

## FINANCIAL INSTRUMENTS

## Financial Instruments – Scope &amp; Definitions

## Illustration 1: FVTOCI &amp; ACM

Investment in Debentures – Rs. 1,00,000

Transaction cost – Rs. 2,000

ROI on debentures – 10%

Tenure – 3 years

Effective Interest rate – 9.207%

Pass journal entries.

Solution

| Year | Op. Balance | Interest @ 9.207% | Payment | Closing Balance | FV (Assumed) | Carrying Amount (FVTOCI before Gain) | Gain    |
|------|-------------|-------------------|---------|-----------------|--------------|--------------------------------------|---------|
| 1    | 1,02,000    | 9,391             | 10,000  | 1,01,391        | 1,05,000     | 1,01,391                             | 3,609   |
| 2    | 1,01,391    | 9,335             | 10,000  | 1,00,726        | 1,02,000     | 1,04,335                             | (2,335) |
| 3    | 1,00,726    | 9,274             | 10,000  | 1,00,000        | 1,00,000     | 1,01,274                             | (1,274) |

Carrying Amount for FVTOCI =  
FV at end of Previous Year + Interest – Payment.

Journal Entries

|                  |                         |          | ACM      |          | FVTOCI   |
|------------------|-------------------------|----------|----------|----------|----------|
| <b>Year 1</b>    | Financial Asset Dr.     | 1,02,000 |          | 1,02,000 |          |
|                  | To Bank                 |          | 1,02,000 |          | 1,02,000 |
| <b>End of Y1</b> | Financial Asset Dr.     | 9,391    |          | 9,391    |          |
|                  | To Interest Inc         |          | 9,391    |          | 9,391    |
|                  | (Recognition of Income) |          |          |          |          |
|                  | Bank A/c Dr.            | 10,000   |          | 10,000   |          |
|                  | To Financial Asset      |          | 10,000   |          | 10,000   |
|                  | (Receipt of interest)   |          |          |          |          |
|                  | Financial Asset Dr.     |          |          | 3,609    |          |
|                  | To OCI                  |          |          |          | 3,609    |
|                  | (FV gain)               |          |          |          |          |
| <b>Year 2</b>    | Financial Asset Dr.     | 9,335    |          | 9,335    |          |
|                  | To Interest Inc         |          | 9,335    |          | 9,335    |
|                  | (Recognition of Income) |          |          |          |          |
|                  | Bank A/c Dr.            | 10,000   |          | 10,000   |          |
|                  | To Financial Asset      |          | 10,000   |          | 10,000   |
|                  | (Receipt of interest)   |          |          |          |          |
|                  | OCI Dr.                 |          |          | 2,335    |          |
|                  | To Financial Asset      |          |          |          | 2,335    |
|                  | (FV Loss)               |          |          |          |          |
| <b>Year 3</b>    | Financial Asset Dr.     | 9,274    |          | 9,274    |          |



|  |                                                           |         |         |  |         |         |
|--|-----------------------------------------------------------|---------|---------|--|---------|---------|
|  | To Interest Inc<br>(Recognition of Income)                |         | 9,274   |  |         | 9,274   |
|  |                                                           |         |         |  |         |         |
|  | Bank A/c Dr.                                              | 110,000 |         |  | 110,000 |         |
|  | To Financial Asset<br>(Receipt of interest and principal) |         | 110,000 |  |         | 110,000 |
|  |                                                           |         |         |  |         |         |
|  | OCI Dr.                                                   |         |         |  | 1,274   |         |
|  | To Financial Asset<br>(FV Loss)                           |         |         |  |         | 1,274   |
|  |                                                           |         |         |  |         |         |

## Illustration 2

A Ltd has made a borrowing from RBC Bank for Rs. 10,000 at a fixed interest of 12% per annum. Loan processing fees were additionally paid for Rs. 500 and loan is payable 4 half-yearly instalments of Rs. 2,500 each.

Details are as follows:

|                               |               |
|-------------------------------|---------------|
| Loan amount                   | Rs. 10,000    |
| Date of loan (Starting Date)  | 1-Apr-20X1    |
| Date of loan (Finishing Date) | 31-March-20X3 |

Repayment of loan starts from 30-Sept-20X1 (To be paid half yearly)

|                                                |           |
|------------------------------------------------|-----------|
| Instalment amount                              | Rs. 2,500 |
| Interest rate                                  | 12.00%    |
| Interest to be charged quarterly               |           |
| Upfront fees                                   | Rs. 500   |
| How would loan be accounted in books of A Ltd? |           |

Consider IRR is 16.60% p.a.

### Solution

| Date     | Op bal   | Int @<br>16.6% on<br>Op Bal | Payment  | Closing<br>bal |
|----------|----------|-----------------------------|----------|----------------|
| 1-4-X1   | 9500     |                             |          |                |
| 30-6-X1  | 9500     | 394.25                      | 300.00   | 9594.25        |
| 30-9-X1  | 9594.25  | 398.16                      | 2,800.00 | 7,192.41       |
| 31-12-X1 | 7,192.41 | 298.49                      | 225.00   | 7,265.90       |
| 31-3-X2  | 7,265.90 | 301.53                      | 2,725.00 | 4,842.43       |
| 30-6-x2  | 4,842.43 | 200.96                      | 150.00   | 4,893.39       |
| 30-9-X2  | 4,893.39 | 203.08                      | 2,650.00 | 2,446.47       |
| 31-12-X2 | 2,446.47 | 101.53                      | 75.00    | 2,473.00       |
| 31-3-x3  | 2,473.00 | 102.00                      | 2,575.00 | 0.00           |

Note : Interest has been computed considering 12 months. Alternatively, Interest can also be computed considering number of days out of 365.

| Date   | Opening Balance | Days | Interest @ 16.6% | Payment | Closing Balance |
|--------|-----------------|------|------------------|---------|-----------------|
| 1-4-X1 | ₹9,500.00       | -    | -                | -       | ₹9,500.00       |



|          |           |    |         |           |           |
|----------|-----------|----|---------|-----------|-----------|
| 30-6-X1  | ₹9,500.00 | 90 | ₹388.85 | ₹300.00   | ₹9,588.85 |
| 30-9-X1  | ₹9,588.85 | 92 | ₹401.20 | ₹2,800.00 | ₹7,190.05 |
| 31-12-X1 | ₹7,190.05 | 92 | ₹300.84 | ₹225.00   | ₹7,265.89 |
| 31-3-X2  | ₹7,265.89 | 90 | ₹297.40 | ₹2,725.00 | ₹4,838.29 |
| 30-6-X2  | ₹4,838.29 | 91 | ₹200.24 | ₹150.00   | ₹4,888.53 |
| 30-9-X2  | ₹4,888.53 | 92 | ₹204.53 | ₹2,650.00 | ₹2,443.06 |
| 31-12-X2 | ₹2,443.06 | 92 | ₹102.21 | ₹75.00    | ₹2,470.27 |
| 31-3-X3  | ₹2,470.27 | 91 | ₹102.23 | ₹2,575.00 | ₹(2.50)   |

$\text{Int} = \text{Op bal} \times 16.6\% \times \text{Days}/365$

Students can pass Journal Entries referring to previous illustrations.

### Illustration 3

As part of staff welfare measures, Y Co Ltd. has contracted to lend to its employees sums of money at 5% per annum rate of interest. The amounts lent are to be repaid in five equal instalments for principal along with the interest. The market rate of interest is 10% per annum for comparable loans. Y lent Rs. 1,600,000 to its employees on 1st January 20X1.

Following the principles of recognition and measurement as laid down in Ind AS 109, you are required to record the entries for the year ended 31 December 20X1, for the transaction and also compute the value of loan initially to be recognised and amortised cost for all subsequent years.

For the purpose of calculation, following discount factors at interest rate of 10% per annum may be adopted –  
At the end of year –

| Year | Present value factor |
|------|----------------------|
| 1    | .909                 |
| 2    | .827                 |
| 3    | .751                 |
| 4    | .683                 |
| 5    | .620                 |

### Solution

| Year | Op Bal    | Interest @ 5% | Repayment of Prin. | Total Payment | Closing bal | PVF @ 10%      | PV           |
|------|-----------|---------------|--------------------|---------------|-------------|----------------|--------------|
| 1    | 16,00,000 | 80,000        | 3,20,000           | 4,00,000      | 12,80,000   | 0.909          | 3,63,600     |
| 2    | 12,80,000 | 64,000        | 3,20,000           | 3,84,000      | 9,60,000    | 0.827          | 3,17,568     |
| 3    | 9,60,000  | 48,000        | 3,20,000           | 3,68,000      | 6,40,000    | 0.751          | 2,76,368     |
| 4    | 6,40,000  | 32,000        | 3,20,000           | 3,52,000      | 3,20,000    | 0.683          | 2,40,416     |
| 5    | 3,20,000  | 16,000        | 3,20,000           | 3,36,000      | 0           | 0.620          | 2,08,320     |
|      |           |               |                    |               |             | Total PV       | 14,06,272.00 |
|      |           |               |                    |               |             | Actual loan    | 16,00,000.00 |
|      |           |               |                    |               |             | Diff           | 1,93,728.00  |
|      |           |               |                    |               |             | Term           | 5.00         |
|      |           |               |                    |               |             | Annual expense | 38,746       |



| Year | Op Bal              | Int @ 10%                    | Payment  | Closing bal |           |
|------|---------------------|------------------------------|----------|-------------|-----------|
| 1    | 14,06,272           | 1,40,627.20                  | 4,00,000 | 11,46,899   |           |
| 2    | 11,46,899           | 1,14,689.92                  | 3,84,000 | 8,77,589    |           |
| 3    | 8,77,589            | 87,758.91                    | 3,68,000 | 5,97,348    |           |
| 4    | 5,97,348            | 59,734.80                    | 3,52,000 | 3,05,083    |           |
| 5    | 3,05,083            | 30,917.28                    | 3,36,000 | 0           |           |
|      | Initial Recognition |                              |          |             |           |
|      | 1-Jan-X1            | Financial Asset Dr.          |          | 14,06,272   |           |
|      |                     | Prepaid Employee Cost Dr.    |          | 1,93,728    |           |
|      |                     | To Bank                      |          |             | 16,00,000 |
|      |                     |                              |          |             |           |
|      |                     |                              |          |             |           |
|      | 31-Dec-X1           | Financial Asset Dr.          |          | 1,40,627    |           |
|      |                     | To Interest Income           |          |             | 1,40,627  |
|      |                     |                              |          |             |           |
|      |                     | Bank A/c Dr.                 |          | 4,00,000    |           |
|      |                     | To Financial Asset           |          |             | 4,00,000  |
|      |                     |                              |          |             |           |
|      |                     |                              |          |             |           |
|      |                     | Employee Benefit Expense Dr. |          | 38,746      |           |
|      |                     | To Prepaid Employee Cost     |          |             | 38,746    |
|      |                     |                              |          |             |           |

#### Illustration 4

A Ltd. issued redeemable preference shares to a Holding Company – Z Ltd. The terms of the instrument have been summarized below. Account for this in the books of Z Ltd.

|                                    |                                             |
|------------------------------------|---------------------------------------------|
| Nature :                           | Non-cumulative redeemable preference shares |
| Repayment:                         | Redeemable after 5 years                    |
| Date of Allotment:                 | 1-Apr-20X1                                  |
| Date of repayment:                 | 31-Mar-20X6                                 |
| Total period:                      | 5.00 years                                  |
| Value of preference shares issued: | 100,000,000                                 |
| Dividend rate                      | 0.0001%                                     |
| Market rate of interest            | 12% per annum                               |
| Present value factor               | 0.56743                                     |

#### Solution

PV of 100,000,000 at 12% =  $0.56743 \times 100,000,000$   
= 56,743,000

Liability Component = Rs. 56,743,000



Equity Component = Rs. 43,257,000

#### In the books of Z Ltd

Investment in A Ltd (Pref Shares) Dr. 56,743,000  
 Investment in A Ltd (Equity) Dr. 42,257,000  
     To Cash 100,000,000

#### In the books of A Ltd

Cash Dr. Rs. 100,000,000  
     To Financial Liability Rs 56,743,000  
     To Equity Rs. 42,257,000

#### Illustration 5

Wheel Co. Limited has a policy of providing subsidized loans to its employees for the purpose of buying or building houses. Mr. X, who's executive assistant to the CEO of Wheel Co. Limited, took a loan from the Company on the following terms:

- Principal amount: 1,000,000
- Interest rate: 4% for the first 400,000 and 7% for the next 600,000
- Start date: 1 January 20X1
- Tenure: 5 years
- Pre-payment: Full or partial pre-payment at the option of the employee
- The principal amount of loan shall be recovered in 5 equal annual instalments and will be first applied to 7% interest bearing principal
- The accrued interest shall be paid on an annual basis
- Mr. X must remain in service till the term of the loan ends

The market rate of a comparable loan available to Mr. X, is 12% per annum.

