ECON 311 - Intermediate Macroeconomics (Professor Gordon)
Second Midterm Examination: Winter 2019
Answer sheet

YOUR NAME: ______________________________

Student ID: ______________________________

Circle the **TA session** you attend: Kristina – 3PM   Ola - 3PM   Sergio - 3PM   Valentyn - 3PM

Kristina - 4PM   Ola - 4PM   Sergio - 4PM   Valentyn - 4PM

INSTRUCTIONS:

1. The exam lasts **1 hour**.
2. The exam is worth 60 points in total: 30 points for the multiple choice questions (Part A) and 30 points for the four analytical problems (Part B).
3. **Write your answers for part A (the multiple choice section) in the blanks below.** You won't get credit for circled answers in the multiple choice section.
4. **Place all of your answers for part B in the space provided**.
5. You must show your work for part B questions. There is no need to explain your answers for the multiple choice questions.
6. **You must turn in both the answers and the multiple-choice questions. DO NOT PULL THEM APART.**

Good luck!

PART A: Multiple Choice Problems
Answer multiple choice questions in the space provided below.
USE CAPITAL LETTERS.

1		6		11		16		21		26	
2		7		12		17		22		27	
3		8		13		18		23		28	
4		9		14		19		24		29	
5		10		15		20		25		30	

PART A: Multiple Choice Problems

1. Two unique properties of the economic crisis of 2008-09 are that:
A) Many countries were hit simultaneously and had slow recoveries
B) Many countries were hit simultaneously and only the U.S. had a slow recovery
C) Many countries were hit simultaneously and only Japan had a slow recovery
D) Only the U.S. was hit and most other countries saw unusually strong economic growth

2. Compared to the 1981-82 recession, the 2007-09 U.S. recession had an unusually high:
A) immediate change in the long-term unemployment rate
B) starting point of the long-term unemployment rate
C) lasting long-term unemployment rate
D) measurement error in the long-term unemployment rate

3. How many episodes of "Quantitative Easing" has the Federal Reserve conducted since 2007?
A) one
B) two
C) three
D) four

4. The role of large financial intermediaries is to:
A) concentrate risk and receive bailouts
B) concentrate risk and maintain stable asset price growth
C) spread risk and increase asset price volatility
D) spread risk and collect information efficiently

5. If a bank increases its leverage with the same portfolio, a small decrease in its asset values:
A) is now more likely
B) is now less likely
C) is now more likely to lead to higher profits
D) is now more likely to cause insolvency

6. The zero lower bound for interest rates can put a limit on the effect of a _____ on output:
A) monetary stimulus
B) monetary contraction
C) fiscal stimulus
D) rise in consumer optimism

7. An "inverted yield curve" is said to be a reliable predictor of recessions. When the yield curve inverts, this is when there is a _________ value of the _____________.
A) positive, ten-year bond rate minus federal funds rate
B) negative, ten-year bond rate minus federal funds rate
C) positive, corporate bond rate minus federal funds rate
D) negative, corporate bond rate minus federal funds rate

8. The difference between the short-term federal funds interest rate and the private bond rate is the sum of:
A) the risk premium and the exchange rate premium
B) the inflation premium and the term premium
C) the risk premium and the term premium
D) the exchange rate premium and the inflation premium

9. If the Fed buys mortgage-backed securities as part of quantitative easing, it is trying to:
A) reduce the term premium
B) reduce the inflation premium
C) reduce the risk premium
D) reduce the exchange rate premium

10. In the course packet reading about Big Mac prices as a test of purchasing power parity, which country has the highest price of a Big Mac when expressed in dollars?
A) Russia
B) China
C) Mexico
D) Switzerland

11. From 1900 to 2010, these three events that triggered the largest U.S. government deficits (as a percent of natural GDP):
A) World War I; the Great Depression; World War II
B) World War I; World War II; 2008-2009 recession
C) The Great Depression; World War II; 2008-2009 recession
D) The Great Depression; 1973-1975 recession; 2008-2009 recession

