y = K^{1/2} L^{3/4}$ c) $Y = 2K + 3L$ d) $Y = 10 + \frac{1}{2} K + 6L$ e) None of the above

14) Here is an exercise in "growth accounting." Given the information below, what was the average percent rate of growth of Total Factor Productivity (A) in the economy?

Share of national income going to owners of capital: 1/3

Average annual growth in real GDP 8 %
capital stock 9%
labor input 6%
a) 0 % b) 1% c) 2% d) 3% e) None of the above

15) Think about the graph we use to describe the Solow model of economic growth. Why is the $f(k)$ "concave" (bowed down)? Because:
a) of constant returns to scale b) diminishing marginal product of capital c) diminishing marginal product of labor
d) the savings rate is constant e) none of the above

This figure, for 16)-18), depicts a closed economy described by the Solow model of economic growth.

16) What is equilibrium (long-run steady state) output per worker?
a) 5 b) 4 c) 3 d) 2 e) 1

17) What is equilibrium (long-run steady state) savings per worker?
a) 5 b) 4 c) 3 d) 2 e) 1

18) What is equilibrium (long-run steady state) consumption per worker?
a) 5 b) 4 c) 3 d) 2 e) 1

19) Suppose all countries' economies can be described by the Solow model of economic growth, and all countries have the same depreciation rate, aggregate production function, and rate of population growth. What relationship would you expect to observe between a country's savings rate *s* and consumptoin per person in the country?
a) Countries with higher savings rates tend to have higher consumption per person
b) Countries with higher savings rates tend to have lower consumption per person
c) There is no relationship between savings rates and consumption per person
d) The relationship between a country's savings rate and consumption per person depends on whether the savings rate is larger or smaller than the "golden rule" savings rate.

20) Suppose all countries' economies can be described by the Solow model of economic growth, and all countries have the same depreciation rate, aggregate production function, and rate of population growth. What relationship would you expect to observe between a country's savings rate *s* and the marginal product of capital in the country?
a) Countries with higher savings rates tend to have higher marginal product of capital
b) Countries with higher savings rates tend to have lower marginal product of capital
c) There is no relationship between savings rates and the marginal product of capital
d) The relationship between a country's savings rate and the marginal product of capital depends on whether the savings rate is larger or smaller than the "golden rule" savings rate

21) Consider an economy that can be described by the Solow model of economic growth. The marginal product of capital (or real interest rate) in the economy is 10 percent. The depreciation rate is 5 percent. Suppose the government raises the national savings rate by raising taxes, and consumption per person increases. The rate of population growth in this country might be:
a) 10 percent b) 8 percent c) 6 percent d) 4 percent e) None of the above

22) What is the real interest rate *r* in the following situation?
- If I lend someone a hundred dollars, he will pay me back $110 next year
- The value of the GDP price index today is 1. I expect that next year the value of the GDP price index will be 1.02
a) 10% b) 2% c) 8% d) -8% e) None of the above

For 23)-27), think about a closed economy with an expectations-augmented Phillips curve and an IS curve. Assume the economy's natural rate of interest is 3 percent and its natural rate of unemployment (or NAIRU) is 6 percent.

23) Suppose expected inflation is 2 percent, and realized inflation this year is 1 percent. What do you know about the unemployment rate this year?
a) It must be equal to 6 percent. b) It must be less than 6 percent. c) It must be greater than 6 percent.
d) That information does not imply anything about the unemployment rate.

24) Suppose expected inflation is 2 percent, and realized inflation this year is 3 percent. What do you know about real GDP this year?
a) It is equal to potential GDP (the natural rate of output)
b) It is greater than potential GDP (the natural rate of output)
c) It is less than potential GDP (the natural rate of output)
d) That information does not imply anything about real GDP

25) Again suppose expected inflation is 2 percent, and realized inflation this year is 3 percent. What do you know about the real interest rate this year?
a) It is equal to 3 percent b) It is greater than 3 percent c) It is less than 3 percent
d) That information does not imply anything about the real interest rate

