
CapInvest



**Developing Transactions
and Products**

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The functionality of CapInvest can be broadly categorized as follows:

- (a) **Developing Transactions**
- (b) **Developing Products**

Transactions

CapInvest enables several types of Consumer and Retail Finance Transactions to be easily created; following is an illustrative listing of type of transactions. After a transaction is developed, the same can be easily captured by whatever database solution is in use in an enterprise.

| | |
|----------|--|
| Equated | <p>Transactions wherein repayment is equal through the term; any of the five pricing variables can be calculated given information on the remaining four variables:</p> <ul style="list-style-type: none"> (a) Value; (b) Term; (c) Rate; (d) Repayment; (e) Future Payment <p>Two Repayment Modes are available: (i) payment in advance; (ii) payment in arrears.</p> <p>Four Repayment Frequencies are available: (i) monthly; (ii) quarterly; (iii) half-yearly; (iv) yearly.</p> <p>A profit and loss account for the transaction is presented in the main module to provide a birds-eye view of the transaction as it is being developed. Reports for each transaction provide insights into a transaction. Any of the Profit and Loss Account variables (such as Profit After Tax) can be targeted to calculate a value – for example, Profit After Tax of a transaction could be set, to say Rs. 25,000.</p> |
| Profiled | <p>Repayment varies from month to month, quarter-to-quarter, year to year, or whatever. These can be created effortlessly by inputting profiling factors into the repayment grid: 0 for no repayment, 1 for normal repayment, 1.25 for repayment that is 25% over the normal repayment, 0.65 for repayment that is 65% of normal repayment, and so on.</p> <p>Two Repayment Modes are available: (i) payment in advance; (ii) payment in arrears.</p> <p>Four Repayment Frequencies are available: (i) monthly; (ii) quarterly; (iii) half-yearly; (iv) yearly.</p> <p>A profit and loss account for the transaction is presented in the main module to provide a birds-eye view of the transaction as it is being developed. Reports for each transaction provide insights into a transaction. Any of the Profit and Loss Account variables (such as Profit After Tax) can be targeted to arrive at a pre-set value – for example, the Profit Before Interest and Tax of a transaction could be set, to say Rs. 25,000.</p> |

| | |
|---------------------------------|--|
| Flexi | <p>Transactions wherein the customer specifies the amount of repayment, period to period, to reflect his requirements. These can be created effortlessly by inputting repayment values into the grid. One repayment period is selected as the 'balancing' period to enable the program to compute a value for that period: positive value (amount due from customer); negative value (amount due to customer).</p> <p>Two Repayment Modes are available: (i) payment in advance; (ii) payment in arrears.</p> <p>Four Repayment Frequencies are available: (i) monthly; (ii) quarterly; (iii) half-yearly; (iv) yearly.</p> <p>A profit and loss account for the transaction is presented in the main module to provide a birds-eye view of the transaction as it is being developed. Reports for each transaction provide insights into a transaction. Any of the Profit and Loss Account variables (such as Profit After Tax) can be targeted to arrive at a pre-set value – for example, the Profit Before Interest and Tax of a transaction could be set, to say Rs. 25,000.</p> |
| Zero / Concession Finance | <p>Transactions that incorporate zero / concessional interest; these are developed using the 'Zero Finance' Portal of CapInvest. The difference between the rate offered to customer (say Zero Rate) and the Institutional Rate of the Financier (say 12%) is provided by the capital good supplier to balance the account. Spinner Control enables user to easily explore a range of rate scenarios (for both customer rate and institutional rate) and to observe the impact on the compensation that is required to flow from the capital goods supplier to the institution. When the rate offered to a customer is the same as the expected rate of an institution, the compensation flow is zero.</p> |
| Moratorium | <p>Transactions wherein Principal is subject to Moratorium; for example, a bank could offer an education loan wherein the customer makes no payment for 2 years but interest accumulates and the repayment of accumulated principal starts after the moratorium period via, say quarterly repayments with monthly compounding of interest (or quarterly repayments with daily compounding of interest). Such transactions can be developed two ways: (a) using the moratorium portal to accumulate principal at the agreed rate and transferring the accumulated principal to the mother module for further processing (repayment of accumulated principal over term) – since the compounding frequencies are different, the rate conversion portal is invoked to compute an equivalent rate to use in arriving at the repayment schedule; (b) using the Profiling Module wherein repayment factor is set to 0 for the first 24 months and set to 1 for the remaining periods of the transaction. The answer would be the same.</p> |

