PART I: MULTIPLE CHOICE—circle the correct answer (3 points each, 48 points total)

1.) Which of the following is not one of the determinants of the long-run level of output $\bar{Y}$?
   a.) the size of the labor force
   b.) large-scale asset purchases
   c.) the capital stock
   d.) level of technology

2.) Which of the following variables appears on the vertical axis of the Phillips Curve?
   a.) the level of the CPI
   b.) the inflation rate
   c.) the change in the inflation rate
   d.) the Fed’s long-run inflation target

3.) Which of the following is not one of the important shocks that caused the Great Recession in the United States?
   a.) spike in oil prices
   b.) collapse in house prices
   c.) financial turmoil
   d.) sovereign debt crisis

4.) Which of the following best describes the shape of the yield curve at the end of a cycle in which the Fed has been lowering interest rates?
   a.) the yield curve is steeper than usual
   b.) the yield curve is flatter than usual
   c.) the yield curve is hump-shaped
   d.) the yield curve has about the same shape as it normally does

5.) Which of the following would cause the IS curve to shift to the right?
   a.) an increase in the Fed’s long-run inflation target
   b.) an increase in the interest rate in other countries
   c.) an increase in taxes
   d.) all of the above
6.) Which of the following tends to make the AD curve flatter?
   a.) investment is less responsive to interest rates
   b.) the Fed is more responsive to inflation
   c.) net exports are less responsive to the exchange rate
   d.) none of the above

7.) According to the Taylor Rule, which should lead the Fed to choose the highest value for the fed funds rate?
   a.) when actual output is higher than potential output and actual inflation is higher than the Fed’s long-run inflation target
   b.) when actual output is lower than potential output and actual inflation is lower than the Fed’s long-run inflation target
   c.) when actual output is lower than potential output and actual inflation is higher than the Fed’s long-run inflation target
   d.) when actual output is higher than potential output and actual inflation is lower than the Fed’s long-run inflation target

8.) Under the conventional monetary policy system used by the European Central Bank, how would the ECB raise the interest rate?
   a.) open market purchase
   b.) open market sale
   c.) increase the interest rate it pays on bank deposits with the ECB
   d.) decrease the interest rate it pays on bank deposits with the ECB

9.) Which of the following is the ECB hoping to achieve with its current policy of negative interest rates?
   a.) stimulate European investment spending
   b.) stimulate European exports
   c.) increase European inflation
   d.) all of the above

10.) Which of the following accounted for the biggest part of the increase in Federal Reserve liabilities between December 2007 and December 2015?
    a.) repurchase agreements
    b.) reverse repurchase agreements
    c.) bank deposits with the Fed
    d.) cash in circulation

11.) If higher capital requirements were imposed on banks, what strategy might a bank use to meet them?
    a.) sell new stock to bring more equity into the bank
    b.) reduce dividends paid to shareholders and instead re-invest these funds in the bank
    c.) sell off some of its riskier loans to reduce at-risk capital
    d.) all of the above
12.) Circle the one statement below that is false.
   a.) the deficit corresponds to the change in the debt
   b.) government interest expense is not included as part of GDP
   c.) U.S. federal debt as a percent of GDP has not changed much since 1970
   d.) the deficit is a flow variable whereas the debt is a stock variable

13.) Suppose that the growth rate of GDP is greater than the average interest rate on government debt and that the primary surplus is zero. In such a situation
   a.) the debt-to-GDP ratio would be rising
   b.) the debt-to-GDP ratio would be constant
   c.) the debt-to-GDP ratio would be falling
   d.) it cannot be determined from the information given

14.) Which of the following is the best characterization of the European countries that experienced a sovereign debt crisis in 2011?
   a.) government budget surplus and current account surplus
   b.) government budget deficit and current account deficit
   c.) government budget deficit and current account surplus
   d.) government budget surplus and current account deficit

15.) Which of the following best characterizes the European countries that experienced sovereign debt crises in 2011?
   a.) debt/GDP was rising and the interest rate on government debt was rising
   b.) debt/GDP was falling and the interest rate on government debt was falling
   c.) debt/GDP was falling and the interest rate on government debt was rising
   d.) debt/GDP was rising and the interest rate on government debt was falling

16.) If the real exchange rate (in pesos per dollar) between the U.S. and Mexico is greater than one, this would mean
   a.) goods and services are typically more expensive in the U.S.
   b.) goods and services are typically more expensive in Mexico
   c.) the real exchange rate can never be greater than one
   d.) the real exchange rate is always greater than one

PART II: SHORT ANSWER (44 points total)

17.) (6 points) For each of the following, indicate whether control of that variable is primarily the job of monetary policy (M) or of fiscal policy (F).

___________________ Government transfer payments
___________________ Interest rates
___________________ Government debt
18.) (4 points) The national income accounting identity says that \( Y = C + I + G + NX \). This can be rearranged to show that the sum of national saving plus foreign saving equals investment, where national saving is defined as private saving plus government saving. Use this information to write down an equation that defines what is meant by national saving and a second equation that defines what is meant by foreign saving.

