



Mutual Funds

Meaning of Mutual Funds

- Mutual Fund is a trust that pools money from investors and issue its units to make investments in capital market thereby making investor to be a part owner of assets of the mutual fund.
- The fund is managed by professional money managers who invest money collected from various investors in stocks, bonds and/or other securities.
- If value of securities where Scheme has invested into goes up, the return on investment also goes up and vice versa. The net income earned on the funds, along with capital appreciation of investment, is shared amongst unit holders in proportion to units owned by them.

Concept of Net Asset Value (NAV)

It is value of per unit of Portfolio holding. It is value that unit holder would receive per unit if the mutual fund unit gets redeemed.

- It is net value of **ALL ASSETS (LESS) LIABILITIES**.
- NAV represents market value of total assets of Fund less total liabilities attributable to those assets on a per unit basis.
- NAV changes daily since value of assets and liabilities changes daily. NAV today will not be NAV tomorrow or day later. NAV fluctuates depending upon change in value of the assets & liability on a daily basis.
- NAV is computed on per unit basis i.e., dividing NAV by number of Outstanding Units.

$$\text{Formula of NAV} = \frac{\text{Net Assets of the scheme}}{\text{Number of units outstanding}}$$

Net Assets of the scheme (Format given in ICAI material)

Market value of investments	xx
Add: Receivables	xx
Add: Other accrued income	xx
Add: Other assets including CLOSING BANK BALANCE *	xx
Less: Accrued Expenses	(xx)
Less: Other Payables	(xx)
Less: Other Liabilities	(xx)
Net Assets	Total

*How to calculate closing Bank Balance (Format given in ICAI Material Q15)

Opening Bank Balance (Initial Issue proceeds - Initial Expenses - Initial Investment made)	xx
Add Items:	
Proceeds from sale of securities	xx
Dividend received	xx
Less Items:	
Cost of securities purchased	(xx)
Fund management expenses paid	(xx)
Capital gains distributed on sale of securities of mutual fund	(xx)
Dividend distributed to unitholders	(xx)
Closing Bank Balance	Total

If questions asks us to calculate closing NAV, and details of opening NAV is given then format to calculate closing NAV is as follows: (Format given in ICAI material Question 20)

Opening NAV (Opening units × Opening NAV)	xx
Add:	
Portfolio value appreciation	xx
Proceeds from issue of fresh units	xx
Income Received	xx
Less:	
Units Repurchased	(xx)
Income Distributed	(xx)
TOTAL	xx
Closing Units	xx
Closing NAV (TOTAL ÷ Closing Units)	xx

Please note that for the purpose of accuracy of answers in ICAI main exams, NAV and Number of units should be taken in 2 decimals unless otherwise mentioned in question

Entry and Exit Load in Mutual Funds: Entry and Exit Load in Mutual Fund are the charges one pays while buying and selling the fund respectively

1. Entry load is a percentage of NAV that unit holder pays while purchasing a mutual fund unit
 $\text{NAV} + \text{Entry Load} = \text{Issue Price}$
2. Exit load is a percentage of NAV that unit holder has to pay when redeeming a mutual fund unit
 $\text{NAV} - \text{Exit Load} = \text{Redemption Price}$

Important example given in ICAI module:

Mr. X earns 10% on his investments in equity shares. He is considering a recently floated scheme of a Mutual Fund where the initial expenses are 6% and annual recurring expenses are expected to be 2%. How much the Mutual Fund scheme should earn to provide a return of 10% to Mr. X?

Return to be earned by Mutual fund =

$$\left(\frac{1}{1 - \text{Initial Expenses}} \times \text{Return required by Unitholder} \right) + \text{Recurring Expenses}$$

$$= \frac{1}{1 - 0.06} \times 0.1 + 0.02 = 12.64\%$$

How to calculate holding period return: It is basically total income earned in percentage by unitholder

Holding Period Return =

$$\frac{\text{Dividend and Capital Gain income received} + \text{No. of units (NAV at time of Issue - NAV at time of sale of unit)}}{\text{Number of units} \times \text{NAV at time of issue}} \times 100$$

To convert holding period return (HPR) into Annual return = $\text{HPR} \times \frac{12/365}{\text{Number of Months/ Days}}$

Note for the purpose of calculating annual return: Number of days taken will include the date of investment in mutual fund as well as date of redemption of unit

Concept of Dividend Equalization in Mutual Funds

- Mutual funds generate income from dividends, interest, and capital gains over time.
- Investors can enter the fund at different times, but all unitholders receive dividends equally per unit when the fund declares a payout.
- New investors have not contributed to the past earnings of the fund, yet they might receive dividends from that past income.
- To prevent unfair advantages to new investors, mutual funds charge an Equalization Amount from new investors when they buy units.