| | |
|---------------------------|---|
| RePricing | Transactions wherein interest varies from period to period or Principal is recast; for example, floating rates for a transaction or a transaction that is in arrears and needs to be redeveloped or a transaction wherein a customer requests a pre-payment of the whole or part of balance or a transaction wherein a customer requests an addition to the outstanding principal, and so on. Such transactions are handled using the RePricing Portal. |
| Rate Conversion | Transactions wherein compounding frequencies differ, i.e., interest could be compounded monthly but repayments are quarterly. The Rate Conversion Portal computes an equivalent rate for use in the transaction. |
| Equal Principal Repayment | Transactions wherein repayment of principal is equal throughout the term – a practice common with development finance institutions. In such a transaction, the repayment is a bundling of (i) Principal (which is an equal amount through out the term) and (ii) interest on outstanding balance (which varies from period to period since it is based on outstanding Principal). |
| Engineered | As a profit and loss statement is available for each transaction in the main module itself to assist a user to develop a transaction, any of the Profit and Loss Account variables may be targeted for a pre-set value; for example, Revenue of a transaction may be set to 250,000. To arrive at the pre-set value, a user has to indicate a value (one of the five pricing variables) that the program may change to arrive at the required value. |
| Bundled | A transaction that is a bundling of components with each component making a distinct contribution to the expected return from a transaction - (a) processing fee; (b) transfer fee; (c) purchasing discounts; (d) deposits placed with the financial institution; (e) repayment inflows. Such transactions are developed using the Power Pack Portal and provide greater control over developing transactions. An institution fixes its overall rate for a transaction and goes about 'mixing and matching' various components to develop a transaction with an eye to making the same palatable to the customer. |

Products

CapInvest ships with the 'Product Developer' portal which provides the analytical framework to easily create new financial and savings products that capture outflows over several time periods and package these into a single transaction to provide a high degree of convenience to customers; following is an illustrative list of savings and financial products that can be created using the Product Developer Portal:

- **Housing finance** product that incorporates several investment items spread over different time periods
- **Vehicle finance** product that captures the annual insurance payments
- **Savings product** that targets customer's income requirements

Please read the document 'Product Developer' for an insight into developing products.

The following pages contain examples with screen shots.

A FINANCIAL PRODUCT**(Housing Finance)**

A bank customer has the following requirements:

| | |
|-------------------------------|--|
| <i>Transaction Start Date</i> | January 1, 2004 |
| Purchase of House | 5,000,000; <i>Required on January 1, 2004</i> |
| Recurring Item 1 | 25,000 at beginning of each year for 15 years to meet Municipal Tax Payments; <i>Starting April 15, 2005 for 15 years</i> |
| Non Recurring 1 | 500,000 to buy Furniture <i>Required on October 15, 2004</i> |
| Non Recurring 2 | 1,000,000 For Repairs and Additions <i>Required on March 15, 2010</i> |

Customer requires all of the above to be rolled into a single transaction with a single repayment schedule, even though payments to customer occur at different points of time and in future.

Assume lending rate is 9%, savings rate is 6% and repayment is 15 years.

Given the above parameters, it is easy to compute a monthly repayment schedule (equated or profiled), using CapInvest – for example, the EMI for the above transaction, which is composed of several investment items spread over different time periods, is 64,458

Screen shots of the Product Developer of CI and the Mother Module are set out on the following pages.

CapInvest / Product Developer - (hover the mouse pointer over an item for screen comment)

Capitalized Value | Recurring Items | Non Recurring Items | Introduction | Creating Products |

| | | |
|--------------------------|--------------------------|---------------------------|
| Annual Rate (Lending) | Annual Rate (Savings) | Transaction Start Date |
| 0.0900000000 | 0.0600000000 | Jan-1-2004 |

Recurring Items / Indicate Frequency, Number of Repeats and Other Details

| Frequency | Repeats | Investment Amount | Date | Days | DCF 1 | DCF 2 |
|-----------|---------|-------------------|-------------|------|------------|------------|
| Yearly ▼ | 15 | 25,000.00 | Apr-15-2005 | -464 | 254,979.36 | 236,049.60 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |
| Yearly ▼ | 1 | | | | 0.00 | 0.00 |

Main
Non Recurring
Clear

Total of DCF 1
254,979.36

Total of DCF 2
236,049.60

CapInvest / Product Developer - (hover the mouse pointer over an item for screen comment)