Mr. X, pre-pays Rs. 200,000 on 31 December 20X2, reducing the outstanding principal as at that date to Rs. 400,000. Record journal entries in the books of Wheel Co. Limited considering the requirements of Ind AS 109.

| Year | Op bal    | Loan @ 4% | Loan @ 7% | Int @ 4%  | Int @ 7% | Repayment - Pri | Repayment Int | Total CF |
|------|-----------|-----------|-----------|-----------|----------|-----------------|---------------|----------|
| 1    | 10,00,000 | 4,00,000  | 6,00,000  | 16,000    | 42,000   | 2,00,000        | 58,000        | 2,58,000 |
| 2    | 8,00,000  | 4,00,000  | 4,00,000  | 16,000    | 28,000   | 2,00,000        | 44,000        | 2,44,000 |
| 3    | 6,00,000  | 4,00,000  | 2,00,000  | 16,000    | 14,000   | 2,00,000        | 30,000        | 2,30,000 |
| 4    | 4,00,000  | 4,00,000  | -         | 16,000    | 0        | 2,00,000        | 16,000        | 2,16,000 |
| 5    | 2,00,000  | 2,00,000  | -         | 8,000     | 0        | 2,00,000        | 8,000         | 2,08,000 |
| Year | Principal | Int       | Total     | PVF @ 12% | PV       |                 |               |          |
| 1    | 2,00,000  | 58,000    | 2,58,000  | 0.8929    | 2,30,368 |                 |               |          |
| 2    | 2,00,000  | 44,000    | 2,44,000  | 0.7972    | 1,94,517 |                 |               |          |
| 3    | 2,00,000  | 30,000    | 2,30,000  | 0.7118    | 1,63,714 |                 |               |          |



|      |          |           |             |             |           |                       |  |  |
|------|----------|-----------|-------------|-------------|-----------|-----------------------|--|--|
| 4    | 2,00,000 | 16,000    | 2,16,000    | 0.6355      | 1,37,268  |                       |  |  |
| 5    | 2,00,000 | 8,000     | 2,08,000    | 0.5674      | 1,18,019  |                       |  |  |
|      |          |           | Total       |             | 8,43,886  |                       |  |  |
|      |          |           | Loan amount |             | 10,00,000 |                       |  |  |
|      |          |           | Excess      |             | 1,56,114  | Prepaid employee cost |  |  |
| Year | Op bal   | Int @ 12% | Payment     | Closing bal |           |                       |  |  |
| 1    | 8,43,886 | 1,01,266  | 2,58,000    | 6,87,153    |           |                       |  |  |
| 2    | 6,87,153 | 82,458    | 2,44,000    | 5,25,611    |           |                       |  |  |
| 3    | 5,25,611 | 63,073    | 2,30,000    | 3,58,684    |           |                       |  |  |
| 4    | 3,58,684 | 43,042    | 2,16,000    | 1,85,726    |           |                       |  |  |
| 5    | 1,85,726 | 22,274    | 2,08,000    | 0           |           |                       |  |  |
|      |          |           |             |             |           |                       |  |  |
|      |          |           |             |             |           |                       |  |  |

|                 |           |                          |  |          |           |
|-----------------|-----------|--------------------------|--|----------|-----------|
| Journal Entries |           |                          |  |          |           |
|                 | 1-Jan-X1  |                          |  |          |           |
|                 |           | Financial Asset DR.      |  | 8,43,886 |           |
|                 |           | Prepaid employee cost    |  | 1,56,114 |           |
|                 |           | To Bank                  |  |          | 10,00,000 |
|                 |           |                          |  |          |           |
|                 | 31-Dec-X1 | Financial Asset Dr.      |  | 1,01,266 |           |
|                 |           | To Interest Income       |  |          | 1,01,266  |
|                 |           |                          |  |          |           |
|                 |           | Bank A/c Dr              |  | 2,58,000 |           |
|                 |           | To Financial Asset       |  |          | 2,58,000  |
|                 |           |                          |  |          |           |
|                 |           | Employee Cost Dr.        |  | 31,223   |           |
|                 |           | To Prepaid Employee Cost |  |          | 31,223    |
|                 |           |                          |  |          |           |
|                 | 31-Dec-X2 | Financial Asset Dr.      |  | 82,458   |           |



|  |  |                          |  |          |          |
|--|--|--------------------------|--|----------|----------|
|  |  | To Interest Income       |  |          | 82,458   |
|  |  |                          |  |          |          |
|  |  | Bank A/c Dr              |  | 2,44,000 |          |
|  |  | To Financial Asset       |  |          | 2,44,000 |
|  |  |                          |  |          |          |
|  |  |                          |  |          |          |
|  |  | Employee Cost Dr.        |  | 31,223   |          |
|  |  | To Prepaid Employee Cost |  |          | 31,223   |

| Determine the FV of loan at 12% on 31st Dec X2 |          |           |           |          |          |                 |               |          |
|------------------------------------------------|----------|-----------|-----------|----------|----------|-----------------|---------------|----------|
| Year                                           | Op bal   | Loan @ 4% | Loan @ 7% | Int @ 4% | Int @ 7% | Repayment - Pri | Repayment Int | Total CF |
| 3                                              | 4,00,000 | 4,00,000  | -         | 16,000   | 0        | 2,00,000        | 16,000        | 2,16,000 |
| 4                                              | 2,00,000 | 2,00,000  | -         | 8,000    | 0        | 2,00,000        | 8,000         | 2,08,000 |

| Year | Cashflow             | PVF     | PV       |                              |  |
|------|----------------------|---------|----------|------------------------------|--|
| 3    | 2,16,000             | 0.89290 | 1,92,866 |                              |  |
| 4    | 2,08,000             | 0.79720 | 1,65,818 |                              |  |
|      |                      |         | 3,58,684 | FV of loan after prepayment  |  |
|      |                      |         | 5,25,611 | Carrying amount              |  |
|      |                      |         | 1,66,927 | Reduction in carrying amount |  |
|      | Total Amount paid    |         | 2,00,000 |                              |  |
|      | Difference           |         | 33,073   | Reduction of prepaid cost    |  |
|      |                      |         |          |                              |  |
|      | Prepayment entry     |         |          |                              |  |
|      | Bank A/c Dr          |         | 2,00,000 |                              |  |
|      | To Financial Asset   |         |          | 1,66,927                     |  |
|      | To Prepaid Emp. Cost |         |          | 33,073                       |  |
|      |                      |         |          |                              |  |

| Revised amortisation schedule |        |           |         |             |
|-------------------------------|--------|-----------|---------|-------------|
| Year                          | Op bal | Int @ 12% | Payment | Closing bal |



|   |                          |        |          |          |
|---|--------------------------|--------|----------|----------|
| 3 | 3,58,684                 | 43,042 | 2,16,000 | 1,85,726 |
| 4 | 1,85,726                 | 22,274 | 2,08,000 | 0        |
|   | Year 3 Entries           |        |          |          |
|   | Financial Asset Dr.      |        | 43,042   |          |
|   | To Interest Income       |        |          | 43,042   |
|   | Bank A/c Dr              |        | 2,16,000 |          |
|   | To Financial Asset       |        |          | 2,16,000 |
|   | Employee Cost Dr.        |        | 30,298   |          |
|   | To Prepaid Employee Cost |        |          | 30,298   |

|                             |  |          |
|-----------------------------|--|----------|
| WN Prepaid balance          |  |          |
| Initial recognition         |  | 1,56,114 |
| Written off in 2 years      |  | 62,446   |
| Closing balance on 31-12-X2 |  | 93,668   |
| Adjustment                  |  | 33,073   |
| Closing balance on 31-12-X2 |  | 60,595   |
| Amortisation                |  | 30,298   |

## 6. Illustration

A Ltd has made a security deposit for lease whose details are described below. Make necessary journal entries for accounting of the deposit in the first year and last year. Assume market interest rate for a deposit for similar period to be 12% per annum.

|                                           |             |
|-------------------------------------------|-------------|
| Date of Security Deposit (Starting Date)  | 1-Apr-20X1  |
| Date of Security Deposit (Finishing Date) | 31-Mar-20X6 |
| Total Lease Period                        | 5 years     |
| Discount rate                             | 12.00%      |
| Security deposit (A)                      | 10,00,000   |

Present value factor at the 5th year      0.567427

### Solution

The above security deposit is an interest free deposit redeemable at the end of lease term for Rs. 10,00,000. Hence, this involves collection of contractual cash flows and shall be accounted at amortised cost.

|                   |              |
|-------------------|--------------|
| Amount of deposit | 10,00,000.00 |
|-------------------|--------------|



|                                                                                    |             |
|------------------------------------------------------------------------------------|-------------|
| <b>PV of deposit which will be repaid after 5 years<br/>(10,00,000 x 0.567427)</b> | 5,67,427.00 |
| <b>Excess amount over FV</b>                                                       | 4,32,573.00 |
|                                                                                    |             |

Present value of deposit is recognised as an asset and accounted for using amortised cost method. The excess amount over fair value of deposit is recognised as a prepaid lease rent of ROU Asset and amortised over the life of the asset.

#### Deposit Amortisation schedule

| Year | Op Bal      | Int @ 12%   | Closing bal  | Amortisation of ROU Asset |
|------|-------------|-------------|--------------|---------------------------|
| 1    | 5,67,427.00 | 68,091.24   | 6,35,518.24  | 86,515                    |
| 2    | 6,35,518.24 | 76,262.19   | 7,11,780.43  | 86,515                    |
| 3    | 7,11,780.43 | 85,413.65   | 7,97,194.08  | 86,515                    |
| 4    | 7,97,194.08 | 95,663.29   | 8,92,857.37  | 86,515                    |
| 5    | 8,92,857.37 | 1,07,142.88 | 10,00,000.25 | 86,515                    |
|      |             | 4,32,573    |              |                           |

| Year 1 Journal Entries                 |  |             |              |
|----------------------------------------|--|-------------|--------------|
| Initial Recognition                    |  |             |              |
| Security Deposit (Financial Asset) Dr. |  | 5,67,427.00 |              |
| ROU Asset                              |  | 4,32,573.00 |              |
| To Bank                                |  |             | 10,00,000.00 |
| End of Year 1                          |  |             |              |
| Security Deposit (Financial Asset) Dr. |  | 68,091.24   |              |
| To Interest Income                     |  |             | 68,091.24    |
| Interest Income Dr.                    |  | 68,091.24   |              |
| To Profit & Loss                       |  |             | 68,091.24    |
| Amortisation - ROU Asset               |  | 86,514.60   |              |
| To ROU Asset                           |  |             | 86,514.60    |
| Profit & Loss Dr.                      |  | 86,514.60   |              |
| To Amortisation ROU Asset              |  |             | 86,514.60    |
| Journal Entries for Last Year          |  |             |              |
| Security Deposit (Financial Asset) Dr. |  | 1,07,142.88 |              |
| To Interest Income                     |  |             | 1,07,142.88  |
| Amortisation - ROU Asset               |  | 86,514.60   |              |



|                          |  |              |              |
|--------------------------|--|--------------|--------------|
| To ROU Asset             |  |              | 86,514.60    |
|                          |  |              |              |
| Bank Dr.                 |  | 10,00,000.00 |              |
| To Security Deposit (FA) |  |              | 10,00,000.00 |

## 7. Illustration

**Optionally Convertible Debentures – Rs. 20,00,000**

**Coupon – 6%**

**Tenure – 3 Years**

**Rate without conversion option – 9%**

**Transaction cost incurred. -Rs. 1,00,000**

**Conversion option – 1,000 shares**

**Compute the amount of Financial Liability and Equity**

|                                   | No Trans.<br>Cost | Transaction<br>cost | Net<br>Amount    |
|-----------------------------------|-------------------|---------------------|------------------|
| <b>Total FV Of compound FI</b>    | <b>20,00,000</b>  | <b>1,00,000</b>     | <b>19,00,000</b> |
| <b>Less: FV of financial liab</b> | <b>18,48,156</b>  | <b>92,408</b>       | <b>17,55,748</b> |
| <b>Value of equity</b>            | <b>1,51,844</b>   | <b>7,592</b>        | <b>1,44,252</b>  |

Transaction cost is allocated to equity & FL in the proportion of their respective values.