Dividend Equalization amount to be charged from new unitholders:

- **When New Investors Buy Units:**
 - ✓ Mutual fund calculates income that has already been accumulated before new investment.
 - ✓ The new investors are **charged an Equalization Amount** along with their investment.
- **When Dividend is Paid:**
 - ✓ Fund distributes dividend, including equalization amount, so that all investors (old and new) get fair payouts.

Formula for Equalization Amount Per Unit to be received from unitholders =

$$\frac{\text{Income of Mutual Fund before Investment made by new investor}}{\text{Total Units outstanding before investment by new investor}}$$

So Issue price in this case will be = **NAV + Entry Load + Dividend Equalization Received**

Dividend Equalization amount to be paid at the time of redemption of units to unitholders

Generally mutual funds distribute income at the end of financial year say on 31st March every year.

Let us say on 01.06.2030, a unit holder wants to sell its unit to mutual fund. So in this case this unitholder is entitled to his share of income earned during these 3 months. Since the income will be distributed at end of FY i.e. 31.03.2031 at which time this unitholder will no longer be available.

So to compensate his portion of income earned in these 3 months, Mutual fund pays equalization amount to this unitholder which is calculated as per below formula:

Formula for Equalization Amount Per Unit to be paid unitholders =

$$\frac{\text{Income of Mutual Fund Just before Redemption of unit by unitholder}}{\text{Total Units outstanding before redemption}}$$

So Redemption price in this case will be = **NAV - Exit Load + Dividend Equalization Paid**

Calculation of Income available for distribution (Sample format taken from ICAI Material):

	Number of Units	Income Per Unit	Total Income
Income from April	300	0.0765	22.9500
Add: Dividend equalization collected on issue	6	0.0765	0.4590
	306	0.0765	23.4090
Add: Income from May		0.1125	34.4250
	306	0.1890	57.8340
Less: Dividend equalization paid on repurchase	3	0.1890	(0.5670)
	303	0.1890	57.2670
Add: Income from June		0.1500	45.4500
	303	0.3390	102.7170
Less: Dividend Paid		0.2373	(71.9019)
	303	0.1017	30.8151

There are 3 types of plans of mutual fund scheme which are relevant for exams purpose

Dividend Reinvestment Plan: Instead of receiving dividends in cash, dividends declared by the mutual fund are reinvested to purchase additional units.

Example:

Suppose an investor holds 1,000 units of a mutual fund.

Fund declares a dividend of ₹5 per unit → total dividend = ₹5,000.

Instead of paying this in cash, the mutual fund reinvests it at the current NAV.

If the NAV is ₹50, the investor receives 100 more units ($₹5,000 \div ₹50$).

Growth Plan: Under this plan, mutual fund does not pay dividends. Instead, all profits are reinvested in the fund, leading to higher NAV appreciation over time.

Example:

Suppose an investor buys 1,000 units at ₹50 per unit (₹50,000 investment).

After 3 years, NAV increases to ₹100 per unit. Investor's total value = $1,000 \times ₹100 = ₹1,00,000$.

No interim payouts (dividends) are given, but overall capital growth is higher.

Bonus Plan: The mutual fund issues additional free units to investors instead of cash dividends.

Concept of Trail commission

It is the amount that a mutual fund investor pays to his advisor each year. The purpose of charging this commission from the investor is to provide incentive to the advisor to review their customer's holdings and to give advice from time to time.

This commission comprises of 2 parts:

1. **Fixed commission:** Which is to be paid irrespective of any situation
2. **Incentive Fees:** Which is to be paid if condition of incentive is fulfilled (For eg, if profits of mutual fund in current year will be in excess of 1 crores, advisor will receive 10% commission on profits over 1 crore)

Concept of Expense Ratio:

- It is percentage of assets that were spent to run a mutual fund.
- It includes things like management and advisory fees, travel costs, audit fees, custodian fees, registrar fees, consultancy fees etc.
- It does not include brokerage costs for trading the portfolio.
- It is also referred to as the Management Expense Ratio (MER) or Total Expense Ratio (TER)

$$\text{Formula of Expense ratio} = \frac{\text{Expenses incurred per unit}}{\text{Average NAV}} \times 100$$

Concept of Tracking error:

Tracking Error is a measure of how much returns of a mutual fund (especially an index fund or ETF) deviate from the returns of its benchmark index. It shows the difference in performance due to fund management decisions, expenses, and other factors.

$$\text{Formula of tracking error} = \sqrt{\frac{\sum (d - \bar{d})^2}{n-1}}$$

Where,

d = differential return

$\bar{d}$ = Average of differential return

n = Number of observations