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PAPER 6B: FINANCIAL SERVICES AND CAPITAL MARKETS - ELECTIVE PAPER

*The Question Paper comprises five case study questions. The candidates are required to answer any **four** case study questions out of five.*

While answering the multiple-choice question, candidates are required to indicate the alphabet of their choice in capital letters.

In case, any candidate answers extra question(s)/ sub-question(s) over and above the required number, then only the requisite number of questions first answered in the answer book shall be valued and subsequent extra question (s) answered shall be ignored.

CASE STUDY - 1

Amar Mohan Asset Management Company (AMAMC) is promoted by a leading business group known as ALPHAS. In addition to AMAMC, ALPHA5 has two financial services companies and one software company named FinoServe Ltd. (FSL). FSL is a leader in utility software business and generates surplus cash each year as it earns on an average 40% EBITDA margins. Surplus cash of FSL is frequently invested in various mutual fund schemes in addition to investment in fixed deposit schemes of reputed banks.

1. AMAMC

AMAMC is one of the largest asset management companies. It has launched many mutual fund schemes over the last few years. However, the management of AMAMC feels that Assets Under Management (AUM) are not increasing as per the target and hence it has been decided to launch a few more schemes.

The following schemes are under consideration:

- *Attractive Investment Prospects in India Fund, which will invest in equities of relatively lesser-known companies.*
- *Hidden Treasures of India Fund, which will invest in unlisted companies in India.*
- *AMAMC Mid and Small Cap Fund, which will invest at least 80% of the funds in Mid and Small Cap companies.*
- *AMAMC Value Fund, which will invest in companies that are relatively lower priced compared to their peers.*
- *Focused Forty Multi-Cap Fund, wherein AMAMC will invest in a maximum of 40 companies across Large, Mid and Small Cap companies.*

The Head of Fixed Income Securities, Mr. Goutham Prashanth, feels that AMAMC must also launch new Debt Funds to cater to investors looking for safety. He has come up with the following suggested Funds:

- *AMAMC Constant Maturity G-Sec Fund, which will invest primarily (90% or more) in securities issued by Central Government.*
- *AMAMC Ultra Short Term Fund, which will invest in securities with duration of 3 to 6 months.*
- *AMAMC Long Duration Fund, which will invest in securities with average portfolio duration of 5 years.*
- *AMAMC Long Duration Fund, which will invest in securities with average portfolio duration of 7.5 years.*

One of the flagship Debt Fund schemes of AMAMC is AMAMC Ultra Liquid Fund. The Debt Fund was launched with the objective of providing investors looking to park their funds safely for a short period of time with an attractive option, wherein they could earn higher returns as compared to fixed deposits. The Debt Fund delivered an annualized yield of around 6%, as against other funds in the category which delivered a yield of around 4.5%. Consequently, inflows into the funds, particularly from corporates, were very high. The AUM of this Debt Fund was in excess of INR 25,000 crore. The Debt Fund earned superior return because the fund manager, Mr. Shailesh Mohan, invested a large portion of the Debt Fund in longer dated securities that generated a higher yield. This did not impact the Debt Fund liquidity as it could easily meet redemption requests with new inflows. While he has taken care not to invest in any instrument which has a rating of less than A minus, there has been a tendency to invest in A-rated debt instruments compared to AA or AAA rated debt instruments to increase returns. Mr. Shailesh Mohan always believed that he is ahead of the game and would pull off relatively higher yields without compromising on any risks. Meanwhile, Mr. Vinod Shastri, the head of a large Investment Bank has requested Mr. Shailesh Mohan to invest in 90-day commercial paper being issued by one of its client Wind Water Solutions Ltd. (WWSL), which is shortly going for an IPO. Mr. Vinod Shastri assured Mr. Shailesh Mohan that all ground work has been done, and the IPO proposal is just awaiting SEBI approval and would hit the markets soon. As an added incentive, the commercial paper, with the face value of INR 100,000 would be offered at an issue price of INR 95,000 to AMAMC, redeemable at par. Mr. Shyam Trivedi, who has recently taken over as a Compliance Officer of AMAMC has called for a meeting to discuss new fund offers, the performance of existing Funds and the proposal to invest in commercial paper of WWSL.