Capitalized Value | Recurring Items | Non-Recurring Items | Introduction | Creating Products

Transaction Start Date

Jan-1-2004

Annual Rate (Lending)

0.090000000

Annual Rate (Savings)

0.060000000

Main

Recurring

Non-Recurring Items

| Investment Amount | Date | Days | DCF |
|-------------------|-------------|-------|--------------|
| 5,000,000.00 | Jan-1-2004 | 0 | 5,000,000.00 |
| 500,000.00 | Oct-15-2004 | -284 | 476,940.96 |
| 1,000,000.00 | Mar-15-2010 | -2234 | 689,764.12 |
| | | | 0.00 |
| | | | 0.00 |
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| | | | 0.00 |

Total of DCF

6,166,705.08

Capitalized Value of Transaction

Capinvest / Product Developer - (hover the mouse pointer over an item for screen comment)

Capitalized Value | Recurring Items | Non Recurring Items | Introduction | Creating Products

Transaction Start Date: Jan-1-2004

Annual Rate (Lending): 0.090000000

Annual Rate (Savings): 0.060000000

Transaction Value

TOTAL Recurring Items: 236,049.60

TOTAL Non-Recurring Items: 6,166,705.08

Capitalized Value of Transaction: 6,402,754.68

Transfer

Compounding

Pre-Start: Monthly

Post-Start: Monthly

Product Type

Financial

Savings

Example

Clear

Note the Capitalized Value of this transaction

Mother Module

Vish Tumu Associates - HP

capinvest loan / hp

This wizard can guide you

Wizard | Print

Goal Seek | Defaults

Flat Rate | Help

Quotation Date: 28-Jul-2003 4:22 PM

Contract Start Date: 11-Aug-2003

Asset Description: Housing Finance Product

Borrower / Hire Purchasee: Mr. Zxcvbn

LOAN / HP Value: 6,402,754.68

Loan Period (Years): 15.00

Finance Rate (P.A.): 09.00%

Period Repayment: 64,457.57

Residual / Future: 0.00

Direct Expenses: 15,000.00

Service Charges (%): Include in IRR 1.50%

Income Tax Rate (%): 36.75%

Cost of Capital (%): 6.00%

Payment Frequency: Monthly

Payment Type: Advance

Tax Year-End: 31-Mar

Profiling

Mode: Finance

Savings

Random | Reports

Clear | Prompts

Import | Re-Pricing

Export | Zero Rate

| | | | | |
|---------------------|---------------|------------------|----------------|----------|
| Asset Value | 6,402,754.68 | Finance Income | 5,199,607.81 | 98.19% |
| Loan Start Date | 11-Aug-2003 | Service Charges | 96,041.32 | 1.51% |
| First Payment Date | 11-Aug-2003 | Total Revenue | 5,295,649.13 | 100.00% |
| Last Payment Date | 11-Jul-2018 | Direct Expenses | (15,000.00) | (0.28%) |
| Installment | 64,457.57 | PBIT | 5,280,649.13 | 99.72% |
| Total Repayment | 11,602,362.49 | Interest Cost | (2,274,275.03) | (61.83%) |
| Period Pricing Rate | 0.76% | PBT | 2,006,374.10 | 37.89% |
| Installments Due | 180.00 | TAX | (737,342.48) | (13.92%) |
| PV of Installments | 7,676,640.77 | Profit After Tax | 1,269,031.62 | 23.96% |
| NPV of Deal | 1,354,927.41 | Financials | | |
| IRR | 9.00% | Product | | |

Note the period repayment, given capitalized value (as computed by Product Developer Portal), term and interest rate for transaction

Note the financials for this transaction and Profit After Tax

SAVINGS PRODUCT

A bank customer has the following income requirements in future years:

| | |
|-------------------------------|---|
| <i>Transaction Start Date</i> | January 1, 2004 |
| Non-Recurring 1 | 100,000 to meet daughter's marriage expenses; <i>Required on March 14, 2024</i> |
| Recurring Item 1 | 25,000 at beginning of each year for 4 years to meet son's college expenses; <i>Starting January 1, 2016 for 4 years</i> |
| Recurring Item 2 | 50,000 at beginning of each year for 10 years to supplement pension income <i>Starting October 10, 2026</i> |

Given the above, customer wishes to make monthly deposits at the beginning of each month into a savings account for 12 years at the annual savings rate of 6%. How much should he be required to deposit each month?

