

your overall performance is good but try hard to get more good score in exam. You need to attempt questions in written format to improve the marks. These are scoring topics, don't lose marks in these. try to work on your weak points properly.

## SFM - Test 3

classmate

Date \_\_\_\_\_

Page \_\_\_\_\_

TM- 34.5

3.5 Marks

Q-1 Pricing the securitized instrument is an ~~important~~ important aspect of securitization since the pricing of the instruments should be acceptable to the investors against its ~~assets~~ assets as well as should provide reasonable inflow to the originator.

From originator's angle: The originator would like the instruments to be priced at which the originator can recoup ~~all~~ its expenses along with the amount of capital invested.

You have good conceptual understanding of this question

From Investor's angle: The investor would be willing to invest in an instrument if it provides the investors by ~~discounting~~ discounting all the future cash flows and ~~adjusting~~ adjusting the corresponding opportunity cost accordingly.

Q.2

Plan A: Dividend Reinvestment Plan

8 Marks

Date	Dividend	NAV	Units	Cumulative
1/4/09	—	10	—	20000
31/7/13	20000	30.70	651.47	20651.47
31/3/14	72280.15	58.42	1237.25	21888.72
30/10/17	43777.44	42.18	1037.87	22926.59
15/3/18	28658.24	46.65	614.32	23540.91
25/3/19	47081.82	48.1	978.83	24519.74

keep up the good work

On Redemption of units

	Sale price	$[(53.75 - 0.21) \times 24519.74] \rightarrow 1315300$
(-)	STCG	$[(53.75 - 0.21) - 48.1] \times 978.83 \times 10^1 \rightarrow (542.24)$
	Net Cash inflow	1314757.76
(-)	Initial investment	(200000)
	Net Gain	1114757.76

$$\therefore \text{Average return} = \frac{1114757.76}{200000} \times 100 = 557.38\%$$

You have correctly solved this

$$\therefore \text{Average return p.a.} = \frac{557.38}{10.33 \text{ yrs}}$$

$$53.96\% \text{ p.a.}$$



### Plan B: Bonus Plan

Date	Bonus	Units	Cumulative units
1/4/09	<del>20000</del>	-	20000
31/3/14	5:4	25000	45000
31/3/18	1:3	15000	60000
25/3/19	1:4	15000	75000

well done

### On Redemption of units

	Sale price less STT $(22.98 - 0.21) \times 75000 \rightarrow 1720053$
(-) STC @ 10% $[(22.98 - 19.95) \times 15000] \times 10\% \rightarrow (4545)$	
	Net Inflow 1715508
(-) Initial investment (200000)	
	Net Gain 1515508

$$\therefore \text{Average Return} = \frac{1515508}{200000} \times 100 = 757.75\%$$

You have good practical understanding of this question

$$\text{Average Return p.a.} = \frac{757.75}{10.33} = \boxed{73.35\% \text{ p.a.}}$$

### Plan C: Growth Plan

	Sale price less STT $(82.07 - 0.21) \times 20000 \rightarrow 1638117.2$
(-) Initial investment (200000)	
	Net gain 1438117.2

$$\therefore \text{Average Return} = \frac{1438117.2}{200000} \times 100 = 719.06\%$$

$$\therefore \text{Average Return p.a.} = \frac{719.06}{10.33} = \boxed{69.61\% \text{ p.a.}}$$

good work

n) Conclusion : ~~Mr. Ashish~~ Mr. Amit (Bonus Plan) has earned the highest effective yield per annum @ 73.35% and the difference between his second best competitor Mr. Ashish is 3.74% [73.35 - 69.61] .

You have great knowledge about this question



Q.3  
i)

## Calculation of NAV of Fund

8 Marks

Particulars	£ '000s
<u>Market value of shares</u>	
- IT & ITES Companies [28 × 2950 / 1750]	47.2
- Infra Companies [15 × 2475 / 1375]	27
- Aviation Co. [7 × 2570 / 1540]	11.68
- Automotive [32 × 2860 / 1760]	52
- Banking [8 × 2300 / 1600]	11.5
<u>Market value of Investment in Bonds [Listed]</u>	
10 × 10.5%	12.5
8.4% adjustment are very well attempted	
<u>Unlisted Bonds</u>	8
<u>Cash &amp; other assets</u>	2
(-) o/s Expenses	(2)
<u>NAV of fund</u>	<u>168.88</u>

ii) NAV per unit =  $\frac{168.88 \text{ '000s}}{5.5 \text{ '000s}} = \underline{\underline{30.71}}$