12. Between 2001 and 2006 the U.S. had a massive current account deficit, larger than -4 percent of GDP each year. Yet the U.S. international investment position did not become more negative between 2001 and 2006. This happened because:
A) the dollar depreciated so U.S. foreign assets became more valuable expressed in dollars
B) the dollar appreciated so U.S. foreign assets became more valuable expressed in dollars
C) the dollar depreciated so foreign holdings of U.S. assets became less valuable expressed in dollars
D) the dollar appreciated so foreign holdings of U.S. assets became less valuable expressed in dollars

13. When the natural employment surplus is larger than the actual budget surplus, then:
A) real GDP is larger than natural real GDP
B) real GDP is smaller than natural real GDP
C) labor force participation is low
D) inflation is high

14. Suppose that for the rest of time, the growth rate of nominal GDP is 4% and the government can issue debt with a nominal interest rate of 3%. Then the solvency condition is:
A) not satisfied
B) not satisfied if unemployment is above 1%
C) satisfied
D) satisfied or not depending on the level of debt held by the government

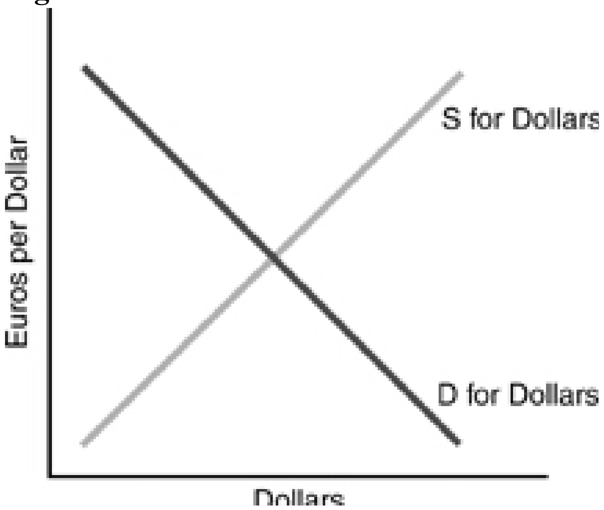
15. A temporary increase in food stamps is estimated to have a _____ multiplier compared a temporary tax cut to the top 10% of income earners:
A) higher
B) lower
C) more unknowable
D) identical

16. The Troubled Asset Relief Program (TARP) succeeded in creating a sharp reduction in ____, in part by lending government money to financial institutions facing ___ :
A) the risk premium; insolvency
B) the term premium; government fines
C) the risk premium; a bank run by consumers
D) the inflation premium; insolvency

17. The *Economist* article on myths of the Great Depression states that one of these myths is that the Hoover Administration did nothing. The article says to the contrary that it did take one or more actions. Which?
A) raised income taxes
B) reduced income taxes
C) raised tariffs
D) A) and C)
E) B) and C)

18. One reason that major countries using the Euro did not emphasize fiscal stimulus as much as the U.S. after the World Economic Crisis of 2008-2010 is that they:
A) had debt-to-GDP ratios close to zero which they wished to preserve
B) wanted to experiment with only using monetary stimulus
C) do not control their own monetary policy and cannot sell public debt to the central bank
D) must collectively agree on increased government spending, which Germany vetoed

Figure 6-3



19. In Figure 6-3 above, the demand for dollars will be vertical if
A) the price elasticity of U.S. demand for European imports is zero.
B) the price elasticity of demand for European imports is -1.0.
C) the price elasticity of European demand for U.S. imports is negative.
D) the price elasticity of European demand for U.S. imports is zero.

20. In Figure 6-3 above, the demand curve is generated by
A) U.S. imports.
B) the need to finance the budget deficits of the European government.
C) U.S. exports.
D) A and B.

21. Suppose the price of the dollar falls from 150 to 120 yen. As a result, U.S. purchases of Japanese VCRs, at a price of 25,000 yen apiece, fall from 3,000,000 to 2,700,000 per year. This is the kind of event underlying the reasoning for drawing
A) an upward-sloping supply curve of dollars.
B) an upward-sloping demand curve for dollars.
C) a downward-sloping demand curve for dollars.
D) a downward-sloping supply curve of dollars.

