CLASSWORK QUESTIONS

1. AXY Ltd. is able to issue commercial paper of ₹ 50,00,000 every 4 months at a rate of 12.5% p.a. The cost of placement of commercial paper issue is ₹ 2,500 per issue. AXY Ltd. is required to maintain line of credit ₹ 1,50,000 in bank balance. The applicable income tax rate for AXY Ltd. is 30%. What is the cost of funds (after taxes) to AXY Ltd. for commercial paper issue? The maturity of commercial paper is four months.

2. Wonderland Limited has excess cash of ₹ 20 lakhs, which it wants to invest in short term marketable securities. Expenses relating to investment will be ₹ 50,000.
    The securities invested will have an annual yield of 9%.
    The company seeks your advice
    (i)   as to the period of investment so as to earn a pre-tax income of 5%.
    (ii) the minimum period for the company to break even its investment expenditure over time value of money.

3. Z Co. Ltd. issued commercial paper worth ₹10 crores as per following details:

Date of issue :	16th January, 2009
Date of maturity:	17th April, 2009
No. of days :	91
Interest rate	12.04% p.a

    What was the net amount received by the company on issue of CP? (Charges of intermediary may be ignored)

4. From the following particulars, calculate the effective interest p.a. as well as the total cost of funds to ABC Ltd., which is planning a CP issue:
    Issue Price of CP = ₹ 97,350
    Face Value = ₹ 1,00,000
    Maturity period = 3 months.
    Issue Expenses:
    Brokerage: 0.125% for 3 months.
    Rating Charges: 0.5% p.a.
    Stamp duty: 0.125% for 3 months

5. Bank A enters into a Repo for 14 days with Bank B in 12% GOI Bonds 2017 at a rate of 5.25% for ₹5 Crore. Assuming that the clean price be 99.42, initial margin be 2% and days of accrued interest be 292, you are required to determine:
    a. Dirty Price
    b. Start Proceeds (First Leg)
    c. Repayment at Maturity (Second Leg)
    Note: Number of days in a year is 360.

HOMEWORK QUESTIONS

1. From the following particulars, calculate the effective rate of interest p.a. as well as the total cost of funds to Bhaskar Ltd., which is planning a CP issue:

Issue Price of CP	₹ 97,550
Face Value	₹ 1,00,000
Maturity Period	3 Months

   Issue Expenses:

Brokerage	0.15% for 3 months
Rating Charges	0.50% p.a.
Stamp Duty	0.175% for 3 months

2. M Ltd. has to make a payment on 30th January, 2010 of Rs. 80 lakhs. It has surplus cash today, i.e. 31st October, 2009; and has decided to invest sufficient cash in a bank's Certificate of Deposit scheme offering an yield of 8% p.a. on simple interest basis. What is the amount to be invested now?

3. RBI sold a 91 day T-bill of face value of ₹ 100 at an yield of 6%. What was the issue price?

HOMEWORK SOLUTIONS

1. Nominal Interest or Bond Equivalent Yield = $\left[\dfrac{F-P}{P}\right] \times \dfrac{12}{M} \times 100$

   Where

   F= Face Vale

   P= Issue Price

   $= \dfrac{1,00,000 - 97,550}{97,550} \times \dfrac{12}{3} \times 100 = 0.025115 \times 4 \times 100 = 10.046 = 10.05\% \ p.a.$

   Effective interest rate = $\left[1 + \dfrac{0.1005}{4}\right]^{4} - 1 = 10.435\% \ p.a.$

   Cost of Funds to the Company

Effective Interest	10.435
Brokerage (0.150 × 4)	0.60%
Rating Charge	0.50%
Stamp duty (0.175 × 4)	0.70%
	12.235

2. **Calculation of Investment Amount**

   Amount required for making payment on 30th January, 2010 = ₹ 80,00,000

   Investment in Certificates of Deposit (CDs) on 31st October, 2009

Rate of interest	= 8% p.a.
No. of days to maturity	= 91 days

   Interest on ₹ 1 of 91 days

   (₹ 1 × 0.08 × 91/365)   = 0.0199452

   Amount to be received for Re. 1

   (₹ 1.00 + ₹ 0.0199452)   = 1.0199452

   Calculation of amount to be invested now to get ₹ 80 lakhs after 91 days:

   $= \dfrac{₹ \ 80,00,000}{₹ \ 1.0199452} = ₹ \ 78,43,558.65$

   Or, ₹ 78,43,600 or ₹ 78,44,000 approximately.

3. Let the issue price be X

   By the terms of the issue of the T-bills:

   $6\% = \dfrac{100 - x}{x} \times \dfrac{365}{91} \times 100$

$$\frac{6 \times 91 \times x}{36,500} = \left(100 - x\right)$$

0.01496 x = 100 – x

$$x = \frac{100}{1.01496} = ₹\ 98.53$$