Transaction cost allocated to FL =  $1,00,000 \times 1,848,156/2,000,000$

|                                |                |                  |
|--------------------------------|----------------|------------------|
| <b>Dr. Bank</b>                | <b>1900000</b> |                  |
| <b>Cr. Financial Liability</b> |                | <b>17,55,748</b> |
| <b>Cr. Equity</b>              |                | <b>1,44,252</b>  |

Effective interest rate on FL of Rs. 17,55,748 is calculated using the IRR method. IRR works out to 10.9973%

(Hint for calculation – Inflow is Rs. 17,55,748 and outflows are 1,20,000 of interest for first three years and principal of Rs. 20,00,000 at the end of three year)

| Year     | Op bal           | Int @<br>10.9973% | Pay                | Closing<br>bal   |
|----------|------------------|-------------------|--------------------|------------------|
| <b>1</b> | <b>17,55,748</b> | <b>1,93,085</b>   | <b>1,20,000.00</b> | <b>18,28,833</b> |
| <b>2</b> | <b>18,28,833</b> | <b>2,01,122</b>   | <b>1,20,000.00</b> | <b>19,09,955</b> |
| <b>3</b> | <b>19,09,955</b> | <b>2,10,044</b>   | <b>1,20,000.00</b> | <b>19,99,999</b> |

**At the end of three years**

|                  |                                |                  |                     |
|------------------|--------------------------------|------------------|---------------------|
| <b>Repaid</b>    | <b>Dr. Financial Liability</b> | <b>20,00,000</b> |                     |
|                  | <b>Cr. Bank</b>                |                  | <b>20,00,000.00</b> |
| <b>Converted</b> | <b>Dr. Financial Liability</b> | <b>20,00,000</b> |                     |
|                  | <b>Dr Equity</b>               | <b>1,44,252</b>  |                     |



|  |                                   |                  |
|--|-----------------------------------|------------------|
|  | <b>Cr. Share Capital &amp; SP</b> | <b>21,44,252</b> |
|--|-----------------------------------|------------------|

### 8. Illustration

D Ltd. issues preference shares to G Ltd. for a consideration of Rs. 10 lakhs. The holder has an option to convert these preference shares to a fixed number of equity instruments of the issuer anytime up to a period of 3 years. If the option is not exercised by the holder, the preference shares are redeemed at the end of 3 years. The preference shares carry a coupon of RBI base rate plus 1% p.a. and is payable at the end of every year.

The prevailing market rate for similar preference shares, without the conversion feature or issuer's redemption option, is RBI base rate plus 4% p.a. On the date of contract, RBI base rate is 9% p.a.

Calculate the value of the liability and equity components.

#### Solution

|                                                 |                     |                  |               |                    |
|-------------------------------------------------|---------------------|------------------|---------------|--------------------|
| <b>Coupon</b>                                   |                     | <b>10%</b>       |               |                    |
| <b>Rate without conv/redem</b>                  |                     | 13%              |               |                    |
| <b>Total value of compound instrument</b>       |                     | 10,00,000.00     |               |                    |
|                                                 |                     |                  |               |                    |
| <b>Annual dividend payable</b>                  |                     | 1,00,000.00      |               |                    |
| <b>PV of dividend at 13% for 3 years</b>        |                     | 1,00,000.00      | x 2.3611      | 2,36,110.00        |
| <b>PV of principal at 13% at end of 3 years</b> |                     | 10,00,000.00     | x 0.6930      | 6,93,000.00        |
|                                                 |                     | Fair value of FL |               | 9,29,110.00        |
|                                                 |                     | Equity           |               | 70,890.00          |
| <b>Year</b>                                     | <b>Op bal of FL</b> | <b>Int @ 13%</b> | <b>Payout</b> | <b>Closing bal</b> |
| <b>1</b>                                        | 9,29,110            | 1,20,784.30      | 1,00,000.00   | 9,49,894           |
| <b>2</b>                                        | 9,49,894            | 1,23,486.26      | 1,00,000.00   | 9,73,381           |
| <b>3</b>                                        | 9,73,381            | 1,26,619.47      | 11,00,000.00  | 0                  |

### 9. Illustration

ABC Company issued 10,000 compulsory cumulative convertible preference shares (CCCPS) as on 1 April 20X1 @ Rs. 150 each. The rate of dividend is 10% payable every year. The preference shares are convertible into 5,000 equity shares of the company at the end of 5th year from the date of allotment. When the CCCPS are issued, the prevailing market interest rate for similar debt without conversion options is 15% per annum. Transaction cost on the date of issuance is 2% of the value of the proceeds.

Key terms:

|                                    |             |
|------------------------------------|-------------|
| Date of Allotment                  | 01-Apr-20X1 |
| Date of Conversion                 | 01-Apr-20X6 |
| Number of Preference Shares        | 10,000      |
| Face Value of Preference Shares    | 150         |
| Total Proceeds                     | 15,00,000   |
| Rate of dividend                   | 10%         |
| Market Rate for Similar Instrument | 15%         |
| Transaction Cost                   | 30,000      |
| Face value after conversion        | 10          |
| Effective interest rate            | 15.86%      |

#### Solution



|                                |                             |                                |                        |             |             |
|--------------------------------|-----------------------------|--------------------------------|------------------------|-------------|-------------|
| <b>FV of Preference shares</b> |                             | <b>15,00,000.00</b>            |                        |             |             |
| <b>Coupon</b>                  |                             | 10%                            |                        |             |             |
| <b>Annual dividend</b>         |                             | 1,50,000.00                    | Liability stream       |             |             |
| <b>Market rate of int</b>      |                             | 15%                            |                        |             |             |
| <b>PV of Liab</b>              |                             | 1,50,000 x PVAF (15%, 5 years) |                        |             |             |
|                                |                             | 1,50,000 x 3.3522              |                        |             |             |
|                                |                             |                                | Less: Transaction cost | net Amount  |             |
|                                | Fair value of FL            | 5,02,830.00                    | 10,056.60              |             | 4,92,773.40 |
|                                | Equity                      | 9,97,170.00                    | 19,943.40              |             | 9,77,226.60 |
|                                |                             |                                |                        |             |             |
| <b>Year</b>                    | Op bal of FL                | Int @ 15.86%                   | Payout                 | Closing bal |             |
| <b>1</b>                       | 4,92,773                    | 78,153.86                      | 1,50,000.00            | 4,20,927    |             |
| <b>2</b>                       | 4,20,927                    | 66,759.06                      | 1,50,000.00            | 3,37,686    |             |
| <b>3</b>                       | 3,37,686                    | 53,557.05                      | 1,50,000.00            | 2,41,243    |             |
| <b>4</b>                       | 2,41,243                    | 38,261.20                      | 1,50,000.00            | 1,29,505    |             |
| <b>5</b>                       | 1,29,505                    | 20,495.43                      | 1,50,000.00            | 0           |             |
|                                |                             | (bal figure)                   |                        |             |             |
|                                |                             |                                |                        |             |             |
|                                |                             |                                |                        |             |             |
| <b>Journal entries</b>         |                             |                                |                        |             |             |
| <b>1-Apr-X1</b>                | Bank Dr.                    | 14,70,000                      |                        |             |             |
|                                | To Financial Liability (PS) |                                | 4,92,773               |             |             |
|                                | To equity (PS)              |                                | 9,77,227               |             |             |
|                                | -                           |                                |                        |             |             |
| <b>31-Mar-x2</b>               | Interest Expense Dr.        | 78,153.86                      |                        |             |             |
|                                | To Financial Liability (PS) |                                | 78,153.86              |             |             |
|                                |                             |                                |                        |             |             |
|                                | Financial Liability (PS)    | 150000                         |                        |             |             |
|                                | To Bank                     |                                | 150000                 |             |             |
|                                |                             |                                |                        |             |             |
|                                |                             |                                |                        |             |             |
| <b>01-Apr-X6</b>               | Conversion                  |                                |                        |             |             |
|                                | No of equity shares         | 5,000                          |                        |             |             |
|                                | Face value                  | 50,000.00                      |                        |             |             |
|                                | Total Equity                | 9,77,226.60                    |                        |             |             |
|                                | Securities premium          | 9,27,226.60                    |                        |             |             |
|                                |                             |                                |                        |             |             |
|                                |                             |                                |                        |             |             |



|  |                             |             |             |  |  |
|--|-----------------------------|-------------|-------------|--|--|
|  |                             |             |             |  |  |
|  | <u>Entry for conversion</u> |             |             |  |  |
|  | Equity (PS). Dr.            | 9,77,226.60 |             |  |  |
|  | To Equity share cap         |             | 50,000.00   |  |  |
|  | To Securities Premium       |             | 9,27,226.60 |  |  |

### 10. Illustration

K Ltd. issued 500,000, 6% convertible debentures @ Rs. 10 each on 01 April 20X1. The debentures are due for redemption on 31 March 20X5 at a premium of 10%, convertible into equity shares to the extent of 50% and balance to be settled in cash to the debenture holders. The interest rate on equivalent debentures without conversion rights was 10%.

You are required to separate the debt and equity components at the time of issue and show the accounting entries in Company's books at initial recognition. The following present values of Re 1 at 6% and at 10% are provided:

| Interest rate | Year 1 | Year 2 | Year 3 | Year 4 |
|---------------|--------|--------|--------|--------|
| 6%            | 0.94   | 0.89   | 0.84   | 0.79   |
| 10%           | 0.91   | 0.83   | 0.75   | 0.68   |

### Solution

| Calculation of FV of Financial Liability            |  |                                   |           |              |
|-----------------------------------------------------|--|-----------------------------------|-----------|--------------|
|                                                     |  |                                   |           |              |
| Present value of principal to be paid after 4 years |  | 50,00,000 x 50% x 1.1 x 0.68      |           | 18,70,000    |
| PV of interest payments discounted at 10%           |  | 300,000 x PVAF(10%, 4 years)      |           | 951,000      |
|                                                     |  | Fair value of liability           |           | 28,21,000    |
|                                                     |  | Fair value of compound instrument |           | 50,00,000.00 |
|                                                     |  | Equity                            |           | 21,79,000    |
|                                                     |  |                                   |           |              |
| Bank A/c Dr.                                        |  | 50,00,000                         |           |              |
| To Debentures (FL)                                  |  |                                   | 28,21,000 |              |
| To Debentures (Equity)                              |  |                                   | 21,79,000 |              |

### 11. Illustration

X Ltd. issues Rs. 1.5 crore convertible bonds on 1st April, 2018. The bonds have a life of 8 years and a face value of Rs. 10 each and offer interest @ 5.5% p.a. payable at the end of each financial year.

Bonds are issued at their face value and each bond can be converted into one ordinary share of X Ltd. at any time in the next eight years.

Companies of a similar risk profile have recently issued debt with similar terms, without the option for conversion, at a rate of 7% p.a.

You are required to:

- Provide the journal entries from financial year 2018-2019 to financial year 2021-2022;
- Calculate the interest expenses across all eight years of the life of the convertible bonds;



(iii) Give the accounting entries if the holders of the bonds elect to convert the bonds to ordinary shares at the end of the fourth year (after receiving interest for the fourth year).

(14 Marks)

**Solution**

|                                                                 |                             |                                   |             |                |
|-----------------------------------------------------------------|-----------------------------|-----------------------------------|-------------|----------------|
| Face value of Debentures Convertible                            | 1,50,00,000.00              |                                   |             |                |
| Coupon 5.5% - Interest payable annually                         | 8,25,000.00                 |                                   |             |                |
| Applicable discount rate - Market rate                          | 7%                          |                                   |             |                |
| <b>Step - 1 Determine the fair value of Financial Liability</b> |                             |                                   |             |                |
| PV of Interest payments discounted at 7% for 8 years            | 8,25,000 x PVAF(7%,8 Years) |                                   |             |                |
|                                                                 |                             | 8,25,000 x 5.971                  |             | 49,26,075.00   |
| PV of principal payment at end of 8th year                      | 1,50,00,000 x 0.582         |                                   |             |                |
|                                                                 |                             |                                   |             | 87,30,000.00   |
|                                                                 |                             | Fair value of Financial Liability |             | 1,36,56,075.00 |
|                                                                 |                             | Total FV of Comp Instrument       |             | 1,50,00,000.00 |
|                                                                 |                             | Value of equity                   |             | 13,43,925.00   |
| <b>Interest schedule for 8 years</b>                            |                             |                                   |             |                |
| Yr ended 31 Mar                                                 | Op bal                      | Int @ 7%                          | Payout      | Closing bal    |
| 2019                                                            | 1,36,56,075                 | 9,55,925.25                       | 8,25,000.00 | 1,37,87,000    |
| 2020                                                            | 1,37,87,000                 | 9,65,090.02                       | 8,25,000.00 | 1,39,27,090    |
| 2021                                                            | 1,39,27,090                 | 9,74,896.32                       | 8,25,000.00 | 1,40,76,987    |
| 2022                                                            | 1,40,76,987                 | 9,85,389.06                       | 8,25,000.00 | 1,42,37,376    |
| 2023                                                            | 1,42,37,376                 | 9,96,616.30                       | 8,25,000.00 | 1,44,08,992    |
| 2024                                                            | 1,44,08,992                 | 10,08,629.44                      | 8,25,000.00 | 1,45,92,621    |
| 2025                                                            | 1,45,92,621                 | 10,21,483.50                      | 8,25,000.00 | 1,47,89,105    |
| 2026                                                            | 1,47,89,105                 | 10,35,895.34                      | 8,25,000.00 | 1,50,00,000    |

|                 |                                                                        |  |             |             |
|-----------------|------------------------------------------------------------------------|--|-------------|-------------|
| Journal entries | 1st Apr 2018                                                           |  |             |             |
| 2018-19         | Bank A/c Dr.                                                           |  | 1,50,00,000 |             |
|                 | To Conv. Debentures (Fin. Liab)                                        |  |             | 1,36,56,075 |
|                 | To Conv. Debentures (equity)                                           |  |             | 13,43,925   |
|                 | (Being recognition of Fin liab and equity on issue of conv debentures) |  |             |             |



|                      |                                       |             |                |
|----------------------|---------------------------------------|-------------|----------------|
|                      |                                       |             |                |
| <b>31-Mar-19</b>     | Interest Expense Dr.                  | 9,55,925    |                |
|                      | To Conv. Debentures (Fin. Liab)       |             | 9,55,925       |
|                      | (Being interest expense recognised)   |             |                |
|                      |                                       |             |                |
| <b>31-Mar-19</b>     | Conv. Debentures (Fin Liab)           | 8,25,000    |                |
|                      | To Bank                               |             | 8,25,000       |
|                      | (Being annual coupon paid)            |             |                |
|                      |                                       |             |                |
|                      |                                       |             |                |
| <b>31-Mar-20</b>     | Interest Expense Dr.                  | 9,65,090    |                |
|                      | To Conv. Debentures (Fin. Liab)       |             | 9,65,090       |
|                      | (Being interest expense recognised)   |             |                |
|                      |                                       |             |                |
| <b>31-Mar-20</b>     | Conv. Debentures (Fin Liab)           | 8,25,000    |                |
|                      | To Bank                               |             | 8,25,000       |
|                      | (Being annual coupon paid)            |             |                |
|                      |                                       |             |                |
|                      |                                       |             |                |
| <b>If conversion</b> | at end of fourth year                 |             |                |
|                      | Conv. Debentures (Fin Liab) Dr.       | 1,42,37,376 |                |
|                      | Conv. Debentures (equity) Dr.         | 13,43,925   |                |
|                      | To Equity share capital &SP           |             | 1,55,81,300.65 |
|                      | (Being conversion into equity shares) |             |                |

## 12. Illustration

Power-tech Limited issued 50,000, 5-year, 6% convertible debentures on April 1, 2023. The debentures have a face value of ₹ 100 each.