As you will note from calculations on next page (and from the Product Developer Portal), the required deposit is 1,686.61 per month for 12 years.

Recurring Items of Transaction

CapInvest / Product Developer - (hover the mouse pointer over an item for screen comment)

Capitalized Value | Recurring Items | Non Recurring Items | Introduction | Creating Products |

Annual Rate (Lending): 0.120000000

Annual Rate (Savings): 0.060000000

Transaction Start Date: Jan-1-2016

Recurring Items / Indicate Frequency, Number of Repeats and Other Details

| Frequency | Repeats | Investment Amount | Date | Days | DCF 1 | DCF 2 |
|-----------|---------|-------------------|-------------|-------|------------|------------|
| Yearly | 4 | 25,000.00 | Jan-1-2016 | 0 | 91,618.40 | 91,618.40 |
| Yearly | 10 | 50,000.00 | Oct-10-2026 | -3879 | 387,615.03 | 203,389.64 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |
| Yearly | 1 | | | | 0.00 | 0.00 |

Main

Non Recurring

Clear

Total of DCF 1: 479,233.43

Total of DCF 2: 295,008.04

Non-Recurring Items of Transaction

CapInvest / Product Developer - (hover the mouse pointer over an item for screen comment)

Capitalized Value | Recurring Items | Non Recurring Items | Introduction | Creating Products |

Transaction Start Date: Jan-1-2016

Annual Rate (Lending): 0.120000000

Annual Rate (Savings): 0.060000000

Non-Recurring Items

| Investment Amount | Date | Days | DCF |
|-------------------|-------------|-------|-----------|
| 100,000.00 | Mar-14-2024 | -2953 | 61,205.06 |
| | | | 0.00 |
| | | | 0.00 |
| | | | 0.00 |
| | | | 0.00 |
| | | | 0.00 |
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| | | | 0.00 |
| | | | 0.00 |
| | | | 0.00 |
| | | | 0.00 |

Main

Recurring

Clear

Total of DCF: 61,205.06

Capitalized Value of Transaction

CapInvest / Product Developer - (hover the mouse pointer over an item for screen comment)

Capitalized Value | Recurring Items | Non Recurring Items | Introduction | Creating Products

Transaction Start Date: Jan-1-2016

Annual Rate (Lending): 0.120000000

Annual Rate (Savings): 0.060000000

Transaction Value

TOTAL Recurring Items: 295,008.04

TOTAL Non-Recurring Items: 61,205.06

Capitalized Value of Transaction: 356,213.10

Transfer

Compounding

Pre-Start: Monthly

Post-Start: Monthly

Product Type

☐ Financial


☒ Savings

Example

Clear

Recurring

Non Recurring



Mother Module

Vish Tumu Associates - HP

capinvest loan / hp

This wizard can guide you

Wizard | Print

Goal Seek | Defaults

Flat Rate | Help

Quotation Date: 28-Jul-2003 11:49 AM

Contract Start Date: 1-Jan-2004

Asset Description: Personal Banking Transactions

Borrower / Hire Purchasee: Mr. Zsdkgtsa

LOAN / HP Value: 0.00

Loan Period (Years): 12.00

Finance Rate (P.A.): 06.00%

Period Repayment: -1,686.61

Residual / Future: 356,213.10

Direct Expenses: 15,000.00

Service Charges (%): Include in IRR ☐ 1.50%

Income Tax Rate (%): 36.75%

Cost of Capital (%): 6.00%

Payment Frequency: Monthly

Payment Type: Advance

Tax Year-End: 31-Mar

Profiting

Mode: ☐ Finance ☒ Savings

Random | Reports ☐

Clear | Prompts

Import | Re-Pricing

Export | Zero Rate

| | | | | |
|---------------------|-------------|------------------|--------------|-----------|
| Asset Value | 0.00 | Finance Income | 113,341.58 | 100.00% |
| Loan Start Date | 1-Jan-2004 | Service Charges | 0.00 | 0.00% |
| First Payment Date | 1-Jan-2004 | Total Revenue | 113,341.58 | 100.00% |
| Last Payment Date | 1-Dec-2015 | Direct Expenses | (15,000.00) | (13.23%) |
| Installment | -1,686.61 | PBIT | 98,341.58 | 86.77% |
| Total Repayment | 113,341.58 | Interest Cost | (113,341.58) | (100.00%) |
| Period Pricing Rate | 0.50% | PBT | (15,000.00) | (13.23%) |
| Installments Due | 144.00 | TAX | 5,512.50 | 4.98% |
| PV of Installments | (0.00) | Profit After Tax | (9,487.50) | (8.37%) |
| NPV of Deal | (15,000.00) | Financials | | |
| IRR | 6.00% | Product | | |

