Question 1. Foreign Exchange Markets (30 points)

i) Using the June figures for futures contracts in Table 1-2 of the textbook, compute the approximate 30-day premiums on the Canadian dollar, German mark, Japanese Yen, and British pound. Should these premia be identical to those that would obtain in the forward market for 30-day contracts? Why or why not? (8 points)

ii) Using Table 1-3 in the textbook, describe which Swiss franc options are "in the money" and which are "out of the money". Explain briefly. (8 points).

iii) Using Table 1-3 in the textbook, calculate the intrinsic values of June call options for the British pound and German mark. What factors influence the price (premium) paid for a currency option? (8 points)

iv) Consider the following statement:
"Aggressive traders welcome volatility, or the expectation that sudden price changes are likely in the near future".
For traders of which type of foreign exchange contract do you think that this statement might be true? Why? (6 points)

Question 2. Foreign Exchange Intervention (70 points)

i) a) What is meant by foreign exchange intervention? (3 points)
b) How does a crawling peg exchange rate regime differ from a managed float? (3 points)
c) What is meant by sterilized foreign exchange intervention? (3 points)

ii) a) Illustrate graphically the situation faced by the Mexican Central Bank prior to the peso devaluation. Label and explain your diagram carefully. (6 points)
b) Has Mexico experienced a "currency crisis"? Why or why not? (6 points)

iii) Suppose that the US private sector demand for British pounds can be represented by the following equation:

$$Q^d = 10 - 3e$$

where $Q^d$ represents the quantity demanded of pounds in millions, and $e$ represents the dollar/pound exchange rate. The private sector supply of pounds in millions is given by

$$Q^s = 5 + 2e$$
a) Who supplies pounds? Who demands pounds? (4 points)

b) Suppose that the US and Britain are under a system of flexible exchange rates. What would be the equilibrium exchange rate during this period? How many pounds would be traded? (4 points)

c) Suppose now that the Federal Reserve Bank in the US decides to intervene in the foreign exchange market by purchasing 3 million pounds. What would be the effect of this action on the dollar/pound exchange rate? Derive the numerical answer and illustrate diagramatically. (6 points)

d) How would you characterize the Fed's action in c)? (ie. What might be its objective, what does this tell you about the nature of the regime?) (3 points)

e) Suppose now that the US and Britain are on a fixed exchange rate at which e=2. What would be the Fed's gain or loss of reserves under this regime (assume that the US is the country that undertakes foreign exchange intervention) ? Explain, and illustrate your answer diagramatically. (6 points)

iv) Countries under fixed exchange rates tend to have forward rates that diverge from the pegged value of the currency. (For instance, during the period before the 1976 devaluation of the peso against the dollar, the peso was consistently quoted at a discount on the forward market (i.e. F<e, in dollars per peso). Hence, the term given to this phenomenon is "the peso problem". Yet, the spot rate is fixed by the government commitment to a pegged rate. Does this mean that forward rates are not good predictors of future spot rates under fixed exchange rates? What role do you think forward markets play under fixed exchange rate regimes and how can we interpret forward rates observed? (8 points)

v) a) How would an unexpected devaluation affect a central bank's balance sheet? How would it affect the balance sheets of private institutions who hold foreign assets? Relate your answer to the recent Mexican peso crisis. (10 points)

b) How could the international financial aid package to Mexico (February 1995) be used to support a new fixed exchange rate regime or currency board? (8 points)