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Answer Paper	
Strategic Financial Management	**Duration**: 65
Details: Test – 3	**Marks**: 35

Instructions:

- All the questions are compulsory
- Properly mention test number and page number on your answer sheet, Try to upload sheets in arranged manner.
- In case of multiple choice questions, mention option number only Working notes are compulsory wherever required in support of your solution
- Do not copy any solution from any material. Attempt as much as you know to fairly judge your performance.

ANS – 1

Pricing of securitized instruments in an important aspect of securitization. While pricing the instruments, it is important that it should be acceptable to both originators as well as to the investors. On the same basis pricing of securities can be divided into following two categories:

⊂ **From Originator's Angle:** From originator's point of view, the instruments can be priced at a rate at which originator has to incur an outflow and if that outflow can be amortized over a period of time then it should match the amount raised through securitization.

⊂ **From Investor's Angle:** From an investor's angle security price can be determined by discounting best estimate of expected future cash flows using rate of yield to maturity (Kd) of a security of comparable security with respect to credit quality and average life of the securities. This yield can also be estimated by referring the yield curve available for marketable securities, though some adjustments is needed on account of spread points, because of credit quality of the securitized instruments.

ANS - 2

Calculation of effective yield per annum of each of the investors

Mr. Arun Plan A Dividend Reinvestment (Amount in Rs)

Date	Investment	Dividend payout(%)	Dividend Re-invested (Closing Units X Face value of '10 X Dividend Payout %)	NAV	Units	Closing Unit Balance
01.04.2009	2,00,000.00			10.00	20,000.00	20,000.00

31.07.2013		10	20,000.00	30.70	651.47	20,651.47
31.03.2014		35	72,280.15	58.42	1,237.25	21,888.72
30.10.2017		20	43,777.44	42.18	1,037.87	22,926.59
15.03.2018		12.5	28,658.24	46.45	616.97	23,543.56
25.03.2019		20	47,087.12	48.10	978.94	24,522.50

Redemption value 24522.5 × 53.75	13,18,084.38
Less: Security Transaction Tax (STT) is 0.2%	2636.17
Net amount received	13,15,448.21
Less: Short term capital gain tax @ 10% on 978.94 (53.64* − 48.10≈) = 5423.33	542.33
Net of tax	13,14,905.88
Less: Investment	2,00,000.00
	11,14,905.88

*(53.75 − STT @ 0.2%) ≈ This value can also be taken as zero

Annual average return (%) = 11,14,905.88 / 200,000 x 12/124 x 100 = 53.95%

Mr. Amit Plan B – Bonus (Amount in Rs)

Date	Units	Bonus units	Total Balance	NAV per unit
01.04.2009	20,000		20,000	10
31.03.2014		25,000	45,000	31.05
31.03.2018		15,000	60,000	20.05
25.03.2019		15,000	75,000	19.95

Redemption value 75,000 ×22.98	17,23,500
Less: Security Transaction Tax (STT) is 0.2%	3447
Net amount received	17,20,053
Less: Short term capital gain tax @ 10%	
15,000 × (22.93† − 19.95) = 44,700	4470
Net of tax	17,15,583
Less: Investment	2,00,000
Net gain	15,15,583

†(22.98 − STT @ 0.2%)

Annual average return (%) = 15,15,583 / 200,000 x 12/124 x 100 = 73.33%

Mr. Ashish Plan C – Growth

Particulars	(Amount in Rs)

Redemption value 20,000 × 82.07	16,41,400.00
Less: Security Transaction Tax (S.T.T) is 0.2%	3282.80
Net amount received	16,38,117.20
Less: Short term capital gain tax @ 10%	0.00
Net of tax	16,38,117.20
Less: Investment	2,00,000.00
Net gain	**14,38,117.20**

Annual average return (%) = 14,38,117.20 / 200,000 x 12/124 x 100 = 69.59%

(ii) Mr. Amit (Bonus Plan) earns the highest effective yield per annum of 73.33% and the difference to his nearest investor Mr. Ashish is 3.74 (73.33 – 69.59%).

