

ILLUSTRATIONS

Q1. X invests ₹ 1,000 on 1 January, 2016 in a mutual fund scheme with NAV of ₹ 10 that charges an exit load of 1% for redemption within one year. In April 2016, he invests ₹ 630 at NAV of ₹ 15 in the same fund. What will be the exit load:-

- if X opts to redeem in October, 2016 when its NAV is ₹ 20.

- if X opts to redeem in March, 2017 when its NAV is ₹ 12.

Solution: No. of units bought in Jan., 2016: $1000/10=100$.

No. of units bought in April, 2016: $630/15=42$.

- If X redeems in October, 2016, he may exit for both the investments when NAV is 20. Thus, he would pay 1% of $(100 \times 20 + 42 \times 20) = ₹ 28.40$ as exit load. He will get ₹ 2,811.60 $(2,480 - 28 - 40)$.

Q1. If X redeems in March, 2017, exit load is to be paid for second investment only i.e. 1% of ₹ 504 × 12 = ₹ 5.04. He will get ₹ 498.56 (504-5.04).

Q2. A No Load mutual fund has an NAV of ₹ 350 and ₹ 365 in the beginning and at the end of the period respectively. During the period, it incurred expenses at the rate of ₹ 1.50 per unit. Calculate Expense Ratio.

Solution: Expense Ratio = Annual Expenses/Average AUM
 = 1.50 / [(35+42)]/2 × 100
 = 1.50/38.5 × 100
 = 3.896 %

Q3. Following information is available in respect of investments made by mutual fund:

| | |
|---|--------------------|
| 9% Debentures | ₹ 8,00,000 |
| 6% Government Bonds | ₹ 10,20,000 |
| Equity Capital (60,000 equity shares of ₹ 100 each) | ₹ 60,00,000 |
| | <u>₹ 78,20,000</u> |

During the year, the mutual fund received dividends of ₹ 11,00,000 on equity shares. Interest on debentures and government bonds was also received. The debentures were quoted at 90% in the market. The Mutual fund made an issue of 8,00,000 units of 10 each on January 1, 2016. Calculate NAV given the operating expenses incurred during the year ₹ 6,00,000. What would be the NAV if mutual fund distribute dividend of ₹ 0.50 during the year to the unit holders.

Solution: Cash Balance at the end of the year is:

| | |
|---|------------------|
| Cash balance at the beginning (80,00,000 - 78,20,000) | 1,80,000 |
| + Dividends on equity shares (given) | 11,00,000 |
| + Interest on 9% debentures (9% of 8,00,000) | 72,000 |
| + Interest on 6% Government bonds (6% of 10,20,000) | 61,200 |
| Cash balance at the end | <u>14,13,200</u> |

Calculation of NAV:

Market Value of Assets:

| | |
|---------------------------|------------------|
| Cash Balance | 14,13,200 |
| + 9% Debentures @ 90% | 7,20,000 |
| + 6% Government Bonds | 10,20,000 |
| + Equity Capital | 60,00,000 |
| Total Assets | <u>91,53,200</u> |
| Less: Operating Expenses | 6,00,000 |
| Total Market Value of AUM | <u>85,53,200</u> |
| No. of units | 8,00,000 |
| NAV per unit | ₹ 10.69 |

....(1)

....(2)

....[(1)/(2)]

Calculation of NAV when dividends were paid:

| | |
|--|-------------|
| Total Market Value of AUM $[85,53,200 - (8,00,000 \times .5)]$ (3) | ₹ 81,53,200 |
| No. of units (4) | ₹ 8,00,000 |
| NAV (3 / 4) | ₹ 10.19 |



POINTS TO REMEMBER

- Mutual fund is a collective investment vehicle that pools together savings or funds of large number of investors that meet the investment objective of the investors and by investing such funds in diverse set of securities across various sectors/industries.
- Mutual Funds are guided by SEBI (Mutual Fund) Regulations, 1996.
- The organizational structure of Mutual Funds in India consists of various parties like AMC, Trustees, Sponsors, Fund Managers Etc.
- There are various advantages as well as disadvantages of investing in Mutual Funds.
- Investors invest in mutual funds with the motive of earning a return and or capital appreciation.
- Net Asset Value (NAV) is the value of one unit of investment in a fund that changes on daily basis. It is arrived at after deducting annual operating expenses charged on the scheme.
- There are direct as well as indirect costs or expenses of investing in mutual funds.
- Direct costs are known as Loads which the investor is required to pay at the time he enter or exits from the mutual fund scheme.
- Indirect costs are operating expenses charged in respect of management of assets in mutual funds.



