Chapter 11 - Money Market Instruments

11-1:

A. The Bank of Arabia credits to Saudi Oil's account $119,350,000.00.
\[
\text{\$119,350,000.00} = (\text{\$60,000 + 2,000,000}) \times \left[1 - \left(0.0325 \times \frac{60}{360}\right)\right]
\]

B. $119,350,000.00

C. We borrow $119,350,000.

D. To borrow $119,350,000 we must reverse out at least $119,648,375. \([\$119,350 \times (1.0025)]\) in Treasuries. The dealer requires a margin to insure against simultaneous default and decrease in the value of the securities held as collateral. If interest rates increase and the value of the treasury securities decline below $119,350,000 then the collateral is no longer sufficient to cover the loan in case of default. The margin (haircut) allows for some movement in the interest rates before this happens.

E. Each 150 day $100,000 T-Bill has a market price of $98,541.67
\[
P = \frac{100,000 \times (1 - 0.0350 \times \frac{150}{360})}{98,541.67} = \frac{\text{\$119,648,375.00}}{\text{\$98,541.67}} = 1,214.19 \quad \Rightarrow \quad 1,215 \times \text{\$98,541.67} = \text{\$119,728,129.10}
\]

F. The repo matures with accrued interest of $621,614.58
\[
X = (\text{\$119,350,000}) \times \left[1 + \left(0.03125 \times \frac{60}{360}\right)\right]
\]
\[
= \text{\$119,350,000} + \text{\$621,614.58}
\]
\[
= \text{\$119,971,614.58}
\]

The 150 day T-Bills are now reversed back in as 90 day T-Bills at a market value of $99,307.50 each.
\[
P = \frac{100,000 \times (1 - 0.0277 \times \frac{90}{360})}{99,307.50} = \text{\$99,307.50}
\]
### Cash Account

<table>
<thead>
<tr>
<th>day 1</th>
<th>Bankers' Acceptance</th>
<th>- $119,350,000.00</th>
<th>Securities Account</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Repo out</td>
<td>+ $119,350,000.00</td>
<td>BA + $119,350,000.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>day 60</th>
<th>B.A. matures</th>
<th>+ $120,000,000.00</th>
<th>Securities Account</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Repo matures</td>
<td>principal interest</td>
<td>- $119,350,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>interest</td>
<td>- $621,614.58</td>
</tr>
</tbody>
</table>

|                | Profit       | + $28,385.42      |

Note that the profit resulting from an increase in the value of the T-Bills accrues to your decision to invest in T-Bills; it has nothing to do with your decision to invest in the Bankers' Acceptance. (You would have earned the same had you kept these T-Bills in your office safe.) Thus the profit on this transaction is $28,385.42.

11-2:

(C) Commercial Paper is issued at less than 270 days to avoid registration with the SEC.

11-3:

(C)

11-4:

(B) Although Eurodollars can finance imports and exports, they are not money-market instruments.

11-5:

(A) The prime rate is the base rate on corporate loans at large US money center commercial banks.

11-6:

(B) The federal funds rate is applied to reserves traded among commercial banks for overnight use in amounts of $1 million or more.

11-7:

(C) The discount rate is the charge on loans to depository institutions by the New York Federal Reserve Bank.

11-8:

(D) The call money rate is the charge on loans to brokers on stock exchange collateral.