A 'Behind the Scenes' look at the Savings Product

The first step is to compute the Capitalized Value of the transaction by discounting the future income requirements of the customer using the annual savings rate of 6% (which translates to a monthly rate of 0.5%). We need to select a date on which to arrive at the capitalized value of outflows to customer. We may select January 1, 2016 since the first outflow to customer occurs on that date.

CAPITALIZED VALUE / NON-RECURRING ITEM ON JANUARY 1, 2016

| Date | Item | Monthly Rate | Discounting Formula | Discounted Value |
|------------------------------------|---------|--------------|-----------------------------|------------------|
| Mar 14, 2024 | 100,000 | 0.5% | $=100,000/(1.005)^{98.43*}$ | 61,205.06 |
| Discounted Value / January 1, 2016 | | | | 61,205.06 |

* Number of days between Mar 14, 2024 and January 1, 2016 is 2953 days, which is equal to $2953/30 = 98.43$ Months. The interest rate per month is $6\%/12$ or 0.005%

CAPITALIZED VALUE / RECURRING ITEM (1) ON JANUARY 1, 2016

| Year | Item | Monthly Rate | Discounting Formula | Discounted Value |
|------------------------------------|--------|--------------|------------------------|------------------|
| Jan 1, 2016 | 25,000 | 0.5% | $=25,000/(1.005)^0$ | 25,000.00 |
| Jan 1, 2017 | 25,000 | 0.5% | $=25,000/(1.005)^{12}$ | 23,547.63 |
| Jan 1, 2018 | 25,000 | 0.5% | $=25,000/(1.005)^{24}$ | 22,179.64 |
| Jan 1, 2019 | 25,000 | 0.5% | $=25,000/(1.005)^{36}$ | 20,891.12 |
| Discounted Value / January 1, 2016 | | | | 91,618.40 |

CAPITALIZED VALUE / RECURRING ITEM (2) ON JANUARY 1, 2016

| Year | Item | Monthly Rate | Discounting Formula | Discounted Value |
|---|------------|--------------|--------------------------------|------------------|
| Oct 10, 2026 | 50,000 | 0.5% | $=50,000/(1.005)^0$ | 50,000.00 |
| Oct 10, 2027 | 50,000 | 0.5% | $=50,000/(1.005)^{12}$ | 47,095.27 |
| Oct 10, 2028 | 50,000 | 0.5% | $=50,000/(1.005)^{24}$ | 44,359.28 |
| Oct 10, 2029 | 50,000 | 0.5% | $=50,000/(1.005)^{36}$ | 41,782.25 |
| Oct 10, 2030 | 50,000 | 0.5% | $=50,000/(1.005)^{48}$ | 39,354.92 |
| Oct 10, 2031 | 50,000 | 0.5% | $=50,000/(1.005)^{60}$ | 37,068.61 |
| Oct 10, 2032 | 50,000 | 0.5% | $=50,000/(1.005)^{72}$ | 34,915.12 |
| Oct 10, 2033 | 50,000 | 0.5% | $=50,000/(1.005)^{84}$ | 32,886.74 |
| Oct 10, 2034 | 50,000 | 0.5% | $=50,000/(1.005)^{96}$ | 30,976.20 |
| Oct 10, 2035 | 50,000 | 0.5% | $=50,000/(1.005)^{108}$ | 29,176.64 |
| Discounted Value / October 10, 2026 | | | | 387,615.03 |
| Oct 10, 2026 | 387,615.03 | 0.5% | $=387,615.03/(1.005)^{129.3*}$ | |
| Discounted Value / January 1, 2016 / Recurring Item 2 | | | | 203,389.64 |

* Number of days between October 10, 2026 and January 1, 2016 is 3879 days, which is equal to 3879/30 months or 129.3 Months. The interest rate per month is 6%/12 or 0.5%

CAPITALIZED VALUE OF TRANSACTION ON JANUARY 1, 2016

| | |
|--------------------------------|-------------------|
| Non-Recurring Item | 61,205.06 |
| Recurring Item (1) | 91,618.40 |
| Recurring Item (2) | 203,389.64 |
| Total Capitalized Value | 356,213.09 |

Transferring the capitalized value of 356,213.10 to the module and setting repayment period to 12 years (difference between Transaction Start Date of January 1, 2004 and January 1, 2016) and annual rate to 6%, the monthly payment, payable at the beginning of each month is computed by CI as being 1,686.61 – this is the amount the customer would need to deposit each month into his Savings Account.

