True and False Questions

1.   FALSE. You should have noted that many bank assets are risky and/or illiquid.

2.   FALSE. Uncovered interest parity requires a country to raise interest rates in the face of an expected depreciation.

3.   FALSE. This equilibrium effect takes time. Note the J-curve.

4.   TRUE. Coordinated policies could help fight a world recession, but it is difficult to coordinate and there are incentives to cheat for every country involved.

5. Uncertain. Countries that attract large inflows of capital may run a trade deficit, but not necessarily. Recall that: Current Account (CA) + Capital Account (KA) =0. So large capital inflows might not coincide with a trade deficit in the following cases:
(a) There are equally large or even larger capital outflows. What matters is the *net* inflow of capital.
(b) The other components of the current account are negative. These are net transfers received and net income from investment received.
(c) Foreign currency reserves of the country increase (conceptually this would be reflected in the capital account).

6. Uncertain. First note that *domestic investment* is defined as physical investment in the economy *regardless* of whether it is financed by foreigners or by local investors (i.e. it is the change in the stock of physical capital in the economy from one period to the other).
A capital inflow ("foreign investment") can take either of 3 forms:
1.   Foreigners are lending money to the economy.
2.   Foreigners are buying existing domestic assets.
3.   Foreigners are investing in new assets in the economy (e.g. building a new factory in the country).
Therefore not every "foreign investment" is actually a domestic investment. Type 2 for example only means a change in ownership, not an increase in the amount of capital. Type 1 may actually be used by the domestic country for financing consumption. All of these forms of capital inflows create a liability of the domestic country toward the foreigners. It will have to pay interest on the loans (and repay the principal) as well as dividends on the investments.
What does a country do with the capital inflows? Even though we call these "capital" inflows, these funds may be used not just for investment but also for consumption. A net capital inflow only means that the country is using more resources than it is currently generating (spending more than its income). But this spending may go to consumption (private and public) as well as to investment. Recall from national accounting that S= I+ X-Q. So Q-X=I-S. Q-X is the CA deficit. *I* is domestic investment. *S* is saving. A large CA deficit may reflect either high investment **or** low savings i.e. high consumption. Therefore CA does not necessarily imply high domestic investment. Furthermore even if investment is high, it is good news only if this is profitable or productive investment. This may not be the case as was illustrated in the aftermath of the Asian crisis.

7. False. It is true that when a country fixes its exchange rate it cannot run an effective monetary policy. This is because money supply becomes endogenous and changes so as to keep the exchange rate fixed. However in the following exceptions monetary police may still be effective:
(a) The lead country, to which all others are pegged still has an effective monetary policy. (e.g. the US under the Bretton-Woods system or Germany in Europe).
(b)   If countries can agree on a coordinated monetary policy, then together they will have an effective monetary policy. If, for example, they all agree to raise the money supply, then world money supply will go up and interest rates (i , $i*$) will go down everywhere.
(c) If capital is not perfectly mobile, then investors cannot immediately and fully react to every arbitrage opportunity. Then at least for a while return differentials across countries may exist. Low liquidity of assets, foreign exchange restrictions and the like may cause such imperfect mobility. For a more detailed discussion see the appendix in your textbook.

8. False. By the uncovered interest parity equation exchange rates can also change when expectations change, without any change in interest rates. Also, a fiscal expansion under a flexible exchange rate regime, can cause an appreciation without changing the interest rate.

Long Question #1

1.   You should have noted that by arbitrage future stock prices should depend on expected future dividends, so in efficient financial markets prices only increase when expected future dividends do. At the same time, you should have noted there are often departures from dividends-pricing of stocks, called speculative bubbles or fads, which although are completely rational for the participants involved, represent a departure from the fundamental value of the stock.

2.   You should have done this:

$P = \$1+\$1(1.10)/(1.06)+\$1(1.10)(1.10)/(1.06)(1.06)+\ldots = $ infinity as $1.10/1.06 > 1$

Alternatively,

$P = \$1+\$1(1.06)/(1.10)+\$1(1.06)(1.06)/(1.10)(1.10)+\ldots = \$1/(1-1.06/1.10) = \$27.50$

3.   The easy way looks like this.

The investor will receive a real return of $3 million each year on an investment of $100 million, implying a 3% real return. His nominal opportunity cost of investing is 5.5%, so he should invest in the project if and only if:

$1.055 < 1+i_p = (1+r_p)(1+P^e) = (1.03)(1+P^e)$ or $P^e > 1.055/1.03-1 = 2.4$ percent.
Note that i_p is the nominal return on the project and P^e is expected inflation

Note that log approximations to this approach received full credit (answer of 2.5 percent).