The terms of the debentures are as follows :

- (i) Total Face Value : ₹ 50,00,000
- (ii) Coupon Rate is 6% per annum which is payable annually on March 31.
- (iii) Conversion Option : At the maturity date (March 31, 2028), the debenture holder has the option to convert the debentures into 10 equity shares of Power-tech Limited per debenture.



(iv) **Prepayment Option (Put Option)** : The debenture holder has the right to demand early repayment of the debentures at the end of the third year (i.e., on March 31, 2026). The prepayment amount will be at a premium of 5% on the face value.

(v) **Market Interest Rate** : The effective market interest rate for a similar non-convertible debenture is 10% per annum.

Required :

(i) Analyse the nature of instrument and determine whether it contains a liability and an equity component as per Ind AS 32.

(ii) Compute the value of the liability component and the equity component on the date of issue (April 1, 2023) and pass necessary journal entry to record the issue of the debentures.

(iii) Assume the debenture holders exercise the prepayment option on March 31, 2026. Pass the necessary journal entry to record the de-recognition of the financial liability and the treatment of the equity component. Show your workings for any gain or loss.

(Present value of an annuity of ₹ 1 for three years @ 10% is 2.4869 and present value of ₹ 1 for 3 years @ 10% is 0.7513)

### 1.1 (i) Nature of Instrument

An instrument that (a) creates a financial liability of the entity, and (b) grants the holder an option to convert it into a fixed number of the entity's ordinary shares, is a compound financial instrument. It comprises two components – a financial liability (obligation to deliver cash) and an equity instrument (the conversion option granted to the holder).

In the current case, the holder has a prepayment option (a put option as well) Hence, the debentures are COMPOUND FINANCIAL INSTRUMENTS containing:

- A FINANCIAL LIABILITY component – the issuer's obligation to pay coupon (6% p.a.) and principal.
- A PUT OPTION (Prepayment Option) giving holders the right to demand repayment at Year 3 at 5% premium.
- An EQUITY COMPONENT (Conversion Option) – the right to convert into 10 equity shares per debenture at maturity (Year 5).

### (ii) Bifurcation – Liability and Equity Components on 1st April 2023

Since the holder can demand early repayment at Year 3, the entity does not have an unconditional right to avoid payment at end of year 3. Hence, the instrument is treated as a 3-year liability (to Year 3, the earliest exercise date of the put option), and the conversion option represents the equity component. The liability is discounted at the market rate of 10% for non-convertible instruments.

As per Ind AS 32, the value of any derivative features (such as a call option, prepayment feature) embedded in the compound financial instrument other than the equity component (such as an equity conversion option) is included in the liability component.

Cash flows to Year 3 (earliest exercise date of put option):

| Year | Nature of Payment                                         | Amount (₹)    | PV Factors @ 10% | Present Value (₹) |
|------|-----------------------------------------------------------|---------------|------------------|-------------------|
| 1-3  | Annual Coupon Interest (6% x ₹50,00,000 = ₹3,00,000 p.a.) | 3,00,000 p.a. | 2.4869           | 7,46,070          |



|          |                                             |           |        |                  |
|----------|---------------------------------------------|-----------|--------|------------------|
| <b>3</b> | Redemption Amount including 5% premium      | 52,50,000 | 0.7513 | 39,44,325        |
|          | <b>Total Liability Component</b>            |           |        | <b>46,90,395</b> |
|          | Total Issue Proceeds                        |           |        | 50,00,000        |
|          | <b>Equity Component (Conversion Option)</b> |           |        | <b>3,09,605</b>  |

Journal Entry on 1st April 2023 (Issue of Debentures):

| Account                                                                                                     | Dr (₹)    | Cr (₹)    |
|-------------------------------------------------------------------------------------------------------------|-----------|-----------|
| Bank A/c Dr.                                                                                                | 50,00,000 |           |
| To Financial Liability (Debentures) A/c                                                                     |           | 46,90,395 |
| To Equity                                                                                                   |           | 3,09,605  |
| [Being 50,000 convertible debentures issued; bifurcated into liability and equity components per Ind AS 32] |           |           |

(iii) Amortization Schedule (Effective Interest Method @ 10%)

| Year        | Opening Balance (₹) | Interest @ 10% (₹) | Coupon Paid 6% (₹) | Closing Balance (₹) |
|-------------|---------------------|--------------------|--------------------|---------------------|
| 1 (2023–24) | 46,90,395           | 4,69,040           | 3,00,000           | 48,59,435           |
| 2 (2024–25) | 48,59,435           | 4,85,944           | 3,00,000           | 50,45,379           |
| 3 (2025–26) | 50,45,379           | 5,04,621           | 3,00,000           | 52,50,000           |

Journal Entry on 31st March 2026 – Put Option Exercised:

| Account                                                                  | Dr (₹)    | Cr (₹)    |
|--------------------------------------------------------------------------|-----------|-----------|
| Financial Liability (Debentures) A/c Dr.                                 | 52,50,000 |           |
| To Bank A/c                                                              |           | 52,50,000 |
| [Being: repayment of debentures at 5% premium on exercise of put option] |           |           |

| Account                                                                                     | Dr (₹)   | Cr (₹)   |
|---------------------------------------------------------------------------------------------|----------|----------|
| Equity A/c Dr.                                                                              | 3,09,605 |          |
| To Retained Earnings A/c                                                                    |          | 3,09,605 |
| [Being equity component transferred to retained earnings on derecognition of the liability] |          |          |

## Derivatives

### 13. Illustration

Entity PQR borrows Rs. 100 crores from CFDH Bank on 1 April 20X1. Interest is payable at 12% p.a. and there is a bullet repayment of principal at the end of the term. Term of the loan is 6 years.

The loan includes an option to prepay the loan at 1st April each year with a prepayment penalty of 3%. There are no transaction costs. Without the prepayment option, the interest rate quoted by bank is 11% p.a.



## Solution

**Identify the host contract and embedded derivative, if any**

In the given case,

- Host is a debt instrument comprising annual interest payment at 12% p.a. and bullet principal repayment at the end of 6 years.
- Option to prepay the debt at INR 103 crores is an embedded derivative

**Compute the Amortised Cost & Calculate the difference between the exercise price and amortised cost**

Whether the prepayment option is likely to be exercised or not, the amortised cost of the host debt instrument should be calculated as present value (PV) of expected cash flows using a fair market interest rate for a debt without the prepayment option (11% p.a. in this case).

| Year | Payment | PVF @ 11% | PV               | Interest @ 11%                | Closing balance  | Prepayment | Diff        | %         |
|------|---------|-----------|------------------|-------------------------------|------------------|------------|-------------|-----------|
| A    | B       | C         | D                | E                             | F                | G          | H           | I         |
|      |         |           | $D = B \times C$ | OP<br>Balance $\times$<br>11% | $F = OB + E - B$ |            | $H = F - G$ | $I = H/F$ |
| 1    | 12      | 0.9009    | 10.81            | 11.46                         | 103.69           | 103.00     | 0.69        | 0.66%     |
| 2    | 12      | 0.8116    | 9.74             | 11.41                         | 103.09           | 103.00     | 0.09        | 0.09%     |
| 3    | 12      | 0.7311    | 8.77             | 11.34                         | 102.43           | 103.00     | -0.57       | -0.55%    |
| 4    | 12      | 0.6587    | 7.90             | 11.27                         | 101.70           | 103.00     | -1.30       | -1.28%    |
| 5    | 12      | 0.5934    | 7.12             | 11.19                         | 100.89           | 103.00     | -2.11       | -2.09%    |
| 6    | 112     | 0.5346    | 59.88            | 11.10                         | -0.01            |            |             |           |
|      |         |           | 104.22           |                               |                  |            |             |           |

The management of Entity PQR may formulate an appropriate accounting policy to determine what constitutes "approximately equal". In this case, if the management determines that a difference of more than 2% will indicate that the option's exercise price is not approximately equal to the amortised cost of the host debt instrument, it will need to separate the embedded derivative.

**14. Illustration**

Company A, an Indian company whose functional currency is Rs. enters into a contract to purchase machinery from an unrelated local supplier, company B. The functional currency of company B is also Rs. . However, the contract is denominated in USD, since the machinery is sourced by company B from a US based supplier. Payment is due to company B on delivery of the machinery.

|                                                                        |                  |
|------------------------------------------------------------------------|------------------|
| Contract/order date                                                    | 9 September 20X1 |
| Delivery/payment date                                                  | 31 December 20X1 |
| Purchase price                                                         | USD 1,000,000    |
| USD/Rs. Forward rate on 9 September 20X1 for 31 December 20X1 maturity | 67.8             |

|                                            |      |
|--------------------------------------------|------|
| USD/Rs. Spot rate on 9 September 20X1      | 66.4 |
| USD/Rs. Forward rates for 31 December, on: |      |
| 30 September                               | 67.5 |
| 31 December (spot rate)                    | 67.0 |

Company A is required to analyse if the contract for purchase of machinery (a capital asset) from company B contains an embedded derivative and whether this should be separately



accounted for on the basis of the guidance in Ind AS 109. Also give necessary journal entries for accounting the same.

**Solution**

**Key Points**

**Nature of Contract:**

- Company A entered into a **USD-denominated contract** to purchase machinery.
- This contract includes an **embedded foreign currency derivative** because:
  - The **host contract** (machinery purchase) is **non-financial** and not measured at FVTPL.
  - The **requirement to settle in USD** behaves like a standalone **USD-INR forward contract**.
  - **USD is not the functional currency** of either party.
  - Machinery is **not routinely denominated in USD** in global trade.
  - USD is **not a commonly used currency for domestic transactions** in India.

**Accounting Treatment:**

- **Company A must separate** the **embedded derivative** and recognize it **separately as a derivative financial instrument**.
- The **separated embedded derivative** is a **USD-INR forward contract** initiated on **9 September 20X1**, with a **notional amount of USD 1,000,000** at a **forward rate of 67.8**, maturing on **31 December 20X1**.
- Since the **forward rate at inception is equal to the market rate**, the **initial fair value of the derivative is zero**.

**Subsequent Measurement:**

- The **forward contract is measured at fair value** at each reporting date.
- **Changes in fair value are recognized in the Statement of Profit & Loss**.

**Quarter-End and Settlement Accounting:**

- At each quarter-end, the fair value of the embedded derivative is reassessed, and any **gain or loss is recorded in profit & loss**.
- On **settlement (31 December 20X1)**, Company A records the final **gain/loss on the derivative instrument** based on the difference between the contractual and prevailing exchange rates.

**Conclusion**

Company A is required to **separate and recognize the embedded foreign currency derivative** in its USD purchase contract and account for it at **fair value through profit or loss (FVTPL)** until settlement.