2. FSL

FSL is in the process of identifying Funds that are either actively managed or passively managed. After making analysis of such fund, a decision would be made to invest either in both types of Funds or only one type of Fund. You have been hired to make a reasoned analysis between Passive Fund and Active Funds selected by FSL as it does not have in-house expertise. One of the relatives of the marketing manager of FSL is a software engineer. Her name is Saloni Reddy. Saloni is aged 23 and has been working for the last two years in a reputed software company and has accumulated a large sum of money from her employment. The marketing manager has come to know that you have been hired for making analysis of actively managed and passively managed Funds. He requested you to also suggest Saloni about the right type of mutual fund for making investment considering that she does not want to pay higher fees to the Fund and wants return to be aligned with either return of NIFTY or SENSEX.

FSL has made investment in number of mutual funds. The CFO of FSL requested you to evaluate the risk-adjusted performance of the Large-Cap, Mid-Cap, and Balanced Funds from January 1, 2022 to December 31, 2022. The relevant market data pertaining to the return and the risk of the Funds selected and for the identified period are presented below.

Particulars	Large Cap Fund	Mid Cap Fund	Balanced Fund
Annualized Return	17.50%	16.00%	14%
Annualized Risk: σ	10.20%	9.50%	7.50%
Risk-Free Rate (R_f)	5.23%	5.23%	5.23%
Annualized Return of NIFTY	12%	10%	11%
Beta with respect to NIFTY	1.25	1.11	0.92

Multiple Choice Questions

1.1 What is the annualized yield earned by AMAMC if it decides to invest in the Commercial paper of WWSL?

- (A) 5%
- (B) 20%
- (C) 23%
- (D) 5.26%

(2 Marks)

1.2 Based on the information given in the Case Study, which of the following is correct about schemes of AMAMC with respect to getting SEBI's approval?

- (A) Hidden Treasures of India Fund, which will invest entirely in unlisted companies in India, is likely to get SEBI's approval.

- (B) *AMAMC Mid and Small Cap Fund, which will invest at least 80% of the funds in Mid and Small Cap companies, is likely to get SEBI's approval.*
- (C) *Focused Forty Multi-Cap Fund in the Focused Fund category, wherein the AMAMC will invest in a maximum of 40 companies across Large, Mid and Small Cap companies, is likely to get SEBI's approval.*
- (D) *SEBI is likely to reject all Funds listed in (A), (B) and (C) above.* **(2 Marks)**
- 1.3 Which of the following statement is correct about the Long Duration Fund?
- (A) *Long Duration Fund needs to invest in securities with maturity of more than 5 years only.*
- (B) *Long Duration Fund needs to invest in securities such that the average Macaulay Duration is greater than 7 years.*
- (C) *Long Duration Fund needs to invest in securities such that the average Macaulay Duration is 5 to 7 years.*
- (D) *Long Duration Fund needs to invest in securities such that the average Macaulay Duration is 3 to 5 years.* **(2 Marks)**
- 1.4 The fund manager of AMAMC Ultra Liquid fund, Mr. Shailesh Mohan, is generating consistent returns. According to you, which of the following is the most appropriate answer about the risks to which investments made by Mr. Shailesh Mohan are exposed to?
- (A) *Liquidity Risk and Credit risk*
- (B) *Credit Risk and Reinvestment Risk*
- (C) *Credit and Market risk*
- (D) *Credit, Market Risk and Liquidity Risk* **(2 Marks)**
- 1.5 An investor is looking to invest in a Fund for at least 3 years that can provide safety of capital and generate returns in excess of a fixed deposit. Which of the following Funds could meet the requirement of this investor?
- (A) *AMAMC Value Fund, which will invest in companies that are relatively lower priced compared to their peers.*
- (B) *AMAMC Constant Maturity G-Sec Fund, which will invest primarily (90% or more) in securities issued by Central Government.*
- (C) *AMAMC Ultra Short Term Fund, which will invest in securities with duration of 3 to 6 months.*
- (D) *AMAMC Long Duration Fund, which will invest in securities with average portfolio duration of 7.5 years.* **(2 Marks)**