26) Suppose you have data on the history of unemployment and inflation in the economy. From these data, you want to figure out whether people in the economy have "anchored" inflation expectations, "adaptive" inflation expectations, or something else. The data look like this:

Year	Unemployment rate	Inflation rate
1879	6	3
1880	8	2
1881	6	3
1882	5	4
1883	6	3
1884	7	2.4

Inflation expectations must be:
a) Anchored, with expected inflation equal to 2 percent
b) Anchored, with expected inflation equal to 3 percent
c) Anchored, but I cannot say what expected inflation is
d) Adaptive
e) Something else

27) Again suppose you have data on the history of unemployment and inflation in an economy and you want to figure out whether people in the economy have "anchored" inflation expectations, "adaptive" inflation expectations, or something else. But the data are different from those in 26). Instead they look like this:

Year	Unemployment rate	Inflation rate
1879	6	3
1880	8	2
1881	6	2
1882	5	3
1883	6	3
1884	7	2.4

Inflation expectations must be:
a) Anchored, with expected inflation equal to 2 percent
b) Anchored, with expected inflation equal to 3 percent
c) Anchored, but I cannot say what expected inflation is
d) Adaptive
e) Something else

28) Consider a closed economy where the central bank fixes the money supply. Which of the following events tend to increase the natural rate of interest $\bar{r}$ *?*
I) The government increases spending on construction of new roads and bridges
II) The government increases Social Security payments
III) The central bank increases the money supply
IV) The central bank decreases the money supply
a) I only b) II only c) I) and II) d) I) II) and III) e) I), II) and IV)

29) Consider two closed economies, A and B. In both economies, the central bank fixes the money supply. In economy A, the marginal propensity to consume is 0.7. In B, it is 0.9 Otherwise the two economies are identical. Which of the following statements is likely to be correct?
a) IS curve flatter in A b) IS curve flatter in B c) IS curve has the same slope in A and B
d) LM curve flatter in A e) LM curve flatter in B

30) Consider two closed economies, A and B. In both, the central bank fixes the money supply. In A, consumption spending depends only on disposable income, as in the model presented in the textbook: $C = a + b(Y-T)$. In B, some types of consumption spending are financed by borrowing (e.g. purchases of automobiles) so consumption spending is also affected by the real interest rate: $C = a + b(Y-T) - qr$. Which of the following statements is correct?
a) IS curve flatter in A b) IS curve flatter in B c) LM curve flatter in A d) LM curve flatter in B
e) None of the above

31) Consider two economies, A and B. In both, the central bank fixes the money supply. In A, a change in real income has a big effect on the quantity demanded of real money balances. In B, a change in real income rate has a small effect on the quantity demanded of real money balances. Which of the following statements is correct?
a) IS curve flatter in A b) IS curve flatter in B c) LM curve flatter in A d) LM curve flatter in B
e) None of the above

32) Consider two economies, A and B. In both, the central bank fixes the money supply. In A, a change in the nominal interest rate has a big effect on the quantity demanded of real money balances. In B, a change in nominal interest rate has a small effect on the quantity demanded of real money balances. Which of the following statements is correct?
a) IS curve flatter in A b) IS curve flatter in B c) LM curve flatter in A d) LM curve flatter in B
e) None of the above

The following information is for 33)-35). Consider two closed economies, A and B. In A the central bank fixes the money supply, while in B, the central bank has a target real interest rate and adjusts the money supply every day to make sure the real interest rate hits the target. Otherwise the two economies are identical. Consider the effects of the following events on real GDP. Assume each event is *not* foreseen by the central bank at the time it chooses the money supply or interest-rate target.