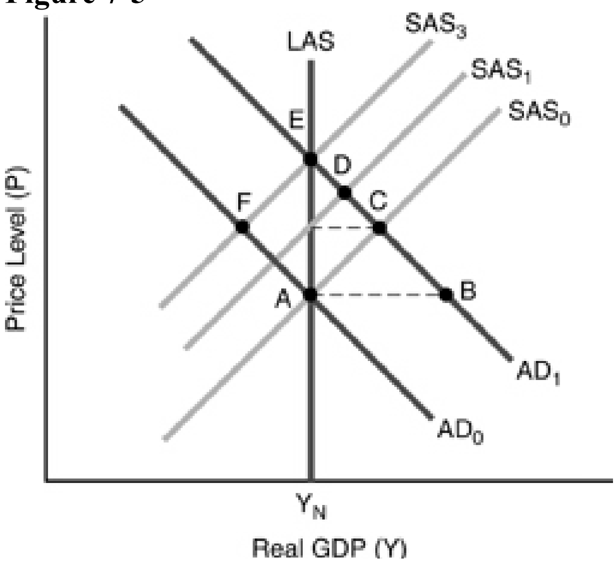
22. Suppose the U.S. policy mix remains constant while major European nations switch to an easier fiscal and tighter monetary policy. With ________ European interest rates, the resulting ________ of the dollar eventually tends to ________ the U.S. foreign trade deficit.
A) higher, depreciation, decrease
B) higher, appreciation, decrease
C) higher, appreciation, increase
D) lower, depreciation, increase
E) lower, appreciation, decrease

23. A course packet reading complains about the U.S. having an "exorbitant privilege." This means that ____________________ causes _________________.
A) U.S. holdings of foreign currencies, faster inflation
B) U.S.–holdings of foreign currencies, loss of manufacturing jobs
C) Foreign holdings of U.S. dollars, faster inflation
D) Foreign holdings of U.S. dollars, loss of manufacturing jobs

24. International crowding out in the U.S. economy occurs when
A) relatively high U.S. interest rates strengthen the yen, ceteris paribus.
B) relatively high U.S. interest rates strengthen the dollar, ceteris paribus.
C) relatively high U.S. interest rates weaken the dollar, ceteris paribus.
D) None of the above.

25. The most accurate capsule summary of the Great Depression in terms of the AD/SAS/LAS model is that
A) we went up an AD curve from 1929 to 1933, then came back down it for the rest of the decade.
B) AD and SAS shifts in unison took us straight to the left from 1929 to 1933, then back straight to the right for the rest of the decade.
C) we slid down a SAS curve from 1929 to 1933, then back up the same curve for the rest of the decade.
D) we slid down an AD curve from 1929 to 1933, then down 1933's SAS curve for the rest of the decade.

Figure 7-5



26. In Figure 7-5 above, at point C, the real wage is ________ its equilibrium value, leading to changes in the nominal wage that ________.
A) above, shift AD1 back to AD0
B) above, shift SAS0 downward
C) below, shift SAS0 upward
D) below, shift AD1 further to the right

27. Pigou's explanation of the existence of unemployment required
A) fixed goods price or slowness of prices to adjust to changes in market conditions.
B) Churchill's introduction of unemployment compensation.
C) wage "stickiness" or slowness of wages to adjust to changes in market conditions.
D) all of the above.

28. A course packet reading item discusses the "Civilian Conservation Corps." This was a program in the ____________ administration that __________________
A) Roosevelt, fought global warming
B) Roosevelt, planted trees to prevent soil erosion
C) Obama, fought global warming
D) Obama, planted trees to prevent soil erosion

29. The SAS curve will be steeper the
A) greater is the marginal product of each additional worker.
B) greater is MC.
C) the faster the marginal product falls for each additional worker.
D) greater is the nominal wage.

30. A fall in the price level causes
A) the LM curve to shift downward.
B) movement down along an LM curve.
C) movement up along an LM curve.
D) the LM curve to shift upward.