The following is the accounting treatment at quarter-end and on settlement:

| At Inception                                                                                                                                                        | 9-Sep-X1 |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--|--|
|                                                                                                                                                                     |          |  |  |
| The entity separates embedded derivative and host contract. No accounting entry for embedded derivative is passed since the initial fair value of a forward is NIL. |          |  |  |
|                                                                                                                                                                     |          |  |  |



|                             |             |             |  |
|-----------------------------|-------------|-------------|--|
| Fair value gain or loss     | 30-Sep-X1   |             |  |
| (67.8-67.5) x 1,000,000     | 3,00,000    |             |  |
|                             |             |             |  |
|                             |             |             |  |
| Journal Entry               |             |             |  |
| Derivative Asset Dr.        | 3,00,000    |             |  |
| To P&L                      |             | 3,00,000    |  |
| (Gain on forward leg)       |             |             |  |
|                             |             |             |  |
|                             | 31-Dec-X1   |             |  |
| Fair value gain or loss     |             |             |  |
| (67.5-67) x 1,000,000       | 5,00,000    |             |  |
|                             |             |             |  |
| Journal Entry               |             |             |  |
| Derivative Asset Dr.        | 5,00,000    |             |  |
| To P&L                      |             | 5,00,000    |  |
| (Gain on forward leg)       |             |             |  |
|                             |             |             |  |
|                             |             |             |  |
| On purchase of machinery    |             |             |  |
| Property, Plant & Equipment | 6,78,00,000 |             |  |
| To Derivative Asset         |             | 8,00,000    |  |
| To Bank                     |             | 6,70,00,000 |  |

### 15. Illustration

On 1st January 20X1, SamCo. Ltd. agreed to purchase USD (\$) 20,000 from JT Bank in future on 31st December 20X1 for a rate equal to Rs. 68 per USD. SamCo. Ltd. did not pay any amount upon entering into the contract. SamCo Ltd. is a listed company in India and prepares its financial statements on a quarterly basis.

Following the principles of recognition and measurement as laid down in Ind AS 109, you are required to record the entries for each quarter ended till the date of actual purchase of USD.

For the purposes of accounting, please use the following information representing marked to market fair value of forward contracts at each reporting date:

16 dis

31-Mar : (25,000)

30-Jun : (15,000)

30-Sep : 12,000

Spot rate on 31-Dec : 66 per USD (FV = 20,000 x (66-68) i.e (40,000)

### Solution

|           |                                                       |        |        |
|-----------|-------------------------------------------------------|--------|--------|
|           |                                                       |        |        |
|           |                                                       |        |        |
| 1-Jan-X1  | No entry since initial FV of forward contract is Nil. |        |        |
|           |                                                       |        |        |
| 31-Mar-X1 | P&L Dr.                                               |        |        |
|           |                                                       | 25,000 |        |
|           | To Derivative Liab                                    |        | 25,000 |
|           |                                                       |        |        |



|                  |                          |           |           |
|------------------|--------------------------|-----------|-----------|
| <b>30-Jun-X1</b> | Derivative Liab Dr.      | 10,000    |           |
|                  | To P&L                   |           | 10,000    |
| <b>30-Sep-X1</b> | Derivative Asset Dr.     | 12,000    |           |
|                  | Derivative Liability Dr. | 15,000    |           |
|                  | To P&L                   |           | 27,000    |
| <b>31-Dec-X1</b> | P&L                      | 52,000    |           |
|                  | To Derivative Asset      |           | 12,000    |
|                  | To Derivative Liability  |           | 40,000    |
| <b>31-Dec-X1</b> | Bank (USD) [20000 x 66]  | 13,20,000 |           |
|                  | Derivative Liab          | 40,000    |           |
|                  | To Bank                  |           | 13,60,000 |
| <b>31-Dec-X1</b> | Bank (USD) [20000 x 66]  | 13,20,000 |           |
|                  | P&L Dr                   | 52,000    |           |
|                  | To Derivative Asset      |           | 12,000    |
|                  | To Bank                  |           | 13,60,000 |

### 16. Illustration

Entity A (an Rs. functional currency entity) enters into a USD 1,000,000 sale contract on 1 January 20X1 with Entity B (an Rs. functional currency entity) to sell equipment on 30 June 20X1.

|                                                     |    |    |
|-----------------------------------------------------|----|----|
| Spot rate on 1 January 20X1: Rs. /USD               | 45 |    |
| Spot rate on 31 March 20X1: Rs. /USD                | 57 |    |
| Three-month forward rate on 31 March 20X1: Rs. /USD |    | 45 |
| Six-month forward rate on 1 January 20X1: Rs. /USD  |    | 55 |
| Spot rate on 30 June 20X1: Rs. /USD                 | 60 |    |

Assume that this contract has an embedded derivative that is not closely related and requires separation. Please provide detailed journal entries in the books of Entity A for accounting of such embedded derivative until sale is actually made.

### Solution

|                                                |                    |                |
|------------------------------------------------|--------------------|----------------|
| <b>June forward on 1st January</b>             | <b>55</b>          |                |
| <b>June forward on 31st March</b>              | <b>45</b>          |                |
| <b>Loss</b>                                    | <b>10</b>          | <b>per USD</b> |
| <b>Total loss &amp; liability to be booked</b> | <b>1,00,00,000</b> |                |



|                          |                                                            |             |             |
|--------------------------|------------------------------------------------------------|-------------|-------------|
|                          |                                                            |             |             |
| <b>Spot on 30th June</b> |                                                            | 60          |             |
| <b>Previous MTM rate</b> |                                                            | 45          |             |
| <b>Gain</b>              |                                                            | 15          |             |
| <b>Total Gain</b>        |                                                            | 1,50,00,000 |             |
|                          |                                                            |             |             |
|                          |                                                            |             |             |
| <b>1-Jan-X1</b>          | No entry                                                   |             |             |
|                          |                                                            |             |             |
| <b>31-Mar-X1</b>         | P&L (Loss) Dr.                                             | 1,00,00,000 |             |
|                          | To Derivative Liability                                    |             | 1,00,00,000 |
|                          | (Being loss on derivative)                                 |             |             |
|                          |                                                            |             |             |
| <b>30-Jun-X1</b>         | Derivative Liability Dr.                                   | 1,00,00,000 |             |
|                          | Derivative Asset Dr.                                       | 50,00,000   |             |
|                          | To P&L                                                     |             | 1,50,00,000 |
|                          |                                                            |             |             |
| <b>30-Jun-X1</b>         | Trade Receivable Dr.                                       | 5,50,00,000 |             |
|                          | To Revenue                                                 |             | 5,50,00,000 |
|                          | (Being revenue recognised considering fwd rate on 1st Jan) |             |             |
|                          |                                                            |             |             |
| <b>30-Jun-X1</b>         | Bank Dr                                                    | 6,00,00,000 |             |
|                          | To Trade receivables                                       |             | 5,50,00,000 |
|                          | To Derivative Asset                                        |             | 50,00,000   |
|                          |                                                            |             |             |
|                          |                                                            |             |             |

### 17. Illustration

Company Z is engaged in the business of importing oil seeds for further processing as well as trading purposes. It enters into the following types of contracts as on 1 October 20X1:

| Particulars                                    | Contract 1                                                   | Contract 2                                                       | Contract 3                                              |
|------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------|
| Nature of Contract                             | Import of oil seeds from a foreign supplier                  | Purchase of oil seeds from a domestic producer / supplier        | Contract to sell oilseeds on the commodity exchange     |
| Quantity and rate                              | 100 MT at USD 400 per MT to be delivered as on 31 March 20X2 | 50 MT at Rs. 30,000 per MT to be delivered as on 31 January 20X2 | 50 MT at USD 450 per MT, maturing as on 15 January 20X2 |
| Net settlement clause included in the contract | Yes                                                          | Yes                                                              | Yes                                                     |



|                                                  |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                               |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Net settlement in practice for similar contracts | <p>There have also been several instances of the oil seeds being sold prior to or shortly after taking delivery. These instances of net settlement constitute approximately 30 per cent of the value of total import contracts.</p> | <p>Yes – company Z has netsettled some of the domestic purchase contracts. However, these instances constitute only 1 per cent of the total domestic purchase contracts in value. The remaining contracts are settled by taking delivery of oil seeds which are used for further processing.</p> | <p>Yes – these contracts are required to be net settled with the exchange on the maturity date. Company Z enters into these types of derivative contracts to hedge the risks on its domestic oil seeds purchase contracts</p> |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Company Z is required to determine if the contracts entered into for purchase and sale of oil seeds are derivatives within the scope of Ind AS 109 or are executory contracts outside the scope of Ind AS 109.

#### Solution

Company Z must assess whether its **purchase and sale contracts for oil seeds** qualify as **derivative instruments under Ind AS 109** or if they are **executory contracts (outside its scope)**.

#### Contract 1: Import of Oil Seeds from a Foreign Supplier

This contract **falls within the scope of Ind AS 109** as a **derivative instrument** because it **permits net settlement** and there is a **history of similar contracts being settled in cash or resold before/after delivery** (30% of similar contracts). Since the contract behaves like a **forward contract** to purchase **100 MT at USD 400 per MT**, Company Z must **recognize it as a derivative instrument from 1 October 20X1**. The contract should be **measured at fair value through profit or loss (FVTPL)**, with fair value changes recorded in the **statement of profit and loss** at each reporting date.

#### Contract 2: Purchase of Oil Seeds from a Domestic Producer

This contract **qualifies for the 'own-use' exemption** under Ind AS 109 and is considered an **executory contract, not a derivative**. Although it permits net settlement, Company Z has only **rarely settled similar contracts in cash (1% of total transactions)**, and in most cases, the **oil seeds are physically received and processed**. Since the company's **business practice involves taking delivery**, Ind AS 109 does **not apply**, and the contract remains **outside the scope of derivative accounting**.

#### Contract 3: Sale of Oil Seeds on Commodity Exchange

This contract **falls within Ind AS 109** as a **derivative instrument** because it is **executed on a commodity exchange** and **must be settled in cash** upon maturity. The contract is primarily used by Company Z to **hedge risks related to its domestic oil seed purchases**, further reinforcing its nature as a **financial instrument** rather than an executory contract. Therefore, Company Z must **recognize this contract as a derivative and measure it at FVTPL** in accordance with Ind AS 109.

#### Conclusion

Contracts that **allow and have a history of net settlement** generally **qualify as derivatives under Ind AS 109**, whereas contracts intended for **physical delivery and own use** are **executory contracts outside its scope**.



**Summary of Treatment:**

- **Contract 1 (Import of Oil Seeds)** → ☒ **Derivative**, recognized and measured at **FVTPL**.
- **Contract 2 (Domestic Purchase)** → ☒ **Executory Contract (Own-use exemption applies)**, not within Ind AS 109 scope.
- **Contract 3 (Commodity Exchange Sale)** → ☒ **Derivative**, recognized and measured at **FVTPL**.

**18. Illustration**

Sea Ltd. has lent a sum of Rs.10 lakhs @ 18% per annum for 10 years. The loan had a Fair Value of Rs.12,23,960 at the effective interest rate of 13%. To mitigate prepayment risks but at the same time retaining control over the loan, Sea Ltd. transferred its right to receive the Principal amount of the loan on its maturity with interest, after retaining rights over 10% of principal and 4% interest that carries Fair Value of Rs.29,000 and Rs.1,84,620 respectively.

The consideration for the transaction was Rs.9,90,000. The interest component retained included a 2% fee towards collection of principal and interest that has a Fair Value of Rs.65,160. Defaults, if any are deductible to a maximum extent of the company's claim on Principal portion. You are required to show the Journal Entries to record de recognition of the Loan

**Answer:**

**Calculation of securitized component of loan**

|                                               |          | Rs.      | Rs.       |
|-----------------------------------------------|----------|----------|-----------|
| Fair Value                                    |          |          | 12,23,960 |
| Less: Principal strip receivable (fair value) |          | 29,000   |           |
| Less: Interest strip receivable (fair value)  | 1,19,460 |          |           |
| Less: Value of service asset (fair value)     | 65,160   | 1,84,620 | 2,13,620  |
|                                               |          |          | 10,10,340 |

**Apportionment of carrying amount in the ratio of fair values**

|                               | Fair value(₹) |                                                | Apportionment (₹) |
|-------------------------------|---------------|------------------------------------------------|-------------------|
| Securitized component of loan | 10,10,340     | $\frac{10,10,340 \times 10,00,000}{12,23,960}$ | 8,25,468          |
| Principal strip receivable    | 29,000        | $\frac{29,000 \times 10,00,000}{12,23,960}$    | 23,694            |
| Interest strip receivable     | 1,19,460      | $\frac{1,19,460 \times 10,00,000}{12,23,960}$  | 97,601            |
| Servicing asset               | 65,160        | $\frac{65,160 \times 10,00,000}{12,23,960}$    | 53,237            |

Entries to record the de recognition of the Loan

|                                                                           |    | ₹        | ₹        |
|---------------------------------------------------------------------------|----|----------|----------|
| Bank A/c                                                                  | Dr | 9,90,000 |          |
| To Loan A/c                                                               |    |          | 8,25,468 |
| To Profit & Loss A/c                                                      |    |          | 1,64,532 |
| (Being entry for securitization of 90% principal with 14% interest)       |    |          |          |
| Interest strip A/c                                                        | Dr | 97,601   |          |
| Servicing asset A/c                                                       | Dr | 53,237   |          |
| Principal strip A/c                                                       | Dr | 23,694   |          |
| To Loan A/c                                                               |    |          | 1,74,532 |
| (Being entry for interest, servicing asset and principal strips received) |    |          |          |

**19. Illustration**

Entity C agrees with factoring company D to enter into a debt factoring arrangement. Under the terms of the arrangement, the factoring company D agrees to pay Rs. 91.5 crores, less a servicing charge of Rs. 1.5 crores (net proceeds of Rs. 90 crores), in exchange for 100% of the cash flows from short-term receivables.