33) Suppose that in both economies there is an unexpected decrease in government purchases of goods and services. This will cause real GDP to:
a) Change in A but not in B b) Change in B but not in A c) Change by the same amount in both economies
d) Change in A and change even more in B e) Change in B and change even more in A

34) Suppose that in both economies the consumption function is $C = a + b(Y-T)$, and there is an unexpected decrease in a. This will cause real GDP to:
a) Change in A but not in B b) Change in B but not in A c) Change by the same amount in both economies
d) Change in A and change even more in B e) Change in B and change even more in A

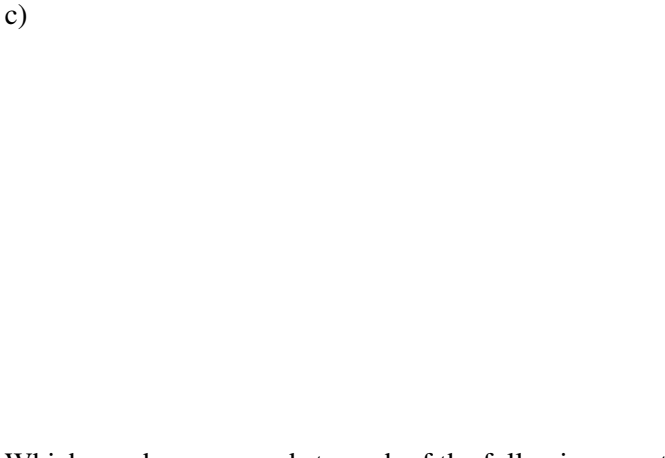
35) Suppose that in both economies demand for real money balances is decreased by the introduction of credit cards. This will cause real GDP to:
a) Change in A but not in B b) Change in B but not in A c) Change by the same amount in both economies
d) Change in A and change even more in B e) Change in B and change even more in A

The following information is for 36)-41). These four "loanable funds" graphs depict possible events in a *closed* economy. Below, I will ask you to tell me which graph corresponds to a particular event. More than one event may correspond to a given graph.

a)

b)

c)



d)

Which graph corresponds to each of the following events?

36) There is a decrease in government purchases of goods and services, while output is always held equal to potential output (natural rate of output). a) b) c) d) e) None of the above

37) There is a decrease in taxes, while output is always held equal to potential output (natural rate of output). a) b) c) d) e) None of the above

38) There is a decrease in government purchases of goods and services, while the real interest rate is held fixed.
a) b) c) d) e) None of the above

39) There is a decrease in taxes, while the real interest rate is held fixed.
a) b) c) d) e) None of the above

40) $C = a + b(Y-T)$ and there is a decrease in the marginal propensity to consume, while output is always held equal to potential output (natural rate of output). a) b) c) d) e) None of the above

41) New energy-saving trucks are developed that many firms want to buy, while output is always held equal to potential output (natural rate of output). a) b) c) d) e) None of the above

For 42)-46), think about a closed economy where the central bank fixes the money supply. The economy has a short-run aggregate supply curve matching an expectations-augmented Phillips curve:
$p - p_{t-1} = p^e - p_{t-1} + 1/\alpha(Y - \bar{Y})$

How does each of the following events affect output and the price level *in the short run?*

42) The government unexpectedly raises taxes.
a) Output up, price level up b) Output up, price level down c) Output down, price level down
d) Output down, price level up e) None of the above

43) The government unexpectedly raises spending on bridges and roads.
a) Output up, price level up b) Output up, price level down c) Output down, price level down
d) Output down, price level up e) None of the above

44) The central bank unexpectedly buys bonds.
a) Output up, price level up b) Output up, price level down c) Output down, price level down
d) Output down, price level up e) None of the above

45) The central bank unexpectedly sells bonds.
a) Output up, price level up b) Output up, price level down c) Output down, price level down
d) Output down, price level up e) None of the above

46) For no reason, expected inflation increases.
a) Output up, price level up b) Output up, price level down c) Output down, price level down
d) Output down, price level up e) None of the above

For 47)-51), think about a closed economy like the one described above, but the central bank does not fix the money supply. Instead, it sets the real interest rate. (That is, the central bank adjusts the money supply every day to keep the real interest rate at the level chosen by the central bank policy committee.) The central bank *always* tries to keep inflation equal to a target inflation rate of 2 percent. The natural rate of unemployment (NAIRU) is 6 percent. Consider where the central bank will set the real interest rate in each of the following situations. Will the resulting unemployment rate be higher than, lower than or equal to 6 percent? And what will happen to inflation?

