1. Which panel in Figure 1 is most likely to depict the response of an oil exporting country to a temporary increase in the price of oil?
   (a) i
   (b) ii
2. Which panel in Figure 1 is most likely to depict the response of an oil importing country to a temporary increase in the price of oil?
   (a) i
   (b) ii
   (c) iii
   (d) iv

3. Which panel in Figure 1 is most likely to depict the response of country experiencing an increase in the marginal productivity of capital?
   (a) i
   (b) ii
   (c) iii
   (d) iv

The next figure (Figure 2) depicts current account schedules for the US and the rest of the world (ROW). In the figure, the vertical axis measures the world interest rate. The current account surplus in the US is measured horizontally in the usual way. The current account surplus in ROW is measured horizontally also but, as done in class, with positive values in the westward direction and negative values eastward. The four panels of the figure, labeled (i) to (iv), represent how one of these schedules (dashed lines) may shift in response to shocks.
4. The 2006 *Economic Report of the President* argues that the current account deficit in the US may be attributable to strong US growth, which "contributes to higher potential corporate earnings and investment returns." Which panel in Figure 2 depicts this case?
   (a) i  
   (b) ii  
   (c) iii  
   (d) iv

5. If the argument described in the preceding question were correct, higher growth would have led to:
   (a) An increase in the US current account surplus  
   (b) An increase in the US current account deficit  
   (c) An increase in ROW current account deficit  
   (d) Both b and c.

6. If the argument discussed in the preceding two questions were correct, the world interest rate would have:
   (a) Increased  
   (b) Fallen  
   (c) Stayed the same  
   (d) It would be impossible to tell on the basis of the theory.

7. The 2006 *Economic Report of the President* also argues that the current account deficit in the US may be due to falling investment prospects in Germany, Japan, and other countries. Which panel in Figure 2 depicts this case?
   (a) i  
   (b) ii  
   (c) iii  
   (d) iv

8. According to Figure 2, weak investment in the rest of the world should have been accompanied by:
   (a) An increase in the US current account surplus  
   (b) An increase in the US current account deficit  
   (c) An increase in ROW current account deficit  
   (d) Both b and c.

9. Figure 2 also implies that weak investment in the rest of the world should have resulted in:
   (a) An increase in world interest rates  
   (b) Lower world interest rates  
   (c) Higher interest rates in the rest of the world than in the US  
   (d) Higher interest rates in the US than in the rest of the world
10. A third factor behind the US current account deficit, according to the 2006 *Economic Report of the President*, is rising saving rates in the rest of the world. In Figure 2, this would be represented by panel:
   (a) i
   (b) ii
   (c) iii
   (d) iv

11. As given by Figure 2, rising saving rates in the rest of the world imply:
   (a) Increased current account deficits in the US and lower world interest rates.
   (b) Smaller current account deficits in the US and lower world interest rates.
   (c) Increased current account deficits in the US and higher world interest rates.
   (d) None of the above.

12. Of the three different explanations of the US CA deficit (strong investment in the US, weak investment in the ROW, rising saving rates in the ROW), the one or ones that are consistent with the actual recent behavior of both the US CA deficit and world interest rates are:
   (a) Only strong investment in the US
   (b) Only weak investment in other countries
   (c) Only rising saving rates in other countries
   (d) Both weak investment abroad and rising saving rates abroad.

13. Which of the following statements about a small open economy without production (i.e. a pure exchange economy) is false?
   (a) Consumption choices do not depend on the timing of income, only on its present value.
   (b) The economy always gains from having access to international capital markets.
   (c) The economy gains from access to international capital markets if it ends up running a current account surplus, but it loses if it ends up having a current account deficit
   (d) The smaller the current account imbalance, the lower the gains from access to international capital markets.

The next figure (Figure 3) depicts possible configurations of a two period pure exchange small open economy (without production). In the figure, \( r^* \) denotes the world interest rate. Assume that the representative household has no initial wealth.
14. Suppose that the representative household has an endowment of $Q_1$ in the first period and $Q_2$ in the second period. In Figure 3, the point B is the optimal consumption choice. The first period current account:
(a) is a deficit equal to $C_1$ minus $Q_1$
(b) is a deficit equal to $C_1$
(c) is a surplus equal to $Q_1$
(d) cannot be identified with the information given

15. In the setting of the previous question, what would not be an implication of the imposition of capital controls, in the form of a prohibition of international borrowing?
(a) Domestic consumption would be at A
(b) The current account would be zero
(c) The domestic interest rate would be given by the slope of the indifference curve going through A
(d) Household welfare would be higher than without capital controls.

16. Consider Figure 3 again, but now assume that the typical household's endowment is given by $A'$. Which one of the following statements is true?
(a) In the first period, the current account would be in deficit
(b) Access to international capital markets reduces household welfare
(c) With capital controls, in the form of a prohibition of international borrowing, household consumption would be given by $A'$
(d) All of the above are false.