The receivables have a face value of Rs. 100 crores and carrying amount of Rs. 95 crores.

The customers will be instructed to pay the amounts owed into a bank account of the factoring company. Entity C also writes a guarantee to the factoring company under which it will reimburse any credit losses up to Rs. 5 crores, over and above the expected credit losses of Rs. 5 crores. The guarantee is estimated to have a fair value of Rs. 0.5 crores. Calculate the amount of continuing involvement asset.

### Solution

- D bears the first ₹5 cr of losses, which are the expected losses already reflected in the price.
- C bears the next ₹5 cr of losses under its guarantee.
- D bears any losses beyond ₹10 cr.

| Item                         | Basis                                                                         | ₹<br>crore |
|------------------------------|-------------------------------------------------------------------------------|------------|
| Continuing involvement asset | Lower of (i) carrying amount of the asset, ₹95, and (ii) guarantee amount, ₹5 | 5.0        |
| Associated liability         | Guarantee amount ₹5 + fair value of guarantee ₹0.5                            | 5.5        |

### Journal Entry (on the date of transfer, ₹ crore)

| Particulars                                                                                       | Dr   | Cr   |
|---------------------------------------------------------------------------------------------------|------|------|
| Bank A/c Dr.                                                                                      | 90.0 |      |
| Servicing charges (P&L) Dr.                                                                       | 1.5  |      |
| Continuing involvement asset Dr.                                                                  | 5.0  |      |
| Loss on transfer of receivables (P&L) Dr.                                                         | 4.0  |      |
| To Trade receivables                                                                              |      | 95.0 |
| To Associated liability                                                                           |      | 5.5  |
| <i>(Being receivables factored with a credit guarantee and continuing involvement recognised)</i> |      |      |

Total Loss = 4.0 + 1.5 = 5.5.

Associated liability = Guaranteed Amount + FV of Guarantee. The FV of Guarantee basically represents the amount of income that C would have recognised if it would have given a guarantee. This 0.5 is recognised as income over the term.

| Particulars               | Dr  | Cr  |
|---------------------------|-----|-----|
| Associated liability Dr.  | 0.5 |     |
| To Guarantee income (P&L) |     | 0.5 |

Customers pay (losses do not exceed ₹5 cr, so the guarantee is not invoked)

| Particulars                     | Dr  | Cr  |
|---------------------------------|-----|-----|
| Associated liability Dr.        | 5.0 |     |
| To Continuing involvement asset |     | 5.0 |



Customers default (losses exceed ₹5 cr, so C pays D the full ₹5 cr)

| Particulars                     | Dr  | Cr  |
|---------------------------------|-----|-----|
| Associated liability Dr.        | 5.0 |     |
| To Bank                         |     | 5.0 |
| Credit loss (P&L) Dr.           | 5.0 |     |
| To Continuing involvement asset |     | 5.0 |

### Overall P&L impact

|                        | Customers pay (3A) | Customers default (3B) |
|------------------------|--------------------|------------------------|
| Day 1 loss + servicing | (5.5)              | (5.5)                  |
| Guarantee income       | 0.5                | 0.5                    |
| Credit loss            | —                  | (5.0)                  |
| <b>Net</b>             | <b>(5.0)</b>       | <b>(10.0)</b>          |

### Modifications

#### 20. Illustration

On 1 January 20X0, XYZ Ltd. issues 10 year bonds for Rs. 10,00,000, bearing interest at 10% (payable annually on 31st December each year). The bonds are redeemable on 31 December 20X9 for Rs. 10,00,000. No costs or fees are incurred. The effective interest rate is therefore 10%. On 1 January 20X5 (i.e. after 5 years) XYZ Ltd. and the bondholders agree to a modification in accordance with which:

- the term is extended to 31 December 20Y1;
- interest payments are reduced to 5% p.a.;
- the bonds are redeemable on 31 December 20Y1 for Rs. 15,00,000; and
- legal and other fees of Rs. 1,00,000 are incurred.

XYZ Ltd. determines that the market interest rate on 1 January 20X5 for borrowings on similar terms is 11%.

|                                       |                                          |              |                        |
|---------------------------------------|------------------------------------------|--------------|------------------------|
| Applicable rate for discounting       | 10%                                      |              |                        |
|                                       |                                          |              |                        |
|                                       |                                          |              |                        |
| Cashflows under modified terms        |                                          |              |                        |
| PV of 15,00,000 after 7 years @ 10%   | 0.5131                                   | 7,69,650     | PVF(10%,7 Y)           |
| PV of 50,000 yearly for 7 years @ 10% | 4.8684                                   | 2,43,420.00  | PVAF (10%, 7 YEARS)    |
| PV of legal and other fees            |                                          | 1,00,000.00  |                        |
|                                       |                                          |              |                        |
| PV of modified cashflows              |                                          | 11,13,070.00 |                        |
| Value of existing loan                |                                          | 10,00,000.00 |                        |
|                                       | Diff                                     | 1,13,070.00  |                        |
|                                       |                                          | 11.31%       | >10% hence substantial |
|                                       |                                          |              |                        |
| 1. Derecognise old liability          |                                          |              |                        |
| 2. Recognise new liability            | FV considering revised rate of interest. |              |                        |
|                                       |                                          |              |                        |



|                                      |                   |             |            |
|--------------------------------------|-------------------|-------------|------------|
| FV of revised / modified liability   |                   | PV          |            |
| PV of 15,00,000 at 11% after 7 years | 0.4817            | 7,22,550    |            |
| PV of 50,000 at 11% for 7 years      | 4.7122            | 2,35,610    |            |
|                                      |                   | 9,58,160    | Fair value |
|                                      |                   |             |            |
| Dr. Financial Liability (Bonds)      | 10,00,000.00      |             |            |
| Cr. Gain on derecognition            |                   | 41,840.00   |            |
| Cr. Financial Liability (bonds/11%)  |                   | 9,58,160.00 |            |
|                                      |                   |             |            |
| P&L Dr.                              | 1,00,000.00       |             |            |
| To Bank                              |                   | 1,00,000.00 |            |
| Total Loss Booked                    | 1,00,000 – 41,840 | 58,160      |            |

## 21. Illustration

On 1 January 20X0, XYZ Ltd. issues 10 year bonds for Rs. 1,000,000, bearing interest at 10% (payable annually on 31st December each year). The bonds are redeemable on 31 December 20X9 for Rs. 1,000,000. No costs or fees are incurred. The effective interest rate is therefore 10%. On 1 January 20X5 (i.e. after 5 years) XYZ Ltd. and the bondholders agree to a modification in accordance with which:

- no further interest payments are made
- the bonds are redeemed on the original due date (31 December 20X9) for Rs. 1,600,000;
- legal and other fees of Rs. 50,000 are incurred.

On 1 January 20X5, the discounted present value of the remaining cash flows of the original financial liability is Rs. 10,00,000.

|                                                                                                             |           |        |              |
|-------------------------------------------------------------------------------------------------------------|-----------|--------|--------------|
| Particulars                                                                                                 |           |        |              |
|                                                                                                             |           |        |              |
| PV of cashflows under revised terms using original rate                                                     |           |        |              |
|                                                                                                             |           |        |              |
| PV of repayments (Rs. 16,00,000) at 10%, 5 years                                                            |           | PVIF   | PV           |
| Amount                                                                                                      | 16,00,000 | 0.6209 | 9,93,440.00  |
| PV of fees paid on date of modification                                                                     | 50,000    | 1.00   | 50,000.00    |
| PV of cashflows under revised term                                                                          |           |        | 10,43,440.00 |
| PV of original loan                                                                                         |           |        | 10,00,000.00 |
|                                                                                                             |           |        | 43,440.00    |
|                                                                                                             |           | %      | 4%           |
| Since, the change in cashflows is less than 10% of PV of existing loan, modification accounting is followed |           |        |              |
|                                                                                                             |           |        |              |
| Carrying amount of existing liability                                                                       | 10,00,000 |        |              |
| Less: Fees paid                                                                                             | 50,000    |        |              |



|                                       |             |                 |              |
|---------------------------------------|-------------|-----------------|--------------|
| Net Carrying amount                   | 9,50,000    | PV at beginning |              |
|                                       |             |                 |              |
| Amount to be repaid                   | 16,00,000   | Future value    |              |
|                                       |             |                 |              |
| $FV = PV \times (1+r)^n$              |             |                 |              |
| $16,00,000 = 9,50,000 \times (1+r)^5$ |             |                 |              |
| $(1+r)^5 = 16,00,000/9,50,000$        |             |                 |              |
| $(1+r)^5 =$                           | 1.684210526 |                 |              |
| $1+r$                                 | 1.1099      |                 |              |
| $r =$                                 | 10.99%      |                 |              |
|                                       |             |                 |              |
| Year                                  | Op bal      | Int @ 10.99%    | Closing bal  |
| X5                                    | 9,50,000    | 1,04,405.00     | 10,54,405.00 |
| X6                                    | 10,54,405   | 1,15,879.11     | 11,70,284.11 |
| X7                                    | 11,70,284   | 1,28,614.22     | 12,98,898.33 |
| X8                                    | 12,98,898   | 1,42,748.93     | 14,41,647.26 |
| X9                                    | 14,41,647   | 1,58,437.03     | 16,00,084.29 |
|                                       |             |                 |              |
|                                       |             |                 |              |
| Date of modification                  |             |                 |              |
| Financial Liability Dr.               | 50,000.00   |                 |              |
| To Bank                               |             | 50,000.00       |              |

## 22. Illustration

Wheel Co. Limited borrowed Rs. 500,000,000 from a bank on 1 January 20X1. The original terms of the loan were as follows:

- Interest rate: 11%
- Repayment of principal in 5 equal instalments
- Payment of interest annually on accrual basis
- Upfront processing fee: Rs. 5,870,096 Effective interest rate on loan: 11.50%

On 31 December 20X2, Wheel Co. Limited approached the bank citing liquidity issues in meeting the cash flows required for immediate instalments and re-negotiated the terms of the loan with banks as follows:

- Interest rate 15%
- Repayment of outstanding principal in 10 equal instalments starting 31 December 20X3
- Payment of interest on an annual basis

Record journal entries in the books of Wheel Co. Limited till 31 December 20X3, after giving effect of the changes in the terms of the loan on 31 December 20X2

### Solution

| Payment Schedule |              |                |              |                |                |
|------------------|--------------|----------------|--------------|----------------|----------------|
| Years            | Principal    | Payment        | Closing bal  | Interest @ 11% | Total          |
| -                | 50,00,00,000 | (58,70,096)    | 50,00,00,000 |                | 49,41,29,904   |
| 1                |              | (10,00,00,000) | 40,00,00,000 | (5,50,00,000)  | (15,50,00,000) |



|   |  |                |              |               |                |
|---|--|----------------|--------------|---------------|----------------|
| 2 |  | (10,00,00,000) | 30,00,00,000 | (4,40,00,000) | (14,40,00,000) |
| 3 |  | (10,00,00,000) | 20,00,00,000 | (3,30,00,000) | (13,30,00,000) |
| 4 |  | (10,00,00,000) | 10,00,00,000 | (2,20,00,000) | (12,20,00,000) |
| 5 |  | (10,00,00,000) | -            | (1,10,00,000) | (11,10,00,000) |
|   |  |                |              |               | 0              |

| Amortisation Schedule |              |                    |               |                |              |
|-----------------------|--------------|--------------------|---------------|----------------|--------------|
| Years                 | Op bal       | Interest Exp 11.5% | Interest paid | Principal paid | Closing bal  |
| 1                     | 49,41,29,904 | 5,68,24,939        | 5,50,00,000   | 10,00,00,000   | 39,59,54,843 |
| 2                     | 39,59,54,843 | 4,55,34,807        | 4,40,00,000   | 10,00,00,000   | 29,74,89,650 |
| 3                     | 29,74,89,650 | 3,42,11,310        | 3,30,00,000   | 10,00,00,000   | 19,87,00,960 |
| 4                     | 19,87,00,960 | 2,28,50,610        | 2,20,00,000   | 10,00,00,000   | 9,95,51,570  |
| 5                     | 9,95,51,570  | 1,14,48,430        | 1,10,00,000   | 10,00,00,000   | (0)          |

| Journal Entries |                          |              |                                           |
|-----------------|--------------------------|--------------|-------------------------------------------|
| 1-Jan-X1        | Bank A/c Dr.             | 49,41,29,904 |                                           |
|                 | To Financial Liab (Loan) |              | 49,41,29,904                              |
|                 |                          |              |                                           |
|                 |                          |              |                                           |
| 31-Dec-X1       | Int. Expense Dr.         | 5,68,24,939  |                                           |
|                 | To Financial Liab        |              | 5,68,24,939                               |
|                 |                          |              |                                           |
| 31-Dec-X1       | Financial Liab Dr.       | 15,50,00,000 |                                           |
|                 | To Bank                  |              | 15,50,00,000                              |
|                 |                          |              |                                           |
| 31-Dec-X2       | Int. Expense Dr.         | 4,55,34,807  |                                           |
|                 | To Financial Liab        |              | 4,55,34,807                               |
|                 |                          |              |                                           |
| 31-Dec-X2       | Financial Liab           | 4,40,00,000  |                                           |
|                 | To Bank                  |              | 4,40,00,000                               |
|                 |                          |              |                                           |
|                 | Closing bal of Fin. Liab | 39,74,89,650 | Carrying amount after payment of interest |



|  |                                                               |              |              |
|--|---------------------------------------------------------------|--------------|--------------|
|  |                                                               |              |              |
|  |                                                               |              |              |
|  |                                                               |              |              |
|  |                                                               |              |              |
|  | Calculation of PV of cashflows considering new terms at 11.5% |              |              |
|  | Principal o/s                                                 | 40,00,00,000 | on 31-Dec-X2 |
|  | Revised instalment                                            | 4,00,00,000  |              |

