MATEMÁTICA FINANCIERA(FÓRMULAS)

ISDS

$(1)\ I = Cin$ $\quad (2)\ M = C + I$ $\quad (3)\ M = C(1 + in)$ $\quad (4)\ D = Ndn$

$(5)\ D = N - A$ $\quad (6)\ N = A(1 + in)$ $\quad (7)\ D_r = Ain$ $\quad (8)\ D_r = N - A$ $\quad (9)\ N = \dfrac{A}{1 - dn}$

$(10)\ D = D_r(1 + in)$ $\quad (11)\ D_r = \dfrac{Nin}{1 + in}$ $\quad (12)\ i = \dfrac{d}{1 - dn}$ $\quad (13)\ d = \dfrac{i}{1 + in}$

$$(14)\ \sum_{i=1}^{n} A_i = \sum_{j=1}^{n} A_j : \text{Principio equilibrio de equivalencia financiera(PEEF)}$$

$$(15)\ N(1 - dn) = N_1(1 - dn_1) + N_2(1 - dn_2) + .. + N_k(1 - dn_k)$$

$$(16)\ \frac{N}{1 + in} = \frac{N_1}{1 + in_1} + \frac{N_2}{1 + in_2} + \cdots + \frac{N_k}{1 + in_k}$$

$$(17)\ N = \frac{N_1(1 - dn_1) + N_2(1 - dn_2) + \cdots + N_k(1 - dn_k)}{1 - dn} = \sum_{i=1}^{k} \frac{N_i(1 - dn_i)}{1 - dn}$$

$$(18)\ N = \left(\frac{N_1}{1 + in_1} + \frac{N_2}{1 + in_2} + .. + \frac{N_k}{1 + in_k}\right)(1 + in) = \sum_{i=1}^{k} \frac{N_k}{1 + in_k}(1 + in)$$

ICDC

$$(1)\ M = C(1+i)^n$$

$$(2)\ M = C + I$$

$$(3)\ I = C[(1+i)^n - 1]$$

$$(4)\ I = M[1 - (1+i)^{-n}]$$

$$(5)\ 1 + i = (1+i_e)^m = \left(1 + \frac{j_m}{m}\right)^m$$

$$(6)\ M = C\left(1 + \frac{j_m}{m}\right)^{n.m}$$

$$(7)\ N = A(1+i)^n \qquad (8)\ D = N - A \qquad (9)\ D = N[1 - (1+i)^{-n}]$$

$$(10)\ D_c = N - A \qquad (11)\ A = N(1-d)^n \qquad (12)\ D_c = A[(1-d)^{-n} - 1]$$

$$(13)\ D_c = N[1 - (1-d)^n]$$

$$(14)\ d = \frac{i}{1+i} \qquad (15)\ i = \frac{d}{1-d} \qquad (16)\ d_m = m\left(1 - \frac{1}{\sqrt[m]{1+i}}\right) \qquad (17)\ i = \frac{1}{\left(1 - \frac{d_m}{m}\right)^m} - 1$$

$$(18)\ j_m = m\left(\frac{1}{\sqrt[m]{1-d}} - 1\right) \qquad (19)\ d = 1 - \frac{1}{\left(1 + \frac{j_m}{m}\right)^m} \qquad (20)\ d_m = m(1 - \frac{1}{1 + \frac{j_m}{m}})$$

$$(21)\ j_m = \frac{md_m}{m - d_m} \qquad (22)\ d = 1 - (1 - \frac{d_m}{m})^m \qquad (23)\ d_m = m\left(1 - \sqrt[m]{1-d}\right)$$

$$(24)\ i = (1 + \frac{j_m}{m})^m - 1 \qquad (25)\ j_m = m(\sqrt[m]{1+i} - 1)$$

$$(26.a)\ Nv^n = N_1v^{n_1} + N_2v^{n_2} + \cdots + N_kv^{n_k} = \sum_{i=1}^{n} N_iv^{n_i} \quad \text{donde } v = \frac{1}{1+i} = (1+i)^{-1}$$

$$(26.b)\ N = \frac{N_1v^{n_1} + N_2v^{n_2} + \cdots + N_kv^{n_k}}{v^n} = \frac{\sum N_iv^{n_i}}{v^n}$$