## iii) NAV of Fund at beginning

Particulars	£ '000s
<u>Investment in shares</u>	
- IT & ITES	28
- Infra	15
- Aviation	7
- Automotive	32
- Banking	8
<u>Investment in Bonds</u>	
10 × 10.5%	12.5
8.4% adjustment are accurately considered here	
<u>Unlisted</u>	8
	<u>168.88</u>



$$\text{Opening NAV per unit} = \frac{108}{5.5} = ₹ 19.64$$

⇒ Computation of returns per unit

$$\text{Capital appreciation} = 30.71 - 19.64 = ₹ 11.07$$

$$\text{Dividend} = ₹ 2 \times 2 = ₹ 4$$

$$\therefore \text{Returns} = \frac{11.07 + 4}{19.64} \times 100 = 76.73\%$$

well solved

$$\therefore \text{Returns p.a.} = \frac{76.73}{2} = 38.37\% \text{ p.a.}$$

⇒ Computation of expense ratio

$$\begin{aligned} \text{Total expenses} &= 2.75 \text{ crs} + 3.5 \text{ crs} + 0.8 \text{ crs} \\ &= 7.05 \text{ crs} \end{aligned}$$

$$\text{Average value of portfolio} = \frac{108 + 168.88}{2} = \frac{276.88}{2}$$

$$\frac{276.88}{2} = ₹ 138.44 \text{ crs}$$

You have correctly solved this

$$\therefore \text{Expense Ratio} = \frac{7.05}{138.44} \times 100 = 5.1\%$$

Apply the same approach towards your exams.



4 Marks

Q.4 Since, the maximum loss that Ram can afford is 5% i.e. ₹50 (1000 + 5%), he must buy a put option at a strike price of ₹950, which is trading at a premium of ₹8. He should hold the stock.

In such a case, if after 1 month:

Spot Price after 1m	Share price	Put payoff	Premium	Total
$S < 950$	5	$950 - S$	(8)	$942 - S$
$S > 950$	5	0	(8)	$S - 8$

understanding is correct

Hence from the above, it can be seen that the lowest price it can go is 942, but for which he will be compensated for by the put option. Hence his net position would never go below ₹950. [excluding premium cost]

6 Marks

Q.5 a) In case the market ~~portfolio~~ falls by 5%, the portfolio would be impacted by:

$$5200 \times 5\% \times 100 \text{ lots} = ₹26000$$

There would be a decrease of ₹26000 on Nifty Portfolios

good understanding

b) The delta of options is given as -0.5 i.e. for every positive change of ₹1, the value of option would turn negative by ₹0.5 and vice versa. Going by the above, the value of put option would go by 2.5%, since market is falling by 5%. There increase in value of put option =  $200 \times 2.5\% = ₹5$



Q) Shyam is currently holding a portfolio of ₹ 5.2 lacs. In order to perfectly hedge, he would have to buy put options since he has a long position on Nifty. As given, the beta of put option is 0.5.

$$\therefore \text{No. of puts to be purchased} = \frac{520000}{0.5} = \frac{1040000}{200} = \underline{\underline{5200 \text{ puts}}}$$

$$\text{No. of lots} = \frac{5200}{100} = \underline{\underline{52 \text{ lots}}}$$

This shows you've really been studying.

Proof: Considering the original example of fall of 5% to portfolio [as calculated in a)] = 26000

$$\text{Profit from puts [as calculated in b)]} = 26000$$

$$5 \times 5200$$

very well attempted

Hence, the portfolio would be perfectly hedged.

5 Marks

Q.6 Since the company will have payable, it is afraid of the price going up. Hence it must long futures for hedging the exposure. The company must buy future now in January and square off the same in March and buy crude at spot in March.

Qty to be hedged = 733 barrels

lot size = 100 barrels

$$\text{No. of contract to be bought} = \frac{733}{100} = 7.33$$

[Rounding off to 8 lots]

$$\therefore \text{Amt} = 8 \times 100 \times 5700 = ₹ 4560000$$

good work



ii) Position in March  
Cash outflow  
Purchase crude at spot  
 $[5500 \times 733]$

~~4031500~~

You have great knowledge about this question.

(-) Gain on futures position  
 $[(5800 - 5700) \times 100 \times 8]$   
Net outflow

(80000)

3951500

$$\therefore \text{Effective price per barrel} = \frac{3951500}{733} = \underline{5391}$$

you have done this question very nicely ,.well done