### Calculation of PV of cashflows considering new terms at 11.5%

|           | Principal o/s      | 40,00,00,000         | on 31-Dec-X2      |                     |           |                 |        |              |
|-----------|--------------------|----------------------|-------------------|---------------------|-----------|-----------------|--------|--------------|
|           | Revised instalment | 4,00,00,000          |                   |                     |           |                 |        |              |
|           |                    |                      |                   |                     |           |                 |        |              |
|           |                    |                      |                   |                     |           |                 |        |              |
| Year s    | Principal Paid     | Interest Paid at 15% | Principal Balance | Total CF            | PVF@11.5% | PV              | PV@15% | PV           |
| 31-Dec-X2 |                    |                      | 40,00,00,000      |                     |           |                 |        |              |
| X3        | 4,00,00,000        | 6,00,00,000          | 36,00,00,000      | 10,00,00,000        | 0.8969    | 8,96,90,000     | 0.8696 | 8,69,56,522  |
| X4        | 4,00,00,000        | 5,40,00,000          | 32,00,00,000      | 9,40,00,000         | 0.8044    | 7,56,13,600     | 0.7561 | 7,10,77,505  |
| X5        | 4,00,00,000        | 4,80,00,000          | 28,00,00,000      | 8,80,00,000         | 0.7214    | 6,34,83,200     | 0.6575 | 5,78,61,428  |
| X6        | 4,00,00,000        | 4,20,00,000          | 24,00,00,000      | 8,20,00,000         | 0.6470    | 5,30,54,000     | 0.5718 | 4,68,83,766  |
| X7        | 4,00,00,000        | 3,60,00,000          | 20,00,00,000      | 7,60,00,000         | 0.5803    | 4,41,02,800     | 0.4972 | 3,77,85,432  |
| X8        | 4,00,00,000        | 3,00,00,000          | 16,00,00,000      | 7,00,00,000         | 0.5204    | 3,64,28,000     | 0.4323 | 3,02,62,932  |
| X9        | 4,00,00,000        | 2,40,00,000          | 12,00,00,000      | 6,40,00,000         | 0.4667    | 2,98,68,800     | 0.3759 | 2,40,59,971  |
| X10       | 4,00,00,000        | 1,80,00,000          | 8,00,00,000       | 5,80,00,000         | 0.4186    | 2,42,78,800     | 0.3269 | 1,89,60,303  |
| X11       | 4,00,00,000        | 1,20,00,000          | 4,00,00,000       | 5,20,00,000         | 0.3754    | 1,95,20,800     | 0.2843 | 1,47,81,645  |
| X12       | 4,00,00,000        | 60,00,000            | -                 | 4,60,00,000         | 0.3367    | 1,54,88,200     | 0.2472 | 1,13,70,496  |
|           |                    |                      |                   |                     |           | 45,15,28,200    |        | 40,00,00,000 |
|           |                    |                      |                   | PV of existing loan |           | 39,74,89,649.90 |        |              |
|           |                    |                      |                   | Difference          |           | 5,40,38,550.10  |        |              |
|           |                    |                      |                   |                     |           | 13.59%          |        |              |

|                                                         |  |              |              |
|---------------------------------------------------------|--|--------------|--------------|
| Financial Liability (Old) Dr.                           |  | 39,74,89,650 |              |
| Profit & loss                                           |  | 25,10,350    |              |
| To Financial liability (New)                            |  |              | 40,00,00,000 |
| (Derecognition of old loan and recognition of new loan) |  |              |              |



JK Ltd. has an outstanding unsecured loan of Rs. 90 crores to a bank. The effective interest rate (EIR) of this loan is 10%. Owing to financial difficulties, JK Ltd. is unable to service the debt and approaches the bank for a settlement.

The bank offers the following terms which are accepted by JK Ltd.:

- 2/3rd of the debt is unsustainable and hence will be converted into 70% equity interest in JK Ltd. The fair value of net assets of JK Ltd. is Rs. 80 crores.

- 1/3rd of the debt is sustainable and the bank agrees to certain moratorium period and decrease in interest rate in initial periods. The present value of cash flows as per these revised terms calculated using original EIR is Rs. 25 crores. The fair value of the cash flows as per these revised terms is Rs. 28 crores

Fair value of the consideration paid is Rs. 56 crores (70% of Rs. 80 crores) plus Rs. 28 crores i.e. Rs.

84 crores.

Accordingly, 2/3rd of the original financial liability is extinguished through issue of equity shares and terms of 1/3rd of the original financial liability have been modified. JK Ltd. will need to evaluate if this modification tantamount to "substantial modification" or not.

- Solution
- Applying the guidance contained in Appendix D to Ind AS 109:
  - Difference between the fair value of equity instruments (Rs. 56 crores) and 2/3rd of the original financial liability (2/3rd of Rs. 90 crores = Rs. 60 crores) i.e. Rs. 4 crores will be recognised as a gain in the statement of profit and loss
  - Carrying amount of original financial liability which is not extinguished (1/3rd of Rs. 90 crores
- = Rs. 30 crores) is compared with the present value of cash flows as per these revised terms (Rs. 25 crores)
  - As the difference is more than 10%, this results in substantial modification of the original financial liability. Resultantly, the existing financial liability (Rs. 30 crores) will be extinguished and the new financial liability will be recognised at its fair value i.e. Rs. 28 crores.
  - The difference i.e. Rs. 2 crores will be recognised as a gain in the statement of profit and loss.

#### 24. Illustration

Bank A originates 2,000 bullet loans with a total gross carrying amount of CU 500,000. Bank A segments its portfolio into borrower groups (Groups X and Y) on the basis of shared credit risk characteristics at initial recognition. Group X comprises 1,000 loans with a gross carrying amount per client of CU 200, for a total gross carrying amount of CU 200,000. Group Y comprises 1,000 loans with a gross carrying amount per client of CU 300, for a total gross carrying amount of CU 300,000. There are no transaction costs and the loan contracts include no options (for example, prepayment or call options), premiums or discounts, points paid, or other fees. Calculate loss rate when

| Group               | Historic per annum average defaults | Present value of observed loss assumed |
|---------------------|-------------------------------------|----------------------------------------|
| X                   | 4                                   | CU 600                                 |
| Y                   | 2                                   | CU 450                                 |
| Total value of loan |                                     | Loss rate                              |
| X                   | 2,00,000                            | $600/200,000 = 0.3\%$                  |
| Y                   | 3,00,000                            | $450/300,000 = 0.15\%$                 |



## 25. Illustration

Company M, a manufacturer, has a portfolio of trade receivables of CU 30 million in 20X1 and operates only in one geographical region. The customer base consists of a large number of small clients and the trade receivables are categorised by common risk characteristics that are representative of the customers' abilities to pay all amounts due in accordance with the contractual terms. The trade receivables do not have a significant financing component in accordance with Ind AS 115. In accordance with paragraph 5.5.15 of Ind AS 109 the loss allowance for such trade receivables is always measured at an amount equal to lifetime expected credit losses.

Please use the following information of debtors outstanding:

|                                                               | Gross carrying amount                                                                                     |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Current                                                       | CU 15,000,000                                                                                             |
| 1–30 days past due                                            | CU 7,500,000                                                                                              |
| 31–60 days past due                                           | CU 4,000,000                                                                                              |
| 61–90 days past due                                           | CU 2,500,000                                                                                              |
| More than 90 days past due                                    | CU 1,000,000                                                                                              |
|                                                               | <u>CU 30,000,000</u>                                                                                      |
| Company M uses following default rates for making provisions: |                                                                                                           |
|                                                               | Current    1–30 days past due    31–60 days past due    61–90 days past due    More than 90 days past due |
| Default rate                                                  | 0.3%    1.6%    3.6%    6.6%    10.6%                                                                     |

### Solution

| Category | Gross amount (Mio) | Loss rate | ECL    |
|----------|--------------------|-----------|--------|
| Current  | 15.00              | 0.30%     | 0.0450 |
| 1–30     | 7.50               | 1.60%     | 0.1200 |
| 31–60    | 4.00               | 3.60%     | 0.1440 |
| 60–90    | 2.50               | 6.60%     | 0.1650 |
| >90      | 1.00               | 10.60%    | 0.1060 |
|          |                    |           |        |
|          | 30.00              |           | 0.5800 |

## 26. Illustration

An entity purchases a debt instrument with a fair value of Rs 1,000 on 15th March, 20X1 and measures the debt instrument at fair value through other comprehensive income. The instrument has an interest rate of 5% over the contractual term of 10 years, and has a 5% effective interest rate. At initial recognition, the entity determines that the asset is not a purchased or original credit-impaired asset. On 31st March 20X1 (the reporting date), the fair value of the debt instrument has decreased to Rs 950 as a result of changes in market interest rates. The entity determines that there has not been a significant increase in credit risk since initial recognition and that ECL should be measured at an amount equal to 12 month ECL, which amounts to Rs 30. On 1st April 20X1, the entity decides to sell the debt instrument for Rs 950, which is its fair value at that date. Pass journal entries for recognition, impairment and sale of debt instruments as per Ind AS 109. Entries relating to interest income are not to be provided

**Solution**



On Initial Recognition  
 Financial Asset Dr. 1,000  
     To Cash                                      1000

#### On Impairment of Debt Instrument

Impairment Expense (P&L) Dr.    30  
 Other Comprehensive Income Dr 20  
     To Financial Asset                                      50

**Expected credit loss of Rs. 30 is recognised as Impairment Expense. The carrying amount after impairment is Rs. 970 and the FV is Rs. 950. Hence there is a FV loss of Rs. 20 to be recognised in OCI.**

#### On Sale of Debt Instrument

Cash Dr.                                      950  
     To Financial Asset                                      950

Loss on Sale Dr.                      20  
     To OCI                                                      20

### Comprehensive Illustrations

#### 27. Illustration – Nov-22 [12 Marks]

On 1st April, 2021 "Fortunate Bank" has provided a loan of Rs. 25,00,000 to Mohan Limited for 4 years at 10% p.a. and the loan has been guaranteed by Surya Limited, which is a holding company for Mohan Limited. Interest payments are made at the end of each year and the principal is repaid at the end of the loan term. If Surya Limited had not issued a guarantee, 'Fortunate Bank' would have charged Mohan Limited an interest rate of 14% p.a. Surya Limited does not charge Mohan Limited for providing the guarantee.

On 31st March 2022, there is 2% probability that Mohan Limited may default on the loan in the next 12 months. If Mohan Limited defaults on the loan, Surya Limited does not expect to recover any amount from Mohan Limited.

On 31st March 2023, there is 4% probability that Mohan Limited may default on the loan in the next 12 months. If Mohan Limited defaults on the loan, Surya Limited does not expect to recover any amount from Mohan Limited.

On 31st March 2024, there is 5% probability that Mohan Limited may default on the loan in the next 12 months. If Mohan Limited defaults on the loan, Surya Limited does not expect to recover any amount from Mohan Limited.

You are required to provide accounting treatment of financial guarantee as per Ind AS 109 in the books of Surya Limited on initial recognition and in subsequent periods till 31st March, 2024.