RENTAS

1) $(1+i_e)^p = 1+i = \left(1+\frac{j}{m}\right)^m$

2) $S_{n\rceil i} = \frac{(1+i)^n - 1}{i}$

3) $M = RS_{n\rceil i} = R\frac{(1+i)^n-1}{i}$

4) $\bar{S}_{n\rceil i} = (1+i)S_{n\rceil i}$

5) $M = R\bar{S}_{n\rceil i} = R(1+i)\frac{(1+i)^n - 1}{i}$

6) $a_{n\rceil i} = \frac{(1+i)^n - 1}{i(1+i)^n} = \frac{1-(1+i)^{-n}}{i}$

7) $A = Ra_{n\rceil i} = R\frac{(1+i)^n - 1}{i(1+i)^n}$

8) $A = Ra^{p}_{nm\rceil j/m} = \frac{R}{p}\frac{1-\left(1+\frac{j}{m}\right)^{-nm}}{\left(1+\frac{j}{m}\right)^{\frac{m}{p}} - 1} = \frac{R}{p}\frac{1-(1+i_e)^{-np}}{i_e}$

9) $h = \left(\frac{R.n}{A}\right)^{\frac{2}{n+1}} - 1 \quad 0 < h < 1$

10) $i = h\frac{12-(n-1)h}{12-2(n-1)h}$

11) $M = \frac{R}{p}\frac{\left(1+\frac{j}{m}\right)^{nm} - 1}{\left(1+\frac{j}{m}\right)^{\frac{m}{p}} - 1} = \frac{R}{p}\frac{(1+i_e)^{np} - 1}{i_e}$

AMORTIZACIÓN

1) $(1+i_e)^p = 1+i = \left(1+\frac{j}{m}\right)^m$ $V = (1+i)^{-1} = \left(1+\frac{j}{m}\right)^{-m}$

$a_{n-x\urcorner i} = \frac{1-(1+i)^{-n+x}}{i}$ $V^{n-x} = (1+i)^{-n+x}$

2) $I_x = R(1-V^{n-x+1})$ 3) $K_x = RV^{n-x+1}$

4) $P_x = Ra_{n-x\urcorner i}$ 5) $Z_x = RV^{n-x}a_{x\urcorner i}$ 6) $A = R\frac{1-(1+i)^{-n}}{i}$

7) $A = \frac{R}{p}a^{p}_{nm\urcorner\frac{j}{m}} = \frac{R}{p}\frac{1-\left(1+\frac{j}{m}\right)^{-nm}}{\left(1+\frac{j}{m}\right)^{\frac{m}{p}}-1}$ 8) $R = I_p + K_p$

9) $K_{p+1} = K_p(1+i) = K_1(1+i)(1+i)^{p-1} = K_1(1+i)^p$

10) $\sum_{1}^{n} K_p = K_1 + K_2 + K_3 + \cdots + K_n = RV^n + RV^{n-1} + RV^{n-2} + .. + RV = Ra_{n\urcorner i}$

11) $\sum_{1}^{n} I_p = I_1 + I_2 + \cdots + I_n = R(1-V^n) + r(1-V^{n-1}) + .. + R(1-V) = nR - A$

12) $A = P_x + Z_x$ 13) $I_x = iA_{x-1}$ 14) $Z_x = \sum_{1}^{x} K_x$

15) $I_x = \frac{R}{p}\left[1-\left(1+\frac{j}{m}\right)^{-nm+x-1}\right]$ 16) $K_x = \frac{R}{p}\left(1+\frac{j}{m}\right)^{-nm+x-1}$

17) $K_x = K_1\left(1+\frac{j}{m}\right)^{x-1}$ 18) $P_x = A - Z_x$ 19) $P_x = Ra_{n-x\urcorner i}$

20) $K_x = K_1 S_{x\urcorner\frac{j}{m}}$ 21) $\sum_{1}^{x} I_x = nR - Z_x$