The next figure (Figure 4) represents budget lines in a two period pure exchange open economy. In the figure, A is the endowment point. Assume that households have no initial wealth.
17. In Figure 4, the change in the budget set represented by the change from the solid line to the dashed line going through A represents:
   (a) A reduction in the second period endowment, given the world interest rate
   (b) A reduction in the first period endowment, given the world interest rate
   (c) An increase in the world interest rate, given endowments
   (d) A reduction in the world interest rate, given endowments.

18. Again in Figure 4, assume that initially (i.e. with the solid line budget set) the current account is exactly balanced. Then, if the budget line changes to the dashed line, and assuming preferences of the usual kind, in the first period:
   (a) the current account will go into surplus
   (b) the current account will go into deficit
   (c) the current account will remain balanced
   (d) one cannot tell how the current account will change
Figure 5, above, represents the equilibrium of a two period, small open economy with production and investment. In the figure, $Y(1)$ is the economy's endowment of goods in the first period. $K^*$ is the optimal amount of investment. There is one hundred percent depreciation of capital (i.e. $\delta = 1$). The thick solid line is the production possibility frontier. The slope of the dashed line (which goes through $B$) is $-(1+r^*)$, where $r^*$ is the world interest rate. Refer to this Figure for questions 19-22.

19. Which one of the following statements is false?
   (a) At $B$, the slope of the PPF is equal to (minus) the marginal product of capital in period 2.
   (b) The slope of the indifference curve at $A$ is equal to $-(1+r^*)$.
   (c) The slope of the PPF at $P$ is equal to $-(1+r^*)$.
   (d) If the economy were closed, equilibrium consumption and production would be given by $P$.

20. In Figure 5, the current account balance in period 1 is given by
   (a) $C^*(1)$
   (b) $Y(1) - K^*$
   (c) $Y(1) - C^*(1) - K^*$
   (d) $C^*(1) + K^*$

21. Figure 5 shows that, relative to the closed economy case, international capital mobility implies that the economy will:
(a) Reduce investment  
(b) Reduce consumption in the first period  
(c) Reduce production in the second period  
(d) Increase both investment and consumption in the first period.

22. In Figure 5, a small *reduction* in the world interest rate will **not** lead to:  
(a) Higher investment  
(b) A larger CA deficit in the first period  
(c) Less consumption in the first period (if goods are normal)  
(d) Higher production in the second period.

Questions 23 to 32 refer to the following two period model of a small open economy without production or investment. There is only one nonstorable good each period. The economy is populated by a representative household that is endowed with Q(1) = 4 units of the good in period 1, and Q(2) = 5.1 units in period 2. The world interest rate is constant and equals r* = 0.05 (i.e. five percent) per period. The typical household has zero initial foreign wealth.  
Finally, the preferences of the household are given by the utility function

\[ U(C(1), C(2)) = \log C(1) + \beta \log C(2) \]

where \( \log x \) denotes the natural logarithm of \( x \), and \( \beta \) (the subjective discount factor) satisfies \( 1/\beta = 2.1 \).

23. The optimal choice of consumption by the household must satisfy:  
(a) \( C(1) = C(2) \)  
(b) \( 3 \ C(1) = C(2) \)  
(c) \( C(1) = 2 \ C(2) \)  
(d) None of the above.  
(Hint: Be careful and note that the derivative of a log function is the inverse function, i.e. if \( z = f(x) = \log x \), \( dz/dx = f'(x) = 1/x \).)

24. The present value budget constraint of the household can be written as:  
(a) \( C(1) + C(2) = 9.1 \)  
(b) \( C(1) + C(2)/(1.05) = 9.1 \)  
(c) \( C(1) + C(2)/(1.05) = 4 + (5.1/1.05) \)  
(d) \( C(1) + C(2)/2.1 = 4 + (5.1/2.1) \)

25. The optimal level of consumption in period 1 is:  
(a) 3  
(b) 4  
(c) 5  
(d) 6

26. The optimal level of consumption in period 2 is
27. What is true of the current account in period 1?
   (a) There is a current account surplus of one unit
   (b) There is a current account deficit of 2 units
   (c) The current account must be balanced (i.e. must be zero)
   (d) There is a current account deficit of 4 units.

28. What is not true about period 2?
   (a) The current account is balanced
   (b) There is a trade surplus
   (c) The household pays its foreign debt by consuming less than Q(2)
   (d) Debt repayments must equal the trade deficit incurred in period 1 times 1.05.