47) Expected inflation is 2 percent. Government purchases, taxes and other determinants of spending are as forecast by the central bank.
a) u = 6%, inflation = 2% b) u < 6%, inflation > 2% c) u > 6%, inflation < 2%
d) u < 6%, inflation = 2% e) u > 6%, inflation = 2%

48) Expected inflation is 3 percent. Government purchases, taxes and other determinants of spending are as forecast by the central bank.
a) u = 6%, inflation = 2% b) u < 6%, inflation > 2% c) u > 6%, inflation < 2%
d) u < 6%, inflation = 2% e) u > 6%, inflation = 2%

49) Expected inflation is 1 percent. Government purchases, taxes and other determinants of spending are as forecast by the central bank.
a) u = 6%, inflation = 2% b) u < 6%, inflation > 2% c) u > 6%, inflation < 2%
d) u < 6%, inflation = 2% e) u > 6%, inflation = 2%

50) Expected inflation is 2 percent. Government purchases turn out to be *less* than forecast by the central bank.
a) u = 6%, inflation = 2% b) u < 6%, inflation > 2% c) u > 6%, inflation < 2%
d) u < 6%, inflation = 2% e) u > 6%, inflation = 2%

51) Expected inflation is 2 percent. Government purchases turn out to be *more* than forecast by the central bank.
a) u = 6%, inflation = 2% b) u < 6%, inflation > 2% c) u > 6%, inflation < 2%
d) u < 6%, inflation = 2% e) u > 6%, inflation = 2%

The following information is for 52)- 55). Consider a closed economy where, for many years, the central bank has been increasing the money supply by 4 percent a year and inflation has been about 4 percent. Then the central bank increases the rate of growth of the money supply from 4 percent to 10 percent. What is the likely result in each of the following cases?

52) Everyone in the economy took Economics 362, paid attention and is smart.The central bank publicly announces that it is increasing the rate of growth of the money supply to 10 percent.
a) In the short run inflation is greater than 10 percent and there is a recession; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
b) In the short run inflation rises a bit above 4 percent and there is a boom; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
c) In the short run inflation rises a bit above 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
d) In the short run inflation is a bit below 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
e) None of the above

53) Everyone in the economy took Economics 362 but skipped class and is a bit dim.The central bank publicly announces that it is increasing the rate of growth of the money supply to 10 percent.
a) In the short run inflation is greater than 10 percent and there is a recession; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
b) In the short run inflation rises a bit above 4 percent and there is a boom; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
c) In the short run inflation rises a bit above 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
d) In the short run inflation is a bit below 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
e) None of the above

54) Everyone in the economy took Economics 362, paid attention and is smart.The central bank keeps the change in the rate of growth of the money supply a secret at first.
a) In the short run inflation is greater than 10 percent and there is a recession; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
b) In the short run inflation rises a bit above 4 percent and there is a boom; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
c) In the short run inflation rises a bit above 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
d) In the short run inflation is a bit below 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
e) None of the above

55) Everyone in the economy took Economics 362, paid attention and is smart. Just for fun, the central bank announces that it is raising the rate of money supply growth to 15 percent, when it is really raising the growth rate to just 10 percent.
a) In the short run inflation is greater than 10 percent and there is a recession; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
b) In the short run inflation rises a bit above 4 percent and there is a boom; in the long run there is neither recession nor boom and the inflation rate is 10 percent.
c) In the short run inflation rises a bit above 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
d) In the short run inflation is a bit below 4 percent and there is no recession or boom; in the long run inflation is ten percent and there is no recession or boom.
e) None of the above

The following information is for 56) - 60) Consider a closed economy in which:
$C = b(Y-T)$ $I = c - dr$ $G=\bar{G}$ $T=\bar{T}$

56) How is this economy different from the one we described in class?
a) Investment is different here. In the class model, investment was positively related to the real interest rate.
b) Investment is different here. In the class model, investment was positively related to disposable income.
c) Consumption is different here. In the class model, consumption was positively related to the real interest rate.
d) Consumption is different here. In the class model, consumption was a positive number even if disposable income was zero. Here, if disposable income is zero, consumption is zero.
e) None of the above.

