

1. BASIC FINANCE WEIGHTED CAPITALIZATION - A purchaser is offered a property with a net income of Rs. 52,000 per annum. The purchaser assumes that a first mortgage can be raised at 60% of the purchase price. The mortgage will be at an interest rate of 15% per annum. The purchaser will fund the balance of the purchase price and requires a 10% return on equity. What is the value of the property?

$$R = M_f (\text{borrowed}) + E_y (\text{own}) = (0.60 \times 0.15) + (0.40 \times 0.10) = 0.13$$

$$V = \frac{52,000}{0.13} = \text{Rs. } 4,00,000$$

2. INCOME TAX PROVISION - Sometimes interest earned is considered to be a part of the earned income. It is, therefore, taxable. The formula for present value, therefore, adjusted for tax 't' is as follows:

$$PV = \frac{1}{\left[\left(1 + R \frac{100-t}{100} \right) \right]^n}$$

3. What is the monthly instalment to be paid for redemption of INR100,000 on Mortgage at 9% if the loan is to be repaid in 15 years' time?

$$\text{Formula : } (r + s) \times 1,00,000$$

r = remunerative rate of interest S = sinking fund instalment at accumulative rate of interest 'r' for a period of n years (please note that both the remunerative rate of interest and the accumulative rate of interest is the same in this case).

where $r = 0.09$, $S = \frac{R}{(1+R)^n - 1} = \frac{0.09}{(1+0.09)^{15} - 1} = 0.034059$ (the annual sinking fund to accumulate to Re 1 at 9% interest in 15 years).

For Rs 1,00,000 borrowed amount $= (r + s) \times 100 = (0.09 + 0.034059) \times 1,00,000 = \text{Rs } 12,406$ annually which is Rs 1,034 the monthly instalment for redemption of Rs 100,000 in 15 years.

4. A residential flat is situated in a 5 years old building. The building is situated on a main road and closed to civic amenities and services. The building is of good specification with marble flooring and good internal planning. Area of the flat is 75sq.m. What is the value of the flat today based on sales of three comparables given below.

Sale X: A flat measuring 130sq.m. sold @ Rs 40,000 per sq.m. about 6 months back. The building is 18 years old and situated on a narrow lane away from civic amenities. The building is of standard specification within mosaic floor tiles.

Sale Y: flat of 100sq.m. sold @ Rs 35,000 per sq.m., one year back. The building is 20 years old and situated in a middle-class locality on a narrow lane but close to civic amenities and services. The building is of poor specification.

Sale Z: A flat measuring 80sq.m. sold @Rs 45,000 per sq.m. about 9 months back. The building is 12 years old and situated on the main road in a locality dwelt in by a wealthy community but away from civic amenities and services. The building is of good specification and provided with marble flooring.

property characteristics	Sale flat 75sq.m.	SaleX 130 sq.m. flat	Sale Y 100 sq.m. flat	Sale Z 80 sq.m. flat
Sale data	To find	Rs 40000 sqm	Rs 35000 sqm	RS 45000 sqm
Time aspect	today	+6 months	+ 12 months	+9 months
Adjustment time		+ 6% + Rs 2400 / sqm (Allowance +1 % per month)	+ 12% + Rs 4200 / sqm (Allowance +1 % per month)	+ 9% + Rs 4050 / sqm (Allowance +1 % per month)
Adjusted rate for time		Rs 42400 / sqm	Rs 39200 / sqm	Rs 49050 / sqm
Location aspect Rank 5 Weightage		1 +20%	3 +10%	3 +10%
Size aspects Rank 3 Weightage		1 +5%	3 nil	3 nil
Age aspect Rank 5 weightage		3 -6.50% (18-5 =13 yrs)	3 -7.50% 20-5 = 15 yrs	3 -3.50% 12-5 =7 yrs

Specification aspect Rank 5 weightage		3 +10%	3 +20%	5 nil
Overall weightage Over adjustment for time (4)		+28.50% Rs 12084	+22.50% +Rs 8820	+6.50% Rs 3188
Final rate in Rs / sqm	Rs 51600	Rs 54484	Rs 48020	Rs 52238

5. INTERNAL RATE OF RETURN (IRR)

A flat purchased in 31.12.1987 for Rs 1.50 lakhs. Owner received rental advance for 2 years of Rs 18000 as the same date. He spent for repairing the flat for Rs 10000 on 31.12.1989. on the same date he received rental advance of Rs 5000 for 1 year for year 1990. Again he spent Rs 9000 on renovation of the flat on 31.12.1990. On the same day, he received rental advance of Rs 10000 for 2 years for 1991 & 1992. he received rental advance of Rs 6000 for 1 year for 1993. Finally he sold the flat on 31.12.1993 for Rs 1,90,000.

Date (p)	Time /years (n)	Cash flow (C) = - Outgoes = + income	R% per annum assumed	Discount Rate $\frac{1}{(1+R)^n}$	Present value = C x D
31.12.1987	0	- Rs 1,32,000	0.07	1	- Rs 1,32,000
31.12.1989	2	- Rs 5,000	0.07	0.8734	- Rs 4367
31.12.1990	3	+ Rs 1,000	0.07	0.8163	+ Rs 816
31.12.1992	5	+ Rs 6,000	0.07	0.7130	+ Rs 4278
31.12.1993	6	+ Rs 1,90,000	0.07	0.6663	+Rs 1,26,597
Net Present Value					- Rs 4676