- 1.6 On account of persistent high inflation, it is expected that the RBI will go for a 50 basis point hike in the Repo rate. Assuming all other things to be constant, evaluate the impact of increase in the Repo rate on the following Funds?
- (A) AMAMC Long Duration Fund, which invests in securities with average portfolio duration of 7.5 years.
- (B) AMAMC Constant Maturity G-Sec Fund, which will invest primarily (90% or more) in securities issued by Central Government.
- (C) AMAMC Value Fund, which will invest in companies that are relatively lower priced compared to their peers. **(3 Marks)**
- 1.7 In your opinion, should AMAMC Ultra Liquid Fund invest in Commercial Paper of WWSL? Why or Why not? **(2 Marks)**
- 1.8 Evaluate the merits of investing in a Passive Index Fund vis-a-vis an Actively Managed Fund. Explain the differences from the point of view of liquidity, safety and returns. **(3 Marks)**
- 1.9 Based on the information given in the Case Study, what would be your suggestion to Saloni? **(1 Mark)**
- 1.10 Based on the information given in the Case Study, calculate and comment on two risk - adjusted performances of the investments made by FSL in Large-Cap, Mid-Cap and Balanced Fund. **(6 Marks)**

ANSWER TO CASE STUDY 1

- 1.1 None of the option is correct*
- 1.2 (D)
- 1.3 (B)
- 1.4 (D)
- 1.5 (B)

*If 360 days is taken, answer will be 21.05. If 365 days is taken, answer will be 21.35.

- 1.6 (A) AMAMC Long Duration Fund holds securities such that the Macaulay Duration of the portfolio is 7.5 years. If interest rate is hiked by 50 basis points or 0.5%, then the Bond portfolio is likely to go down by 3.75% (increase in rate x portfolio duration). Thus, the NAV of this fund will go down by 3.75% on interest rates increasing by 50 bps.

- (B) A G-Sec Fund provides protection against Credit risk as Governments do not default if the loan is in Domestic currency. Constant Maturity Fund provides maximum protection against interest rate changes, but it is not absolute, or guaranteed. The fund tries to actively manage its portfolio by keeping the Macaulay Duration constant, thereby reducing the impact of interest rate changes on the fund's overall value. A Constant Maturity G-Sec Fund is the best option for investors looking for safety of capital and decent returns above fixed deposits.
- (C) A Value Fund is an Equity oriented Fund. The performance of an equity fund depends on many factors. However, everything else being constant, increase in interest rates increases cost of borrowings for a company, thus impacting its profit negatively. Also, higher interest rates wean away a part of liquidity into debt, reducing liquidity for equity. Both these factors result in pulling down the value of stocks. As a result, a Value fund will see a fall in its NAV if interest rates go up.

Alternative Solution

Rate hikes are considered negative for debt mutual funds. The prices of bonds fall when the rates go up as bond yields and prices have an inverse relationship. Simply put, debt mutual funds offer paltry returns when rates are going up. When the apex bank holds or cuts rates, they offer higher returns.

However, the impact of increase in the repo rate on the following funds is as below:

- (A) **AMAMC Long Duration Fund** - Investments in long-term bonds generally lose value when interest rates rise. However, smart investors sense an opportunity when the interest rates are nearing their peak.
- (B) **AMAMC Constant Maturity G-Sec Fund** – Gilt funds invest in government securities with little credit risk. However, they do not see inflows in case of a rate hike.
- Investments in gilt funds are generally done for tactical purposes with relatively shorter time frames. Such investors may still be worried about the possible upward movement in bond yields.
- (C) **AMAMC Value Fund** – With increase in repo rate, value funds will be more cheaply available. Smart investors will sense this opportunity and invests in these value funds when these are available cheap.
- 1.7 AMAMC Ultra Liquid Fund should not invest in Wind Water Solutions Ltd, although the yield is very attractive. That itself is a sign of underlying risk. More specifically, the investment mandate for the fund is to invest money for short periods. While it is projected that this funding is bridge finance and Wind Water will pay off the money from IPO proceeds, the capital market regulator SEBI has not yet approved the IPO. It is also not

certain that the IPO will be successful. Thus, investment in the commercial paper should be considered only after it is approved by the SEBI and the IPO is wholly underwritten.

