

FPA

CERTIFICATE IN FINANCIAL PLANNING & ADVISORY

2. MS Excel & Financial Calculators



Content

- Level I – Time Value of Money
- Level II – Ratios
- Level III - MS Excel Functions
- Level IV – Financial Goal Planning
- Level V – Comprehensive Financial Planning



Section

Level I – Time Value of Money

Time Value of Money

Future Value

If you invest Rs.10,000 today for a period of 5 years, what will be its maturity value if the interest rate p.a. is

1. 8%
2. 10%
3. 12%
4. 15%

Present Value

1. What is the present value of Rs.50,000 receivable 40 years from now if rate of interest is 8%?
2. A bond paying 8% coupon will pay face value on maturity after 10 years. If the prevailing interest rate in bond market is 9%, how much should one be willing to pay to buy the bond?
3. Price when market interest rate 7%



Section

Level II - Ratios

Ratios

Return

Real Rate of Return

Post Tax Return

Post Tax Real Rate of Return

Alpha

Nominal rate

Effective Rate

XIRR

Risk

Standard Deviation

Downside Deviation

Sharpe

Sortino

Treynor



Section

Level III – MS Excel Functions

TVM on Excel

Sum 1

You borrow \$15,000 to buy a car. The loan is to be paid off in monthly payments over 5 years at 12% annual interest. What is the amount of each payment?

Sum 2

A local bank offers an account that pays 8%, compounded quarterly, for any deposits of \$10,000 or more that are left in the account for a period of 5 years. The effective annual rate of interest on this account is?

Sum 3

An investor deposits \$4,000 in an account that pays 7.5%, compounded annually. How much will this investment be worth after 12 years?

TVM on Excel

Sum 4

Consider a 10-year annuity that promises to pay out \$10,000 per year; given this annuity pays at end of period and that an investor can earn 10% on her money, the present value of this annuity would be?

Sum 5

If 10 equal annual deposits of \$1,000 are made into an investment account earning 9% starting today, how much will you have in 20 years?

Sum 6

An investor purchases a 10-year, \$1,000 par value bond that pays annual coupons of \$100. If the market rate of interest is 12%, what is the current market value of the bond?

TVM on Excel

Sum 7

Given: \$1,000 investment, compounded monthly at 12% find the future value after one year.

Sum 8

An investor deposits \$10,000 in a bank account paying 5% interest compounded annually. Rounded to the nearest dollar, in 5 years the investor will have?

Sum 9 & 10

If a \$45,000 car loan is financed at 12% over 4 years, what is the monthly car payment?

If \$10,000 is invested in a mutual fund that returns 12% per year, after 30 years the investment will be worth?



Section

Level IV – Financial Goal Planning

Financial Goal

Mr. Nirmal Kumar is a 30 year old, self employed person using PPF to accumulate Rs 30,000 per year. He has been saving for the last 5 years. He is willing to look at a lifestyle after retirement that fits into a fixed Rs. 3 lakhs p.a. spend for 15 years. What is the spending opportunity for Nirmal Kumar at the time of his retirement of age 60 given his savings and assume a rate of 6% on his funds after retirement.

Assumptions: Compounded annually, assume beginning, Inflation 3%

Financial Goal

Ms. Mamta is 30 and plans to retire at 58 years. Mamta will require inflation adjusted Rs.75,000 in the first month after retirement. Inflation is 4% p.a. & return on investment is 6% p.a. What will be the corpus at the time of retirement in order to meet this? Will Mamta's corpus be enough to fund her retirement if she saves Rs. 2 lakhs pa.? (End of year). Life expectancy 75 years.



Section

Level V – Comprehensive Planning

Comprehensive Planning

Sr.No.	Goal	Tenure	Goal Amount Today	Asset Class
1	Retirement Planning	20 Years	INR 1,00,000 per month	
2	Car Purchase	2 Years	INR 15,00,000	
3	Emergency Fund	6 Months	INR 4,00,000	
4	International Vacation	5 Years	INR 10,00,000	
5	Legacy	40 Years	INR 2,00,00,000 (then)	
6	Charity	Yearly	INR 50,000	

Thank You