The hard way looks like this:

$V = \$3+\$3(1+P^e)/(1.055)+\$3(1+P^e)(1+P^e)/(1.055)(1.055)+\ldots=\$3/[1-(1+P^e)/(1.055)]$
Use $V > \$100$ million and solve for P^e, yielding about 2.4 percent.

The last approach looks similar:

$V = \$3+\$3/(1.055-P^e)+\$3/(1.055-P^e)^{\wedge}2+\ldots$
Again use $V > \$100$ million and solve for P^e, with a similar solution.

Long Question #2

1. Under a fixed exchange rate regime the Central Bank can not do monetary policy. Any increase in money supply will push interest rates down. This will turn international interest rates more attractive. Investors will change their euros into dollars, dragging the money supply to its initial level. The final effect is less outstanding bonds, less international reserves and the same amount of money.

2. These policies will shift up both the IS and LM curve. The effect over Y is ambiguous but there will be an increase in interest rates and an appreciation of the euro. Next exports will probably decrease (Y stays rougly the same and you had an appreciation of the euro.).

3. If Y* decreases then exports from Euroland will decrease. This will be an adverse shock in demand that will shift down the IS curve. This will imply a smaller output, lower interest rates and a depreciation of the euro. Under fixed exchange rates, the Central Bank will need to keep interest rates at its previous (high) level. This will imply a contractionary policy that will shift down the LM curve. Therefore one will obtain a larger recession.

4. An expected depreciation of the dollar implies an expected appreciation of the euro. This will turn the euro more attractive, implying an inmediate appreciation of the euro and a lower interest rate than

before (there is a shift of the UIRP condition). In the IS-LM diagram, this will imply that the IS curve shifts to the left, decreasing both output and interest rates. Under fixed exchange rates, the central bank will have to accommodate to the lower interest rate associated with the expected appreciation. That means an expansionary policy that will increase output.

Long Question #3

1.   The policy to consider is a current reduction in taxes followed by an increase in taxes tomorrow. If people assume that they will have to pay higher taxes in the future, then the life-cycle and permanent income hypothesis predict that the entire tax cut will be saved, and there will be no effect on current consumption demand, and no effect on output.

       In practice, the responsiveness of consumption to current income is greater than the model would predict (due to myopia, liquidity constraints, etc); so we might expect some responsiveness of the economy to policy, but less than would be the case if the policy were perceived to be permanent.

2.   The policy to consider is a currently low interest rate today, but accompanied by a rise in the interest rate in the future. The first effect to consider is the impact on consumption and investment decisions. Changes in current rates don't affect the PDV of profits or wealth very much, so the IS curve is steep, and shifts in the LM curve have small effects on output. Interest rates being very low suggests there is not much room for shifting the LM curve anyway. The prospect of high future interest rates implies there is not the usual rightward shift in the IS curve to magnify the effect of monetary policy.

       The second effect to consider is a possible effect on exchange rates. If people expect higher interest rates in the future, this implies Ee would be lower. The expected appreciation of the currency allows the low nominal interest rates today. If nominal interest rates are near zero, an increase in the expected appreciation implies that the currency will actually begin to appreciate today, shifting the IS curve to the left.

3.   If the government hands out gift coupons which can be redeemed if used immediately, people might still expect that the revenue to cover the costs must still be raised in the future. This case will then look exactly like part a above. People will use coupons, but cut back on spending out of disposable income in anticipation of future taxes. The same caveats as above should hold.

       One subtle point is that if the amount of the gift coupons is greater than the amount individuals normally spend, then the increase in savings can't be large enough to offset the increase in spending.

4.   This case would also appear to be similar to the above, but since the effect of the tax reduction is to change the relative price of goods (today relative to tomorrow) there is an incentive to purchase goods today then save tomorrow to pay higher future taxes. This policy would be more effective than others.

Extra Credit (up to 5 points):

1.   How can you drive the yen down? Given UIP and the liquidity trap, a further depreciated yen is inconsistent with the absence of expected arbitrage.
2.   If one could successfully depreciate the yen, this would cause a shift out in the IS curve. This increases output and interest rates, and gives monetary policy some breathing room to be effective.