PART B: Analytic Problems

<u>Question 1: Government Deficits (9 points)</u>

Suppose that:

Y_N (Natural Real GDP) = 6,000
Y_A (Actual Real GDP) = 5,000
T_a = 1,200
t = 0.3
G = 2,400

a) Compute the **Actual Surplus** and the **Natural Employment Surplus**. (2 points)

Actual Surplus = 1200+0.3(5,000)-2,400 = 300
Natural Employment Surplus = 1200+0.3(6,000)-2,400 = 600

b) Plot the budget line on the graph below. **Label the horizontal axis and the points below, with coordinates:**

A: Actual Deficit
N: Natural Employment Deficit
Z: Zero Deficit

(3 points)

c) What is the **intercept** of the budget line? (1 point)

Intercept=Ta-G=1,200-2,400=-1,200

d) What would happen to the budget line if, holding tax rates fixed, **government spending decreased**? (1 point)

Shifts upward

e) What would happen to the budget line if, holding government spending fixed, the **tax rate (t) increased**? (1 point)

Get steeper (around y=0).

f) Suppose policymakers want to use fiscal policy to raise Actual Real GDP to Natural Real GDP. This requires two actions:

1. G increases by 100 to 2,500.
2. The tax rate t is cut by 0.1 to 0.20.

What is the **new Natural Employment Surplus**? (1 points)

Natural Employment Surplus = 200+0.2(6,000)-2,500 = -1,100

QUESTION 2 (11 points): Open-economy IS-LM model

Let a **small open economy** with perfect **capital mobility** and **flexible exchange-rate regime** be described by the following equations:

$C = 70 - 2r + 0.8(Y-T)$,
$T = 50+0.25Y$,
$G = 40$,
$Ip = 70 - 3r$,
$NX = 60 - 0.1Y - 20e$,
$M^D/P = 0.6Y - 1.2r$,
$M^S/P = 120$,
where e is the exchange rate.

(A.) Derive **IS and LM** equations for this economy. *(2 points)*

IS curve: Ap=70-2r-0.8*50+40+70-3r+60-20e=200-5r-20e
k=1/s(1-t)+t+nx=1/(0.2*0.75+0.25+0.1)=2
Y=400-10r-40e

LM curve: Y=200+2r

Initially, foreign and domestic interest rates are equal ($r = r^f$), the foreign exchange rate is **e=2.**

(B.) Find the equilibrium income, interest rate and net export. *(2 points)*

320 – 10r = 200 + 2r
120 = 12r
r = 10 → Y = 220
NX = 150 – 0.1*220 – 20*2 = 60-62=-2

(C.) Part of the current government election programme was tax rates cut. Suppose that the government decides to decrease income tax to 12.5% (0.125). Additionally, the government decides to build new bridge between two largest cities and increases government spending by 20. How would GDP, the domestic interest rate and net exports change if we let the domestic and foreign interest rate diverge?
Hint: don't expect even numbers, round to 1 decimal place (3 points)

k' = 1 / (0.2 +0.8*0.125+ 0.1) = 2.5
Ap=220-5r-20e
IS: Y = 2.5*(220 - 40– 5r) = 550-100 – 12.5r=450-12.5r
LM: Y = 200 + 2r
r = 17.2, Y = 234.4, NX = -3.4

(C.) Does interest rate parity hold? If not, then investors and possibly the government and central bank will have to react. What factors adjust to get the economy here? *(2 Points)*

The high domestic interest rate will induce investors to increase their holdings of local assets. Buying those assets will a put upward pressure on the local currency. As a result, the local currency appreciates, i.e. *e* goes up.

(D.) What is the new output and domestic interest rate? What is the new exchange rate? *(2 Points)*

By interest rate parity, $r = r^f = 10$.

LM: $Y = 220$.

IS: $Y = k^*Ap(r)$

$= k^*(Ca - c^*Ta + G + Ia - b^*r + NXa - k^*e)$

$= 2.5^*(300 - 40e)$

$= 750 - 100e$

$220 = 750 - 40e$

$530 = 40e$

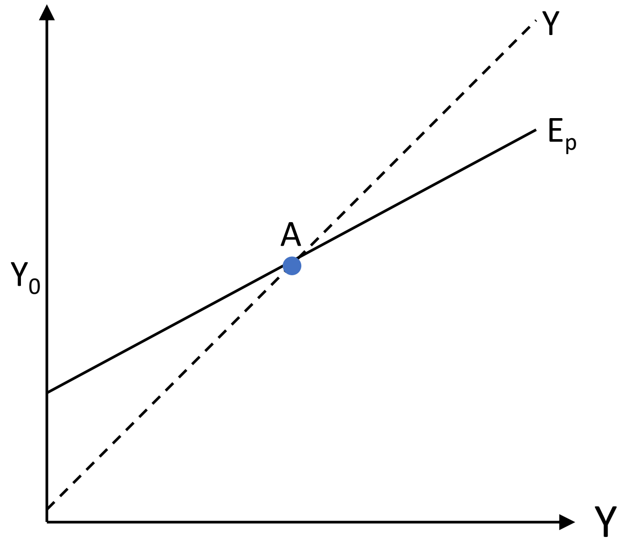
$e = 13.25$

QUESTION 3 (10 points):