- 1.8 The merits of investing in a Passive Index Fund vis-à-vis an Actively managed fund can be better understood by highlighting the differences between them which are as follows:

1. **Nature:** Active investing is a hands-on approach where the fund manager is fully involved in the investment process. The professional fund manager buys stocks, sells them, studies the market, looks for opportunities, and more.

In passive investing, on the other hand, the fund manager has a negligible role in selecting stocks and market timing as the scheme seeks to replicate the benchmark returns by investing in securities in the same proportion as in the index.

2. **Expense Ratio:** Passive Index funds have lower expense ratio in comparison to active funds.
3. **Returns:** Passive index funds follow a benchmark and deliver returns like the total returns of the securities represented in the benchmark prior to expense ratio and tracking error. However, actively managed funds can be relatively more volatile. They leverage the knowledge and experience of the fund manager to generate favourable returns. They primarily aim to beat the benchmark and may offer higher returns.
4. **Risk:** Passive mutual funds eliminate unsystematic risks like stock picking and portfolio manager selection via rule-based investing as per the weight of stocks in the benchmark. Active funds may be relatively riskier depending on the type of Fund. For instance, an active equity fund can carry a higher risk than an active debt fund.

Alternative Solution

A Passive Index Fund mimics an Index. It attempts to replicate the Index. For example, a Nifty Index Fund will want to hold the same 50 stocks in the same proportion in which the stock has weight in the index. For example, if Stock A has 3% weight in Index, then the Index Fund will invest 3% of its funds in that stock. As a result, the returns on the passive index fund will be near identical to the returns on the index.

An Active Fund is managed by a Fund manager, who keeps buying / selling securities as per the investment mandate, he/ she may earn much higher returns than the benchmark of the fund (outperform) or lower than the benchmark (underperform). Thus, a Fund manager of a fund whose Benchmark is Nifty, may not buy all the 50 stocks in the same proportion. The fund manager may buy just 30 companies that constitute the Nifty and maybe another 10 stocks outside the Nifty, in varying proportions, to beat Index returns.

- 1.9 If Saloni does not want to pay higher fees to the Fund and wants to align with either return of NIFTY or SENSEX, she is advised to invest in either Index Funds or Exchange Traded Funds.

1.10

	Large Cap Fund	Mid Cap Fund	Balanced Fund
Sharpe Ratio			
Annualized Return – Risk Free Rate/Annualized Risk	$17.50 - 5.23 / 10.20$ = 1.20	$16 - 5.23 / 9.50$ = 1.13	$14 - 5.23 / 7.50$ = 1.17
Treynor Ratio			
= Annualized Return of Nifty – Risk Free Rate / Beta	$12 - 5.23 / 1.25$ = 5.416	$10 - 5.23 / 1.11$ = 4.297	$11 - 5.23 / 0.92$ = 6.272

Comment: On a whole large cap gives a better performance in comparison to midcap & balanced fund. However, balanced fund gives the best performance in terms of Treynor Ratio.

Alternative Solution

	Large Cap	Mid Cap	Small Cap
Sharpe Ratio			
Annualized Return – Risk Free Rate / Annualized Risk	$17.50 - 5.23 / 10.20$ = 1.20	$16 - 5.23 / 9.50$ = 1.13	$14 - 5.23 / 7.50$ = 1.17
Jensen Alpha = Return of Portfolio - Expected Return	$17.50 - 13.69$ = 3.81	$16 - 10.52$ = 5.48	$14 - 10.54$ = 3.46

Here, in Jensen Alpha, mid cap gives best performance followed by large cap & then small cap.

