

Part-1

Dividend Reinvestment Plan vs Bonus Plan vs Growth Plan

Q.22 PG

① Dividend Reinvestment Plan -

cw. 85

Amount invested = 500000 @ NAV of 46

$$\therefore \text{Initial no. of units} = \frac{500000}{46} = 10869.57 \text{ units}$$

Date	NAV	Div. p.u.	Units received from reinvest ^m	Units held
11/4/14	46			10869.57
31/12/14	47	1.2	$(10869.57 \times 1.2) / 47 = 277.52$	11147.09*
31/3/16	49.5	1.5	$(11147.09 \times 1.5) / 49.5 = 337.79$	11484.88
31/3/18	48	1.0	$(11484.88 \times 1) / 48 = 239.27$	11724.15

$$* \text{Shortcut} \Rightarrow 10869.57 \times 48.2 / 47 = 11147.09$$

Hence market value @ the end (V_1) on 31/03/2019

$$= 11724.15 \times 49$$

$$= 574483$$

Initial Investment on 01/04/2014 (V_0)

$$= 500000$$

$$\therefore \text{HPR} = \frac{574483 - 500000}{500000} = \frac{V_1 - V_0}{V_0} \times 100 = 14.9\% \text{ (ye s saal ka h)}$$

$$\text{Effective yield p.a.} = 14.9 \times \frac{1}{5} = 2.98\%$$

② Bonus Plan -

Amount Invested = 1000000 @ NAV of 42

$$\therefore \text{Initial units purchased} = \frac{1000000}{42} = 23809.52$$

 V_0 = Market Value on 01/04/2014 = 1000000 V_1 = Market Value on 31/03/2019 = 34722.22 × 44

$$= 1527778 \text{ (Refer table below)}$$

Date	Bonus Ratio	Bonus Units received	Units Held
11/4/14			23809.52
30/9/15	1:4	$23809.52 \times 1/4 = 5952.38$	29761.90*
30/9/17	1:6	$29761.90 \times 1/6 = 4960.32$	34722.22

(*) Shortcut = $23809.52 \times 5/4 = 29761.90$

$$HPR = \frac{V_1 - V_0}{V_0} \times 100 = \frac{1527778 - 1000000}{1000000} \times 100 = 52.78\%$$

$$E.yield, p.a. = 52.78 \times \frac{1}{5} = 10.56\%$$

Self Practice: HW @ 16) pg. 54

Q. 21	pg	① Dividend Reinvestment Plan -
aw. 84		Initial Investment = 920000 = V_0
		Average Profit = 27748.60
		Holding Period = 5 years
		$\therefore$ Total Profit = $27748.60 \times 5 = 138743$
		$\therefore$ Market value @ the end i.e. 31/03/2020 (V_1)
		= $920000 + 138743 = 1058743$

NAV on 31st March, 2020 = 49

$$\therefore \text{Units held @ the end} = \frac{1058743}{49} = 21607$$

• 31/03/2019 - Dividend p.u. = $10 \times 15\% = 1.5$

NAV = 45

Units held prior to 31/03/2019

$$= \frac{21607 \times 45}{46.5} = 20910 \text{ units}$$

• 31/03/2018 - Dividend p.u. = 1

NAV = 50

Units held prior to 31/03/2018

$$= 20910 \times \frac{50}{51} = 20500$$

• 31/03/2017 - Dividend p.u. = 1.2

NAV = 48

$$\text{Units held initially} = \frac{20500 \times 48}{49.2} = 20000$$

$$\therefore \text{Issue price on 01/04/2015} = \frac{920000}{20000} = \underline{46}$$

② Bonus Plan -

Investment on 01/04/2015 (V_0) = 1000000

Average yield p.a. = 6.4%

Holding period = 5 years

Total Yield = $6.4 \times 5 = 32\%$

Total Profit = $32\% \text{ of } 1000000 = 320000$

$$\therefore \text{Market Value on 31/03/2020 } (V_1) = 1000000 + 320000 = 1320000$$

Ending NAV (31/03/2020) = 44

$$\therefore \text{Units held @ the end} = \frac{1320000}{44} = 30000$$

On 31/12/2018, Bonus = 1:5

$$\therefore \text{Units before bonus} = 30000 \times \frac{5}{6} = 25000$$

On 31/12/2016, Bonus = 1:4

$$\therefore \text{Initial No. of units} = 25000 \times \frac{4}{5} = 20000$$

$$\therefore \text{Issue price on 01/04/2015} = \frac{1000000}{20000} = \underline{50}$$

Part-2

Q. 22] pg. 85 → modified with tax information

Change 2 dates in the sum - 30/09/17 to 30/09/18

30/03/18 to 31/12/18

Consider the following -

LTCG exempt from tax & Tax on STCG = 10%

STT = 0.2% calculate Effective yield p.a.

(1) Dividend Reinvestment Plan :

same table of original sum.

Redemption price net of STT = $49 - 0.2\% = 48.902$

$\therefore$ Redemption proceeds = $11724.15 \times 48.902 = 573334$

(-) Short Term Capital Gain Tax = 22

$[10\% \text{ of } 239.27 \times (48.902 - 48)]$

$\therefore V_1 = 573312$

$$\text{HPR} = \frac{V_1 - V_0}{V_0} \times 100 = 14.66\%$$

$$\text{EAR} = 14.66 \times \frac{1}{5} = 2.93\%$$

(2) Bonus Plan : Try yourself at home.

Self Practice : HW. Q. 11] pg. 52 ; HW. Q. 14] pg. 53

-/- Direct Investment vs. Investment in Mutual Fund :-

$$R_2 = \frac{R_1}{1 - \text{Initial Expense (\%)}} + \text{Recurring Expense}$$

where, R_2 : Return earned by the mutual fund.

R_1 : Return earned through Direct investment.

Q. 18	pg	(i)
Ans. 83		$R_2 = \frac{15}{1 - 0.06} + 2 = 17.96\%$

where, $R_1 = 15\%$, $IE = 6\%$, $RE = 2\%$

(ii) Case 1 : Don't invest in multicap fund -

Professional Income = 4000000

Investment Income = $15\% \text{ of } 5000000 = 750000$

Total Income = 47500000

Alternative 2 : Invest in multicap fund-

Professional Income = 4000000 + 10% of 4000000
= 4400000

Investment Income = 13% of 5000000 = 650000

Total Income = 50500000

Advice : So, Mr. Alex should invest in multicap fund & net financial benefit = 300000

Self Practice : HW. Q. 10] pg. 51 ; CW. Q. 19] pg. 83

Q. 17	pg	(i) Front end Load i.e. Entry Load
CW. 83		$= \frac{10.204 - 10}{10} \times 100 = 2.04\%$

(ii) Back End Load i.e. Exit Load
 $= \frac{9.8 - 10}{10} \times 100 = 2\%$