29. In the previous setting, suppose that the government imposes capital controls that prohibit borrowing from abroad. One implication is that consumption in period 1 must now equal:
   (a) 3
   (b) 4
   (c) 5
   (d) 6

30. The imposition of capital controls implies that the domestic interest rate:
   (a) will be higher than the world interest rate
   (b) will be lower than the world interest rate
   (c) will be equal to the world interest rate
   (d) there is not enough information to trace the impact of the capital controls on the domestic interest rate

31. Return to the setting with free international capital mobility, but assume that the subjective discount factor increases to $\beta = 1$. Which of the following statements is false?
   (a) Savings in period 1 increase
   (b) The current account deficit in period 1 shrinks
   (c) In period 1, the household borrows less from the rest of the world than in the case in which $1/\beta = 2.1$
   (d) Optimal consumption requires now that $C(1) = C(2)$

32. With $\beta = 1$, consumption and the current account in period 1 will respectively equal:
   (a) 7.5, -3.5
   (b) 4.65, -0.65
   (c) 3.5, 0.5
   (d) 2.55, 1.45
33. The increase in the US government expenditures associated with the Iraq war is likely to have contributed to:
   (a) A larger US current account deficit and higher world interest rates.
   (b) A larger US current account deficit but lower world interest rates.
   (c) A smaller US current account deficit and lower world interest rates.
   (d) A smaller US current account deficit and higher world interest rates.

34. According to the Ricardian Equivalence view of fiscal policy:
   (a) Fiscal policy does not affect economic outcomes
   (b) Government expenditures do not affect economic outcomes
   (c) Given government expenditures, whether that expenditure is financed with taxes or through increased fiscal debt is irrelevant
   (d) US fiscal policy cannot affect world interest rates

35. The main difference between the current account balance and the trade balance is equal to:
   (a) Net income on foreign assets
   (b) Exports minus imports
   (c) Increases in foreign exchange reserves
   (d) There is no difference

Questions 36-45 refer to the following two period model of a small open economy with a single good each period. There is a representative household whose preferences are given by the utility function:

\[ U(C(1),C(2)) = \log(C(1)) + \beta \log(C(2)) \]

where \( C(t) \) denotes consumption in period \( t = 1, 2 \), and \( \beta = 1/1.1 \)

In period 1 the household receives an endowment of goods equal to \( Q(1) = 10 \). In period 2 the household receives profits, denoted by \( \Pi(2) \), from the firms it owns. Households and firms have access to international financial markets where they can borrow or lend at the constant interest rate of \( r^* = 0.1 \) (ten percent) per period.

Both domestic households and firms have zero initial wealth in period 1. In period 2, firms can produce output (denoted by \( Q(2) \)) via the production function:

\[ Q(2) = F(K(2)) = 4.4 \sqrt{K(2)} \]

where \( K(2) = \) capital in period 2 = \( I(1) = \) investment in period 1.

Capital depreciates completely in production (i.e. \( \delta = 1 \)). Since the typical firm has zero initial wealth, it will borrow the funds it needs to finance investment. Hence profits in period 2 must be:

\[ \Pi(2) = Q(2) - (1+r^*) I(1) \]

36. The firm optimal level of investment, \( I(1) \), must equal:
   (a) 4
(b) 5
(c) 6
(d) 7

(Hint: What is the condition for optimal investment? Also, note that the derivative of a square root is one half the inverse of the square root, i.e. if \( f(x) = \sqrt{x} \), \( f'(x) = 1/(2 \sqrt{x}) \). )

37. Second period profits, \( \Pi(2) \), must then equal:
   (a) 4.4
   (b) 8.8
   (c) 4
   (d) 2.2

38. The representative household's present value budget constraint can be written as:
   (a) \( C(1) + C(2) = 10 + \Pi(2) \)
   (b) \( C(1) + C(2) = 10 \)
   (c) \( C(1) + C(2) = \Pi(2) \)
   (d) \( C(1) + C(2)/(1.1) = 10 + \Pi(2)/1.1 \)

39. The representative household's optimal consumption choice satisfies:
   (a) \( C(1) = C(2) \)
   (b) \( C(1) = 2 C(2) \)
   (c) \( 2 C(1) = C(2) \)
   (d) \( C(1) = Q(1) \)

40. The representative household's consumption in period 1 approximately equals:
   (a) 14
   (b) 3.5
   (c) 7.3
   (d) 11.2

41. The trade balance in period 1 must then approximately equal:
   (a) A deficit of 1.3 units
   (b) A deficit of 8 units
   (c) A surplus of 2.5 units
   (d) A deficit of 5.2 units

42. If \( \beta \) increases, which of the following will occur? (Assume that the economy is small, so \( r^* \) is not affected by this change.)
   (a) Profits (\( \Pi(2) \)) will fall.
   (b) Investment (\( I(1) \)) will increase.
   (c) The household will increase savings in period 1
   (d) All of the above