CASE STUDY - 2

Rajesh and Vijay run a plastic manufacturing company at Manesar in Haryana. The company is named RV Plastics Ltd. (RVPL) and it sells its products to leading car manufacturers in India. Both Rajesh and Vijay hold 80% of equity shares in the Company in equal proportion and the remaining equity shares are held by others. The Company has been consistently recording double digit growth both in topline and bottom line.

Planned IPO of RVPL

The Company has decided to go for an IPO, and for this purpose it has appointed Battiwala and Bang (B&B) as its lead manager, who would prepare a business plan and advice RVPL on IPO related matters. The Company wants to raise INR 25 crores from the planned IPO, by issuing 25 lakh equity shares of the face value of INR 10 each, at a premium of INR 90 per share. This is equal to 25% of the shareholding of Rajesh and Vijay before the planned IPO. However, to

take care of the market fluctuations and to ensure that the issue does not fail, B&B suggested the Company to go for a Book-Building issue, with a price range of INR 95 to 110 per share. The minimum number of shares that could be applied for was 150 shares. The IPO was over-subscribed by 5 times.

The retail segment, for which 35% of the shares are reserved, was over subscribed 5 times. Price-wise breakups of applications received in the retail sector are given below:

Price (INR)	Number of Shares
110	3,25,000
105	5,00,000
100	15,00,000
95	12,00,000
Cut-off price	Balance Shares

Like many retail investors who applied, Raju applied for 5,000 shares at INR 110 per share, Ram applied for 1,000 shares at INR 100 per share and Ramana applied for 500 shares at the Cut-Off price. For Cut-Off price calculation, assume same proportion of shares at various price level in the non-retail segment as in the retail segment.

Buy or Lease

The movement of plastic material within RVPL's Plant is currently manual. Thus, the workers carry the material in small trolleys. The Company is evaluating the proposal to procure and install an 'Automated Material Handling System' (AMHS) with 5-year life for INR 150 lakhs, including delivery and installation costs. Further details in this respect are:

- RVPL can borrow the required INR 150 lakhs and then acquire the AMHS.
- The Company's cost of capital is 12%.
- After five years of use, the estimated residual value of the AMHS is INR 40 lakhs.
- If RVPL owns the AMHS, the estimated maintenance cost of the equipment is INR 10 lakhs per annum.
- Alternatively, RVPL can lease the AMHS from ABC Equipment Leasing Company for five years for an annual rental charge of INR 40 lakhs. The lease rental is payable at the end of the year, but the lessor owns the equipment at the end of the lease agreement.
- The lease contract stipulates that the lessor will maintain the equipment at no additional charge to RVPL.
- The depreciation rate applicable to the AMHS is 20% on the diminishing value method. RVPL's marginal tax rate applicable is 30%, and the lease qualifies as a guideline lease.

Credit Rating of Debt Securities of RVPL

RVPL's strong focus on financial capital coupled with financial discipline and prudence are reflected in the strong credit ratings ascribed by rating agencies. The leading credit rating agency reaffirmed the rating of AA for Non-Convertible Debentures (NCD) of RVPL. The ratings and yields of debt securities issued by RVPL and its comparison with the GOI bonds are presented below.

RVPL			GOI Bonds		
Instrument	Credit rating	Yield to Maturity	Instrument	Credit rating	Yield to Maturity
3-year NCD	AA	9.60%	3-year Government Bond	AAA	6.30%
10-year Debenture	A	12.50%	10-Year Government Bond	AAA	9.50%

Treasury Management

RVPL's treasury is focused on providing liquidity to the business at the optimal risk-adjusted cost. There is a system of frequent monitoring of the financial markets to assess financing and investment opportunities to raise fund at optimized costs and deliver superior returns. The treasury of RVPL regularly calculates the forward rates. The information gathered from the market indicates the following rates:

- One year and two-year treasury rates of 6 % and 7% respectively.

One of the juniors working in the treasury has decided to go for few years in a bank's treasury in order to get a full exposure. He is preparing for the written exam. He has approached you for your help in understanding computation of the dirty price. Relevant information in this respect is given as under:

Bharat Bank of India enters into a Repo for 30 days with Hindustan Bank of India in 10% GOI bond at a rate of 6.25% for INR 10 crores. The quoted clean price is INR 98.50, initial margin is 3%, and days of accrued interest is 250.