19.) (8 points) The figure below shows the policy trilemma for an open economy, in which each of the three vertices of the triangle correspond to objectives that the country might want to achieve, these being a stable exchange rate, monetary policy autonomy, and free financial flows. Suppose the country chooses a policy of “floating exchange rate”.

a.) What two objectives is the country choosing to achieve?

b.) Which objective is the country surrendering?

c.) How might the economy be hurt by surrendering the objective you indicated in part (b)?
20.) (26 points total) This question asks you to examine the role of trade between two countries named East and West. Both countries produce two goods, oranges and potatoes. There are 80 workers who live in the East and 60 workers who live in the West. Each worker in the East is the same as any other worker in the East. Each worker in the East could produce 50 oranges if she spends the year producing oranges, or could instead produce 50 potatoes if she spends the year producing potatoes. Each worker in the West is the same as any other worker in the West. Each worker in the West could produce 50 oranges if she spends the year producing oranges, or could instead produce 100 potatoes if she spends the year producing potatoes.

a.) (8 points) Answer the following:
   i.) Which country has an absolute advantage at producing oranges? ____________________
   ii.) Which country has an absolute advantage at producing potatoes? _________________
   iii.) Which country has a comparative advantage at producing oranges? _________________
   iv.) Which country has a comparative advantage at producing potatoes? _________________

b.) (8 points) Assume that people in both countries would always want to spend half of their income (where income is measured in number of oranges) on oranges and the other half on potatoes.
   i.) Calculate the price of potatoes in the East under autarky (be sure to indicate the units in which this is measured) _________________
   ii.) Calculate the number of potatoes that would be produced in the East under autarky _______
   iii.) Calculate the price of potatoes in the West under autarky _________________
   iv.) Calculate the number of potatoes that would be produced in the West under autarky _______

c.) (2 points) If trade in potatoes and oranges is opened up between these countries, which country will export potatoes? _____________________

d.) (8 points) Suppose that there is free migration of workers between the countries.
   i.) Which country will see a net migration of workers moving in? _________________
   ii.) How many potatoes will be produced in the East in equilibrium with free migration? _______
   iii.) How many potatoes will be produced in the West in equilibrium with free migration? _______
   iv.) What will the price of a potato be in equilibrium with free migration? ____________
PART III: SHOW YOUR ANSWER ON A GRAPH (28 points total)

22.) (28 points total) This question asks you to use the open economy aggregate supply/aggregate demand model of Chapters 13 and 20 in the text, in which you should assume that expectations of inflation are formed adaptively, that is, $\pi_t = \pi_{t-1}$ and the central bank follows the simple monetary policy rule of raising the interest rate whenever inflation is above its long-run target. You are asked to analyze the effect on the U.S. if there is a temporary shock to the exogenous component investment spending in the U.S., denoted $i_a$. Assume that the economy starts out in period 0 in long-run equilibrium in which the marginal product of capital is 2% and the Fed’s long-run inflation target is 3%.

a.) (6 points) Label the variables that are being measured on the horizontal and vertical axis so that the graph would correspond to an AS-AD diagram for the United States. Show the initial position of the AS and AD curves before there is any change in investment, labeling these as “AS₀” and “AD₀”. Indicate on your graph the numerical values for the variables on the horizontal and vertical axis in the initial equilibrium.

b.) (10 points) Assume that in period 1 that the exogenous component of investment temporarily increases to a new value $i_a'$ but that it then returns to its long-run value in period 2 and then stays there. Draw the AS and AD curves for period 1, labeling these as “AS₁” and “AD₁”. Indicate in the spaces below whether the indicated variable is higher, lower, or the same in period 1 compared to period 0.

i.) real exchange rate (in euros per dollar) ____________________________
ii.) U.S. net exports ____________________________
iii.) U.S. real investment $I$ ____________________________

c.) (4 points) Draw the AS and AD curves for period 2, labeling these as “AS₂” and “AD₂”. In comparing period 2 with period 1, do net exports increase, decrease, or exhibit no change between period 1 and period 2? ____________________________

d.) (4 points) Draw the AS and AD curves for period 3, labeling these as “AS₃” and “AD₃”.

e.) (4 points) Label the point at which the economy would be in period 3 as point “E”, making sure it is very clear from your graph where point “E” is relative to the point at which the economy started out in part (a) on both axes.
Answers:
1b 2c 3d 4a 5b 6b 7a 8c 9d 10c 11d 12c 13c 14b 15a 16a 17 F; M; F
18 national saving = Y – C – G;  foreign saving = -NX  
19a autonomy and free flows 19b stable exchange rate  19c volatile exchange rate could affect inflation, net exports, or political stability  
20a neither-west-east-west 20b 1 orange; 2000 potatoes; (1/2) orange; 3000 potatoes 20c west 20d west; 0; 7000; (1/2)  2b higher; lower; higher 22c increase  

At E, $\bar{Y} < 0$ and $\pi > 3$
I hereby authorize the UCSD Economics Department to return my graded final examination/research paper by placing it in a location accessible to all students in the course. I understand that the return of my examination/research paper as described above may result in disclosure of personally identifiable information, that is not public information as defined in UCSD PPM 160-2, and I hereby consent to the disclosure of such information.

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Instructor ________________________________________________

Student ID# ______________________________________________

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Signature ________________________________________________