57) Derive an equation that gives real GDP Y on the left-hand side, as a function of r, $\bar{G}$ and $\bar{T}$ (analogous to the equation we derived in class). Here, that equation is:

a) $Y = \frac{a+c}{1-b} - \frac{d}{1-b}r + \frac{1}{1-b}\bar{G} - \frac{b}{1-b}\bar{T}$ b) $Y = \frac{c}{1-b} - \frac{d}{1-b}r + \frac{1}{1-b}\bar{G} - \frac{b}{1-b}\bar{T}$

c) $Y = C + I + G$ d) $Y = bY - b\bar{T} + c - dr + \bar{G}$ e) None of the above

58) Consider the slope of the IS curve in this economy, compared with the slope of the IS curve in the class model.
a) Here, the IS curve is neither flatter nor steep than in class. b) Here, the IS curve is steeper than in class.
c) Here, the IS curve is flatter than in class.
d) Here, the IS curve may be either steeper or flatter than in class, depending on the value of $\bar{G}$. e) Here, the IS curve may be either steeper or flatter than in class, depending on the value of $\bar{T}$.

59) Derive an equation that gives national savings S on the left-hand side, as a function of Y, $\bar{G}$ and $\bar{T}$. Remember that national saving is private saving minus the government budget deficit, and that private saving is disposable income minus consumption. The equation is:
a) $S = (1-b)Y - \bar{G} + b\bar{T}$ b) $S = (1-b)Y - \bar{G} + (1+b)\bar{T}$ c) $S = (1-b)Y + \bar{G} - b\bar{T}$

d) $S = Y - \bar{G} + \bar{T}$ e) None of the above

60) Recall $\bar{S}$, that is the level of national savings when output is equal to potential outout (natural rate of output). What happens to $\bar{S}$ if you increase government purchases $\bar{G}$ *and* increase taxes-net-of-transfers $\bar{T}$ *by exactly the same amount?*
a) $\bar{S}$ increases b) $\bar{S}$ decreases c) $\bar{S}$ does not change d) $\bar{S}$ may increase or decrease, depending on the value of d
e) $\bar{S}$ may increase or decrease, depending on the initial value of $\bar{G}$

61) In an open economy, if exports are bigger than imports, which of the following can be true?
a) Domestic residents are investing a lot in foreign assets; foreigners aren't investing much in domestic assets.
b) Domestic residents aren't investing much in foreign assets; foreigners are investing a lot in domestic assets.
c) Domestic purchases of foreign assets are about equal to foreigners' purchases of domestic assets.
d) Any of the above can be true, depending on whether or not the economy is "small."
e) None of the above.

62) Suppose that last year you could get 120 yen per dollar, and this year you can still get 120 yen per dollar. In the meantime, the American inflation rate was 2 percent, and the Japanese inflation rate was zero. What happen to the real exchange rate as we defined it class, and what probably happened to American net exports?
a) No change in real exchange rate, NX unchanged b) Decrease in real exchange rate, NX increased
c) Decrease in real exchage rate, NX decreased d) Increase in real exchange rate, NX increased
e) Increase in real exchange rate, NX decreased

For 63-65), consider a small open economy in the long run (that is, assuming $Y = \bar{Y}$) that can be described by the model we went over in class.

63) What happens to the country's net exports and real exchange rate ε if there is an increase in the world real interest rate r^* ?
a) NX increases, ε increases b) NX decreases, ε decreases c) NX increases, ε decreases
d) NX decreases, ε increases e) NX does not change but ε increases

64) What happens to the country's net exports and real exchange rate ε if there is an increase in $\bar{G}$?
a) NX increases, ε increases b) NX decreases, ε decreases c) NX increases, ε decreases
d) NX decreases, ε increases e) NX does not change but ε increases

65) What happens to the country's net exports and real exchange rate if the function relating I to r is specifically $I = c - dr$, and c increases?
a) NX increases, ε increases b) NX decreases, ε decreases c) NX increases, ε decreases
d) NX decreases, ε increases e) NX does not change but ε increases