**Solution**

A financial guarantee contract is initially measured at FV. FV may be the transaction price or the PV of benefits under the guarantee

| Year | Loan      | Int @ 14% | Int @ 10% | Benefit  | PV @ 14% | PV of benefits |
|------|-----------|-----------|-----------|----------|----------|----------------|
| 1    | 25,00,000 | 3,50,000  | 2,50,000  | 1,00,000 | 0.8772   | 87,720         |
| 2    | 25,00,000 | 3,50,000  | 2,50,000  | 1,00,000 | 0.7695   | 76,950         |
| 3    | 25,00,000 | 3,50,000  | 2,50,000  | 1,00,000 | 0.6750   | 67,500         |
| 4    | 25,00,000 | 3,50,000  | 2,50,000  | 1,00,000 | 0.5921   | 59,210         |
|      |           |           |           |          |          |                |
|      |           |           |           |          |          | 2,91,380.00    |

|                                           |          |             |
|-------------------------------------------|----------|-------------|
| <b>In the books of Surya Ltd</b>          |          |             |
| <b>Investment in Subsidiary (Mohan)</b>   |          |             |
|                                           | 2,91,380 |             |
| <b>To Financial Liability (Guarantee)</b> |          | 2,91,380.00 |

| Amortisation schedule of financial guarantee |            |           |                  |             |               |              |        |
|----------------------------------------------|------------|-----------|------------------|-------------|---------------|--------------|--------|
| Year                                         | Op Balance | Int @ 14% | Benefits expired | Closing bal | Expected Loss | Carrying amt | Income |
| <b>31-Mar-22</b>                             | 2,91,380   |           | 1,00,000.00      |             | 50,000.00     | 2,32,173.20  |        |
|                                              |            | 40,793    |                  | 2,32,173    |               |              | 59,207 |
| <b>31-Mar-23</b>                             | 2,32,173   |           | 1,00,000.00      |             | 1,00,000.00   | 1,64,677.45  |        |
|                                              |            | 32,504    |                  | 1,64,677    |               |              | 67,496 |
| <b>31-Mar-24</b>                             | 1,64,677   |           | 1,00,000.00      |             | 1,25,000.00   | 1,25,000.00  |        |
|                                              |            | 23,055    |                  | 87,732      |               |              | 39,677 |
| <b>31-Mar-25</b>                             | 87,732     |           | 1,00,000.00      |             |               |              |        |
|                                              |            | 12,268    |                  | (0)         |               |              |        |

|                  |                         |        |        |
|------------------|-------------------------|--------|--------|
| <b>31-Mar-22</b> |                         |        |        |
|                  | Dr. Financial Liability | 59,207 |        |
|                  | Cr. P&L                 |        | 59,207 |
|                  |                         |        |        |
| <b>31-Mar-23</b> | Dr. Financial Liability | 67,496 |        |
|                  | Cr. P&L                 |        | 67,496 |
|                  |                         |        |        |
| <b>31-Mar-24</b> | Dr. Financial Liability | 39,677 |        |
|                  | Cr. P&L                 |        | 39,677 |

**28. Illustration**

On 1st April, 20X1, ABC Ltd. issues a 10- year bond with a par value of Rs. 15,00,000 and an annual fixed coupon rate of 8%, which is consistent with market rates for bonds with similar characteristics. ABC Ltd. uses Secured Overnight Financing Rate (SOFR) as its benchmark interest rate. At the date of inception of the bond, SOFR is 5%. At the end of the first year:



- SOFR has decreased to 4.75%; and
- The fair value of bond is Rs. 15,38,110. This value is consistent with an interest rate of 7.6%.
- The remaining cash flows on bond are Rs. 1,20,000 per year for nine years and Rs. 15,00,000 at the end of ninth year. These cash flows discounted at 7.6% equals Rs. 15,38,110.

ABC Ltd. assumes a flat yield curve, that all changes in interest rates result from a parallel shift in the yield curve, and that the changes in SOFR are the only relevant changes in market conditions.

Following discounting factors may be considered

| Discount rate @7.75%            | Present value of Rs. 1 payable |
|---------------------------------|--------------------------------|
| At the end of year 9            | 51.1 paise                     |
| Cumulatively for the years 1–9  | 6.312                          |
| At the end of year 10           | 47.4 paise                     |
| Cumulatively for the years 1–10 | 6.786                          |

Required

What is the amount transferred to the OCI at the end of Year 1 ?

**Solution:**

The amount of change in fair value of the bond that is not attributable to changes in market conditions giving rise to market risk is estimated as follows:

Step (a)

The bond's IRR at the start of the period is 8%.

Step (b)

Because the benchmark interest rate (SOFR) is 5%, the instrument - specific component of the IRR is 3%.

Step (c)

The contractual cash flows of the instrument at the end of the period are:

- Interest of Rs. 1,20,000 [Rs. 15,00,000 x 8%] per year for the next 9 years.
- Principal repayment of Rs. 15,00,000 at the end of 9th year.

The present value of these cash flows is calculated using a discount rate of 7.75%. This rate is arrived at as below:

- 4.75% end of period SOFR, plus
- 3% instrument - specific component calculated as at the start of the period

This gives a notional present value of Rs. 15,23,670

= [(15,00,000 x 0.511) + (1,20,000 x 6.312)].

Step (d)

The fair value of the liability at the end of the period is Rs. 15,38,110. Hence, ABC Ltd. should present Rs. 14,440 [Rs. 15,38,110 – Rs. 15,23,670] in the OCI.

## 29. Illustration

On 1st April, 2X01, A Ltd. issued a 10% convertible debenture with a face value of Rs. 1,000 maturing on 31st March, 2X11. The debenture is convertible into equity share of A Ltd. at a conversion price of Rs. 25 per share. Interest is payable half-yearly in cash. At the date of issue, A Ltd. could have issued non-convertible debt with a ten-year term bearing a coupon interest rate of 11%.

On 1st January, 2X06, the convertible debenture has a fair value of Rs. 1,700.

A Ltd. makes a tender offer to the holder of the debenture to repurchase the debenture for Rs. 1,700, which the holder accepts. On the date of repurchase, A Ltd. could have issued non-convertible debt with a five-year term bearing a coupon interest rate of 8%.

Required

How does A Ltd. account for the repurchase?

**Solution:**

In the financial statements of A Ltd., the carrying amount of the debenture is allocated on issue as follows:



|                                                                                                           |                     |
|-----------------------------------------------------------------------------------------------------------|---------------------|
|                                                                                                           | <b>Rs.</b>          |
| <b>Liability component</b>                                                                                |                     |
| Present value of 20 half-yearly interest payments of Rs. 50, discounted at 11% (Rs. 50 x 11.95)           | 598                 |
| Present value of Rs. 1,000 due in 10 years, discounted at 11%, compounded half-yearly (Rs. 1,000 x 0.342) | <u>342</u>          |
|                                                                                                           | 940                 |
| <b>Equity component</b>                                                                                   |                     |
| Difference between Rs. 1,000 total proceeds and Rs. 940 allocated above                                   | <u>60</u>           |
| <b>Total proceeds</b>                                                                                     | <b><u>1,000</u></b> |

The repurchase price is allocated as follows:

|                                                                                                              | <b>Carrying Value<br/>(Rs.)</b> | <b>Fair Value<br/>(Rs.)</b> | <b>Difference<br/>(Rs.)</b> |
|--------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------|-----------------------------|
| <b>Liability component:</b>                                                                                  |                                 |                             |                             |
| Present value of 10 remaining half-yearly interest Payments of Rs. 50, discounted at 11% and 8% respectively | 377                             | 406                         |                             |
| Present value of Rs. 1,000 due in 5 years, discounted at 11% and 8%, compounded half yearly, respectively    | <u>585</u>                      | <u>676</u>                  |                             |
|                                                                                                              | 962                             | 1,082                       | (120)                       |
| <b>Equity component</b>                                                                                      | <u>60</u>                       | <u>618</u>                  | <u>(558)</u>                |
| <b>Total</b>                                                                                                 | <b><u>1,022</u></b>             | <b><u>1,700</u></b>         | <b><u>(678)</u></b>         |

A Ltd. recognises the repurchase of the debenture as follows: (Rs.)

|                                                          |     |     |       |
|----------------------------------------------------------|-----|-----|-------|
| Liability component                                      | Dr. | 962 | 1,082 |
| Debt settlement expense (P&L)                            | Dr. | 120 |       |
| To Cash                                                  |     |     |       |
| (To recognize the repurchase of the liability component) |     |     |       |
| Equity component                                         | Dr. | 60  | 618   |
| Reserves and Surplus                                     | Dr. | 558 |       |
| To Cash                                                  |     |     |       |
| (To recognize the cash paid for the equity component)    |     |     |       |

The debt settlement expense represents the difference between the carrying value of the debt component and its fair value.

### 30. Illustration

Zx issues a fixed-rate loan for Rs. 500,000 and incurs issue costs of Rs. 20,000, resulting in an initial carrying value of Rs. 480,000. The loan carries an interest rate of 8% per annum, and it is repayable at par at the end of year 10. However, under the contract, Zx can call the loan at any time after year 4 by paying a fixed premium of Rs. 30,000. The fair value of the option is Rs. 10,000 at inception. The effective interest rate amounts to 8.30213%.

Required:

- (i) How is the embedded issuer-only call feature accounted for by Zx, the issuer initially?
- (ii) Explain the accounting of the loan when
  - (a) In years 1 and 2, there is no change in interest rate since inception for an instrument of similar maturity and credit rating. The option's fair value (time value) at the end of year 2 is Rs. 6,000.



- (b) At the end of year 3, interest rates have fallen, and the option's fair value increases to Rs. 9,000.
- (c) At the end of year 4, interest rates have fallen further. The option's fair value increases to Rs. 20,000, and the entity decides to repay the loan at the end of year 4.

**Solution:**

It is first necessary to determine whether the call option is closely related to the host debt instrument. Because the fixed premium is required to be paid whenever the call option is exercised after year 4, it is not known if it will be equal to the present value of any interest lost during the remaining term after exercise of the option. Additionally, the call option's exercise price is Rs. 5,30,000 (inclusive of the premium) therefore, it is unlikely to be approximately equal to the debt instrument's amortised cost in year 4, or at any subsequent year. Consequently, the call option shall be separated from the host debt contract and accounted for separately. This assumes that the expected life of the instrument is the full 10-year term. Even if the expected life is assumed to be four years, the 10-year loan with a call option after four years is economically same as a four-year loan with a six-year extension option. Because there is no concurrent adjustment to the interest rate after four years, the term extension option would not be closely related, and it would need to be accounted for separately. Thus, whichever way the loan and option are viewed, the embedded derivative needs to be separated.

Even though the option is out of the money at inception, because the option's exercise price is greater than the debt instrument's carrying value, it has a time value.

Since the value of a callable bond is equal to the value of a straight bond less the value of the option feature, the accounting entries at inception is:

|                                        | Dr (Rs.) | Cr.<br>(Rs.) |
|----------------------------------------|----------|--------------|
| Embedded option (derivative asset) Dr. | 10,000   |              |
| Cash Dr.                               | 4,80,000 |              |
| To Debt instrument (host)              |          | 4,90,000     |

Since the call option will be fair valued and accounted for separately, with fair value movements taken to profit or loss, it has no impact on the entity's estimate of future cash flows; accordingly, the amortisation period will be the debt host's period to original maturity. The amortisation schedule is shown below:

|         | Opening<br>amortised<br>cost Rs. | Interest<br>expense @<br>8.30213% Rs. | Cash<br>payments<br>Rs. | Closing<br>amortised<br>cost Rs. |
|---------|----------------------------------|---------------------------------------|-------------------------|----------------------------------|
| Year 1  | 490,000                          | 40,680                                | 40,000                  | 490,680                          |
| Year 2  | 490,680                          | 40,737                                | 40,000                  | 491,417                          |
| Year 3  | 491,417                          | 40,798                                | 40,000                  | 492,216                          |
| Year 4  | 492,216                          | 40,864                                | 40,000                  | 493,080                          |
| Year 5  | 493,080                          | 40,936                                | 40,000                  | 494,016                          |
| Year 6  | 494,016                          | 41,014                                | 40,000                  | 495,030                          |
| Year 7  | 495,030                          | 41,098                                | 40,000                  | 496,128                          |
| Year 8  | 496,128                          | 41,189                                | 40,000                  | 497,317                          |
| Year 9  | 497,317                          | 41,288                                | 40,000                  | 498,605                          |
| Year 10 | 498,605                          | 41,395                                | 540,000                 | -                                |

The entity would recognize interest expense in profit or loss and the loan's amortised cost in the balance sheet each year, in accordance with the above amortisation schedule.

In years 1 and 2, there is no change in interest rate since inception for an instrument of similar maturity and credit rating. The option's fair value (time value) at the end of year 2 is Rs. 6,000. The decrease in fair value of Rs. 4,000 since inception will be reported in profit or loss, and the option will be recorded at Rs. 6,000 at the end of year 2.



At the end of year 3, interest rates have fallen, and the option's fair value increases to Rs. 9,000. The increase in value of Rs. 3,000 will be recorded in profit or loss, and the option will be recorded at its fair value of Rs. 9,000 at the end of year 3.

At the end of year 4, interest rates have fallen further. The option's fair value increases to Rs. 20,000, and the entity decides to repay the loan at the end of year 4.

The accounting entries, to reflect the change in the option's fair value and the loan's early repayment at the end of year 4, are as follows:

|                                          | Dr (Rs.) | Cr. (Rs.) |
|------------------------------------------|----------|-----------|
| Embedded option Dr.                      | 11,000   |           |
| To Profit or loss                        |          | 11,000    |
| (Early repayment of loan)                |          |           |
| Debt instrument (host) Dr.               | 4,93,080 |           |
| Loss on de- recognition of liability Dr. | 56,920   |           |
| To Embedded option (derivative asset)    |          | 20,000    |
| To Cash                                  |          | 5,30,000  |

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