The 'Transfer' button in the Portal transports the capitalized cost to the appropriate cell in the module on the basis of type of product (to future value cell since this is a Savings Product).

Transaction Wrap-Up

| | |
|--|---|
| <i>Transaction Start Date</i> | January 1, 2004 |
| <i>Monthly Deposit into Savings Account (beginning of month) for 12 years (144 months)</i> | 1,686.61 |
| <i>Savings Rate</i> | 6% Annual Monthly - 0.5% |
| <i>Balance in Account after 12 years (January 1, 2016)</i> | $A \times (1 + i) \times \left\{ \frac{(1 + i)^n - 1}{i} \right\}$ <p>Where A is the monthly deposit and i is the monthly rate</p> $1686.61 * (1.005) * \left\{ \frac{(1.005)^{144} - 1}{.005} \right\}$ $= 356,213.09$ |

Calculations

Recurring Item (1) / 25,000

| | | | |
|--------------------------|------------|-------|---|
| Op Balance / Jan 1, 2016 | 356,213.09 | ————— | Note the opening balance in Savings Account after monthly deposits for 12 years |
| Withdrawal | -25,000.00 | | |
| CI Bal | 331,213.09 | | |
| Op Balance / Jan 1, 2017 | 351,641.59 | ————— | Closing Balance of Previous Period plus accruals for the year |
| Withdrawal | -25,000.00 | | |
| CI Bal | 326,641.59 | | |
| Op Balance / Jan 1, 2018 | 346,788.13 | ————— | Note the annual withdrawals |
| Withdrawal | -25,000.00 | | |
| CI Bal | 321,788.13 | | |
| Op Balance / Jan 1, 2019 | 341,635.32 | ————— | Closing Balance after meeting annual withdrawals of customer |
| Withdrawal | -25,000.00 | | |
| CI Bal | 316,635.32 | | |

Non-Recurring Item / 100,000

Note the number of days between the withdrawal date of this item and the closing date of the previous item.

This information is necessary to update the account with the necessary accruals

| | |
|------------|-------------|
| Start Date | 1-Jan-2019 |
| End Date | 14-Mar-2024 |
| Days | 1873 |
| Months | 62.43 |

Note the new Opening Balance after meeting accruals in intervening period of 62.43 months

| | |
|------------------------|-------------|
| Op Balance / 3-14-2024 | 432,308.54 |
| Withdrawal | -100,000.00 |
| CI Bal | 332,308.54 |

Note the withdrawal of the non-recurring item and the closing balance on that date

Recurring Item (2) / 50,000

Calculations

Start Date 14-Mar-2024
End Date 10-Oct-2026

Days 926
Months 30.87

Op Balance / 10-10-2026 387,615.03
Withdrawal -50,000.00
CI Bal 337,615.03

Op Balance / 10-10-2027 358,438.38
Withdrawal -50,000.00
CI Bal 308,438.38

Op Balance / 10-10-2028 327,462.19
Withdrawal -50,000.00
CI Bal 277,462.19

Op Balance / 10-10-2029 294,575.45
Withdrawal -50,000.00
CI Bal 244,575.45

Op Balance / 10-10-2030 259,660.33
Withdrawal -50,000.00
CI Bal 209,660.33

Op Balance / 10-10-2031 222,591.72
Withdrawal -50,000.00
CI Bal 172,591.72

Op Balance / 10-10-2032 183,236.80
Withdrawal -50,000.00
CI Bal 133,236.80

Op Balance / 10-10-2033 141,454.55
Withdrawal -50,000.00
CI Bal 91,454.55

Op Balance / 10-10-2034 97,095.27
Withdrawal -50,000.00
CI Bal 47,095.27

Op Balance / 10-10-2035 50,000.00
Withdrawal -50,000.00
CI Bal 0.00

All these calculations relate to the recurring item (2) of 50,000. Opening balance of a period is calculated using closing balance of a previous period and adding accruals of 0.5% per month.

Note the zero balance in account after meeting all withdrawals –account is fully squared up.