NUMERICAL ILLUSTRATION

Q. 1. Calculate Net Asset value of a mutual fund when the following information is provided:

Details

Cash Balance

Bank Balance

Bonds/Equity Shares (Realisable Value)

Expenses

No. of units outstanding

Rs.
4,00,000
2,00,000
10,00,000
1,00,000
2,00,000

B.Com (H) III, DU, 2007

Ans. Calculation of NAV:

Details

Cash Balance

Bank Balance

[Bonds (Realizable value), Equity Shares]

Less: Expenses

Total Market Value of AUM (1)

Rs.
4,00,000
2,00,000
10,00,000
16,00,000
1,00,000
15,00,000

No. of units outstanding = 2,00,000 (2)

Net asset value [(1)/(2)] = Rs. 7.50

Q. 2. Calculate NAV of the following mutual funds:

| | Rs. |
|-----------------------------|----------|
| Cash Balance | 5,30,000 |
| Bank Balance | 2,70,000 |
| Market value of investments | 7,00,000 |
| Expenses accrued | 1,20,000 |
| No. of units outstanding | 1,00,000 |

B.Com (H) DU (Correspondence) 2007

Ans. (ii) Calculation of NAV :

| Details | Amount (Rs.) |
|--------------------------------|------------------|
| 1. Cash balance | 5,30,000 |
| 2. Bank balance | 2,70,000 |
| 3. Market value of investments | 7,00,000 |
| | <u>15,00,000</u> |
| Less : Expense accrued | 1,20,000 |
| Total Market Value of AUM (1) | <u>13,80,000</u> |
| No. of units outstanding (2) | 1,00,000 |

$$\text{NAV [(1)/(2)] (Per units)} = \frac{13,80,000}{1,00,000} = \text{Rs. } 13.80$$

Q. 3. A mutual fund has the following investments and expenditures. Find its 'Net Asset Value'.

| | Rs. |
|-----------------------------|-----------|
| 1. Cash and Bank Balance | 6,00,000 |
| 2. Debentures and Bonds | 5,00,000 |
| 3. Equity securities | 10,00,000 |
| 4. Government securities | 8,00,000 |
| 5. Expenses | 50,000 |
| 6. No. of units outstanding | 2,00,000 |

Ans. Net Assets Value = $\frac{\text{Value of Assets} - \text{Expenses}}{\text{No. of units outstanding}}$

| Details | Rs. |
|--------------------------|-----------|
| 1. Cash and Bank Balance | 6,00,000 |
| 2. Debentures and Bonds | 5,00,000 |
| 3. Equity shares | 10,00,000 |
| 4. Government securities | 8,00,000 |
| Total | 29,00,000 |
| Less : Expenses | (50,000) |
| Net Assets | |

$$\text{NAV} = \frac{28,50,000}{2,00,000} = \text{Rs. } 14.25 \text{ per unit}$$

Q. 4. A mutual fund made an issue of 10,00,000 units of ₹ 10 each on Jan 1, 2011. No entry load was charged. It made the following investments:

| | |
|--|------------------|
| (1) 50,000 equity shares of ₹ 100 each @ ₹ 160 | 80,00,000 |
| (2) 7% Govt. securities | 8,00,000 |
| (3) 9% Deb. (Unlisted) | 5,00,000 |
| (4) 10% Deb. (Listed) | 5,00,000 |
| | <u>98,00,000</u> |

During the year, dividends of Rs 12,00,000 were received on equity shares. Interest on all types of Debt. securities was received as and when due. At the end of the year, the equity shares and 10% debentures were quoted at 175% and 90% respectively. Find out the Net Assets Value (NAV) per unit given that the operating expenses paid during the year amounted to Rs. 5,00,000. B.Com (H) III, DU, 2012

Ans. In order to find out the NAV, the cash balance at the end of the year is calculated as follows:

| | |
|-------------------------------|------------|
| Cash Balance in the Beginning | |
| (₹ 100 lakhs – ₹ 98 lakhs) | ₹ 2,00,000 |
| Dividend received | 12,00,000 |

| | |
|---------------------------------|------------------|
| Interest on 7% Govt. Securities | 56,000 |
| Interest on 9% Debentures | 45,000 |
| Interest on 10% Debentures | 50,000 |
| | <u>15,51,000</u> |

Less: Operating expenses
 Net Cash Balance at the end

Calculation of NAV:

- Cash Balance
- 7% Govt. Securities (at par)
- 50,000 Equity shares @ ₹ 175 each
- 9% Debenture (unlisted) at cost
- 10% Debenture @ 90%

Total Average

No. of units (Given)

NAV per unit

Calculation of NAV, if dividend of ₹ 0.80 is paid:

Net Assets (₹ 1,15,51,000 — 8,00,000)

Number of units

NAV per unit

Q. 5. A mutual funds has an NAV of ₹ 18 per unit in the beginning of the period and ₹ 22 per unit at the end of the period. It has incurred expenses at the rate of ₹ 0.80 per unit. Find the expense ratio.

B.Com (H) III, DU, 2015

Ans. Expense ratio = $\frac{\text{Expenses}}{\text{Average NAV}} \times 100$

= $\frac{0.80}{(18 + 22)/2} \times 100$

= $\frac{0.80}{20} \times 100 = 80\%$

During the year, dividends of ₹ 12,00,000 were received on equity shares. Interest on all types of debt securities was received as and when due. At the end of the year, the equity shares and 10% debentures were quoted at 175% and 90% respectively. Find out the Net Assets Value (NAV) per unit given that the operating expenses paid during the year amounted to ₹ 5,00,000.