Note: Alternatively, figure of * and † can be taken as without net of Tax because, as per Proviso 5 of Section 48 of IT Act, no deduction of STT shall be allowed in computation of Capital Gain.

In such case:

Mr. Arun Plan A – Short term capital gains tax would be Rs 553.10. Accordingly Net of tax will be Rs 13,14,895.10 and the net gain would be Rs 11,14,895.10.

Mr. Amit Plan B – Bonus Plan – Short term capital gains tax would be Rs 4,545. Accordingly Net of tax will be Rs 17,15,508 and the net gain would be Rs 15,15,508.

ANS - 3

1. Net Asset Value of the Fund

Particulars	₹ in Cr.
Market Value of Shares in —	
(a) IT and ITES [Cost Rs. 28 X Closing Sector Index 2950 ÷ Opening Sector Index 1750]	47.2
(b) Infrastructure[Cost Rs. 15 X Closing Sector Index 2475 ÷ Opening Sector Index 1375]	27.00
(c) Aviation [Cost Rs. 7 X Closing Sector Index 2570 ÷ Opening Sector Index 1540]	11.68
(d) Automotive [Cost Rs. 32 X Closing Sector Index 2860 ÷ Opening Sector Index 1760]	52.00
(e) Banking [Cost Rs. 8 X Closing Sector Index 2300 ÷ Opening Sector Index 1600]	11.50
2. Market Value of Investment in Listed Bonds [Face Value Z10 Cr. X Interest on Face Value 10.50% ÷ Market Expectation 8.40%]	12.50
3. Cost of Investment in Unlisted Bonds	8.00
4. Cash and Other Assets	2.00
Total Assets of the Fund	171.88
Less: Outstanding Expenses	(3.00)
Net Asset Value of the Fund	168.88

Note: It is assumed that Cash and other Assets existed from the beginning of the period at the same values.

2. Net Asset Value per Unit NAV per Unit- = Net Asset Value of the Fund ÷ No. of Units

Outstanding = Rs 168.88 Cr./5.50 Units = Rs 30.71

(3.5 Marks)

Annualized Return on Fund

(a) Computation of Opening NAV

Particulars	₹. in Cr.
1. Investment in Shares (at Cost)	
• IT and ITES Companies	28.00
• Infrastructure Companies	15.00
• Aviation, Transport and Logistics	7.00
• Automotive	32.00
• Banking /Financial Services	8.00
2. Investment in Fixed Income Bearing Bonds	
• Listed Bonds [10,000 10.50% Bonds of Rs. 10,000 each]	10.00
• Unlisted Bonds Net Asset Value	8.00
Net Asset Value	108.00

Note: Cash and Other Assets are not included because they arise out of investments n beginning.

(a) Computation of Opening NAV per Unit NAV per Unit

=Net Asset Value of the Fund ÷ No. of Units Outstanding

= Rs. 108.00 Cr. Units = Rs. 19.64

(1.5 Marks)

(c) Computation of Returns per Unit

• Capital Appreciation= Closing NAV per Unit - Opening NAV per Unit = 30.71 - 19.64 = ₹. 11.07

• Cash Dividend = Rs 2 X 2 Years = ₹. 4

• Returns = [Cash Dividend + Capital Appreciation] ' Opening NAV = [Rs. 4.00 + Rs 11.07] ÷ ₹ 19.64 = Rs 15.07 ÷ ₹ 19.64 = 77%

• Return p.a = Total Return/Period = 77% ÷ 2 Years = 38.50%

(1.5 Marks)

(d) Expense Ratio

- **Total Expense** = Management Advisory Fee 2.75 Cr. + Administration Exp. 3.50 Cr. +

  Publicity and Documentation 0.80 Cr. = 7.05 Cr.