43. If \( \beta \) increases, the trade balance in period 1 will
   (a) Increase
   (b) Decrease
(c) Remain the same
(d) One cannot tell with the information given

44. If Q(1) *increases*, which of the following will occur? (Assume that the economy is small, so r* is not affected by this change.)
   (a) Profits (Π(2)) will fall.
   (b) Investment (I(1)) will increase.
   (c) The household will increase consumption and savings in period 1
   (d) All of the above

45. Which of the following statements is illustrated by the preceding three questions?
   (a) In a small open economy, the amount of investment does not depend on the preferences of domestic households.
   (b) In a small open economy, savings and investment depend on the same fundamental factors
   (c) In a small open economy, investment and profits depend on domestic savings
   (d) All of the above
46) For open economies,  
A) $S < I + CA$  
B) $S = I$  
C) $S = I + CA$  
D) $S > I + CA$  
E) $S = I - CA$

47) A U.S. citizen buys a newly issued share of stock in England, paying for his order with a check, which the British company deposits in its own U.S. bank account in New York. How is this transaction accounted for in the balance of payments?  
A) Financial account, U.S. asset export  
B) Current account, U.S. service import  
C) Financial account, U.S. asset import  
D) Financial account, British asset import  
E) Current account, British good export

48) The earnings of a Spanish factory with British owners are  
A) are part of Britain’s GNP  
B) counted in Spain’s GDP  
C) are counted in Britain’s GDP  
D) are part of Spain’s GNP  
E) Only A and B.

49) A country’s current account  
A) balance equals the change in its foreign wealth.  
B) deficit equals the change in its foreign wealth.  
C) surplus equals the change in its foreign wealth.  
D) balance equals the change in its net foreign wealth.  
E) None of the above.

50) In an open economy, private saving, $SP$, is equal to  
A) $I + CA - (G - T)$  
B) $I - CA + (G - T)$  
C) $I + CA + (G - T)$  
D) $I + CA + (G + T)$  
E) $I - CA - (G - T)$

51) The position of the United States current account balance in 2004 was  
A) borrowed over 5 percent of its GNP, leading to a large current account deficit  
B) achieved a current account balance of zero  
C) lent over 5 percent of its GNP, resulting in a large current account surplus  
D) borrowed over 10 percent of its GNP, leading to a large current account deficit  
E) None of the above.

52) The official settlements balance or balance of payments is the sum of  
A) The current account balance and the capital account balance  
B) The current account balance, the capital account balance, the non reserve portion of the financial account balance  
C) The current account balance, the capital account balance, the non reserve portion of the financial account balance, the statistical discrepancy
D) The current account balance and the non reserve portion of the financial account balance
E) None of the above.

53) Movements in GDP
   A) and GNP usually do differ greatly.
   B) and GNP usually do not differ greatly, as a practical matter.
   C) are usually smaller than those of GNP movements, in practice.
   D) and GNP usually do not differ greatly.
   E) None of the above.

54) GNP equals GDP
   A) minus net receipts of factor income from the rest of the world.
   B) minus receipts of factor income from the rest of the world.
   C) plus receipts of factor income from the rest of the world.
   D) plus net receipts of factor income from the rest of the world.
   E) None of the above.

55) You travel to Paris and pay for a $100 dinner with your credit card. How is this accounted for in the balance of payments?
   A) Financial account, U.S. asset export
   B) Financial account, U.S. asset import
   C) Current account, U.S. good export
   D) Current account, French service import
   E) None of the above.

56) Investment is usually
   A) more variable than consumption.
   B) as variable as consumption.
   C) less variable than consumption.
   D) It is hard to tell from the data whether investment is more or less variable than consumption.
   E) None of the above.

57) An open economy
   A) can save either by building up its capital stock or by acquiring foreign wealth.
   B) can save only by acquiring foreign wealth.
   C) can save only by building up its capital stock.
   D) cannot save either by building up its capital stock or by acquiring foreign wealth.
   E) None of the above.

58) The highest component of GNP is,
   A) investment.
   B) consumption.
   C) government purchases.
   D) the current account.
   E) None of the above.
59) Every international transaction automatically enters the balance of payments
   A) twice, once as a credit and once as a debit.
   B) once as a credit.
   C) twice, both times as debit.
   D) once either as a credit or as a debit.
   E) None of the above.

60) Over the 1980s,
   A) There is a question whether a large decrease in U.S. foreign assets did occur.
   B) There is no question that there was almost no change in U.S. foreign assets.
   C) There is no question that a large increase in U.S. foreign assets did occur.
   D) There is no question that a large decrease in U.S. foreign assets did occur.
   E) None of the above.
46) C
47) A
48) E
49) D
50) C
51) A
52) C
53) B
54) D
55) A
56) A
57) A
58) B
59) A
60) D