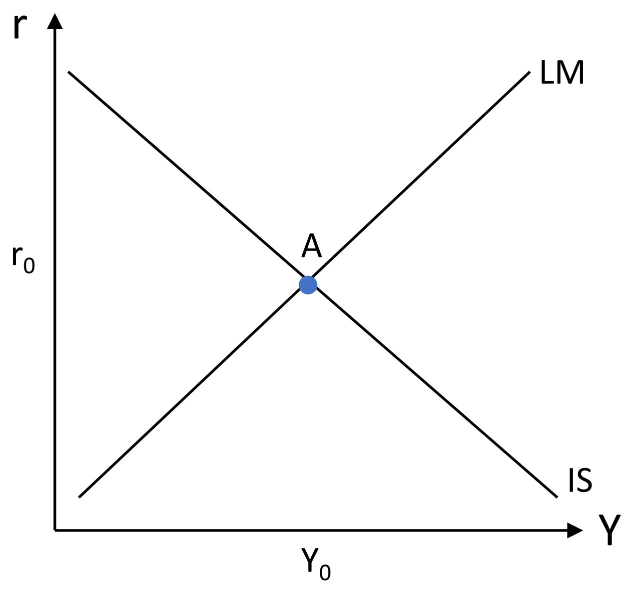
This question is intended to put everything together. Going from the Keynesian Cross to the AD-AS model. Consider a closed economy. The economy can be described with the following diagrams (they are drawn for you below). Initially the economy is in a long run equilibrium with real GDP equal to $Y_N = Y_0$, prices equal to P_0 and the interest rate at r_0. The initial equilibrium is marked as A in each of the three diagrams. Draw the following lines and mark the points in these three diagrams as directed in each question. Don't forget to label equilibrium output, prices and interest rates with alphabetical letters as directed in each question.

1. **There is a drop in government spending. In the Keynesian Cross diagram, draw the new planed expenditure curve (label it as E_{p1}) and mark the new equilibrium in this model as point B, label output as Y_1.** *(1 point)*
2. **The drop in government spending has implications in the IS-LM model. Draw the new IS or LM curves (label it as IS_2 or LM_2) and mark the new equilibrium in the IS-LM model as point C, label output as Y_2 and interest rate as r_2.** *(2 points)*
3. **In the Keynesian Cross model draw the E_p curve that considers the equilibrium changes in the IS-LM model (label it as E_{p3}). Mark the new equilibrium in this model as point C, label output as Y_3.** *(1 points)*
4. **The drop in government spending has implications in the AD-AS model. Draw the new AD, SAS or LAS curve (label it as AD_4, SAS_4 or LAS_4). Mark the short run equilibrium in this model as point D, label output as Y_4 and prices as P_4.** *(2 points)*
5. **The new short run equilibrium in de AS-AS model has to be consistent with that in the IS-LM model. Draw the new IS or LM curve (label it as IS_5 or LM_5). Mark the equilibrium as point D, label output as Y_5 (note that $Y_5 = Y_4$) and interest rates as r_5.** *(1 points)*
6. **In the AD-AS model going from the short run to the long run equilibrium something has to adjust. Draw that curve in its final stage as it approaches the long run (label it as AD_6, SAS_6 or LAS_6). Mark the long run equilibrium point as E, label output as Y_6.** *(2 point)*
7. **The long run equilibrium in the AD-AS model has to be consistent with that in the IS-LM model. Label the new IS or LM curve (label it as IS_7 or LM_7). Mark the equilibrium as point E, label output as Y_7 (note that $Y_6 = Y_7$) and interest rates as r_7.** *(1 points)*

Keynesian Cross



IS-LM



AD-AS