- **Average Value of Portfolio**

  = (Opening Net Asset Value + Closing Net Asset Value) ÷ 2

  = (108 Cr. + 168.88 Cr.) ÷ 2 = 276.88 Cr. ÷ 2 = 138.44 Cr.

- **Expense Ratio**= Total Expenses ÷ Average Value of Portfolio

= [07.05 ÷ Cr. 138.44 Cr.] x 100 = 5.00%

- **Expense Per Unit** = Total Expenses ÷No. of Units

=7.05 Cr. ÷ 5.50 Cr. = 1.282

(1.5 Marks)

ANS - 4

Instead of selling the stock of Reliance Ltd., Ram must cover his Risk by buying or long position in Put Option with appropriate strike price. Since Ram's risk appetite is 5%, the most suitable strike price in Put Option shall be ` 950 (` 1000 – 5% of ` 1000). If Ram does so, the overall position will be as follows:

Spot Price after 1 month	Stock Value	Put Payoff	Initial Cash Flow	Total
S < 950	S	950 – S	-8	942 - S
S > 950	S	-	-8	S – 8

Thus, from the above, it can be seen that the value of holding of Ram shall never be less than `942 as Put Option will compensate for loss below spot price of ` 950. However, this strategy will involve a cost of ` 8.

ANS - 5

a. We know that beta of Nifty, which is a bound based market index, is 1.0. Thus if market were to fall be 5%, Shyam would find his Nifty portfolio losing 5% of its value i.e. 5% of (100 × 5200) = Rs 26,000

b. Put options of Nifty have a delta of -0.5. Using the definition of delta, we can say that for every change of +Rs1 in the underlying, put options would change by –Rs0.5. Thus if Nifty falls by 5%, the put options would rise by 0.5 × 5% i.e. 2.5%. Thus Nifty options which are currently quoting at Rs200, would rise by 2.5% × 200 = Rs5.

c. To hedge Nifty portfolio Shyam would buy put options of Nifty. Since movement of Nifty and movement of put options are non-correlated, through by different extent, as explained by the delta, one has to buy put options against the held portfolio for hedging. Shyam would buy put options worth, (β/δ) times the value of portfolio for perfect hedging. Here β = 1.0, δ = -0.5 and the value of the held portfolio = Rs 5.2 lakhs. Thus shyam would buy Rs 10.4 lakhs worth put options for perfect hedging. Since each option quotes at Rs 200, Shyam would buy 5200 puts or 52 lots.

Consider now that market falls by 10%.

Loss in Nifty portfolio = 1.0 × 5% × Rs 5.2 lakhs = Rs 26000

Gain from buying Nifty put options = (0.5 × 5%) × 5200 × Rs 200 = Rs 26000

[Note that as Nifty falls, put options which have negative delta would rise; nut since we have bought the put options, there would be gains]

ANS - 6

1.) The oil company must go long on futures of crude oil. Hedging strategy would be to take position in the futures market opposite to that of in physical market. The hedging strategy should be:

January – buy future contract now

March - purchase crude oil at the price prevailing then in spot market, and sell the futures contract.

Quantity to be imported/hedged =200 tonnes or 733 barrels

Contract size = 100 barrels

No. of contract to be bought = 733/100 = 7.33 (rounded to 8)

Value of Futures Contracts bought = 8 x 100 x 5700 = 45,60,000

(3 Marks)

2.) Position in March

Spot price = 5,500

Future price = 5,800

Oil Company will actually buy the exact quantity required from spot market:

= 733x5,500 = 40,31,500

Cash flow on future position

Futures buying price (Bought in January) = 5,700 per barrel

Futures price in March – Selling price = 5,800 per barrel

Profit = 10 per barrel

Realization from futures market = 8 x 100 x 100 = 80,000

Net cost of oil Company = Current Purchase Price from spot – Gains from futures market = 40,31,500 – 80,000 = 39,51,500

Effective price per barrel = 39,51,500/7333= 5391