Multiple Choice Questions

2.1 Which of the following is correct regarding the total issued capital of RVPL after the IPO?

- (A) INR 10 crore
- (B) INR 100 crore
- (C) INR 15 crore
- (D) INR 150 crore

(2 Marks)

- 2.2 Which of the following is correct about the number of shares for which investors opted for the Cut-Off price?
- (A) 8,75,000 shares
 - (B) 8,50,000 shares
 - (C) 9,00,000 shares
 - (D) Data on how many shares were applied by non-retail segment at the Cut-Off price is required to answer this question. **(2 Marks)**
- 2.3 Which of the following statements is true?
- (A) Raju will get allotment of shares in the Retail category.
 - (B) Ram will get allotment of shares in the Retail category.
 - (C) Ramana will get allotment of shares in the Retail category.
 - (D) All the three investors will get allotment in the Retail category. **(2 Marks)**
- 2.4 Based on the information given in the Case Study, what is the one year forward Treasury rate?
- (A) 7.5%
 - (B) 7.8%
 - (C) 8.01%
 - (D) 8.8% **(2 Marks)**
- 2.5 Based on the information given in the Case Study, what would be the dirty price of the transaction between Bharat Bank of India and Hindustan Bank of India? (Assume 30/360 convention).
- (A) INR 104.44
 - (B) INR 105.44
 - (C) INR 103.44
 - (D) INR 106.44 **(2 Marks)**
- 2.6 What is the Cut-Off price at which shares of RVPL would be allotted to retail investors? Support your answer with a detailed calculation showing the amount that can be raised at each price level. Also compute total number of shares and percentage of shares both under retail and non-retail category at the identified Cut-Off price. **(6 Marks)**

- 2.7 Based on the information given in the Case Study, evaluate the proposal and decide whether to acquire the AMHS through lease or buy. **(5 Marks)**
- 2.8 Based on the information given in the Case Study, calculate the implied probability of default of RVPL's 3-year NCDs and 10-year Debenture. **(4 Marks)**

ANSWER TO CASE STUDY 2

2.1 (C)

2.2 (B)

2.3 (C)

2.4 (C)

2.5 (B)

2.6 Proposed issue size is 25 lakh shares.

Subscribed 125 lakhs shares.

Total application received for 1.25 crore shares.

Assumption - Same proportion of shares at various prices for non-Retail category as that of Retail category.

Share Application Received

Retail	Non-Retail
35%	65%
4375000	8125000

Application	Retail Shares	Non-Retail Shares	Proportion	Total Amount	Total Shares
110	325000	749113.4752	0.092198582	118152482.3	1074113.475
105	500000	1152482.27	0.141843972	173510638.3	1652482.27
100	1500000	3457446.809	0.425531915	495744680.9	4957446.809
95	1200000	2765957.447	0.340425532	376765957.4	3965957.447
Cut Off	850000	-	-		

Analysis of retail portion

Rate	Application for shares in retail category	Excluding Cut Off Price			Including Cut Off Price		
		Amount in credit if raised at this rate (₹ in crores)	Required retail portion in credit	% of amount raised to amount required	Amount in credit if raised at this rate	Required retail portion in credit (₹ In crores)	% of amount raised to amount required
110	325000	3.575	9.625	0.371428571	12.925	9.625	1.342857143
105	500000	8.6625	9.1875	0.942857143	17.5875	9.1875	1.914285714
100	1500000	23.25	8.75	2.657142857	31.75	8.75	3.628571429
95	1200000	33.4875	8.3125	4.028571429	41.5625	8.3125	5
Cut Off Price	850000						

Analysis of Non-Retail portion

Rate	App. For Non-Retail Category	Amount in Cr. if Raised at this rate	Required Non-Retail Proportion in Cr.	% of amount raised to amount required
110	749113.4752	8.240248227	17.875	0.460992908
105	1152482.27	19.96675532	17.0625	1.170212766
100	3457446.809	53.59042553	16.25	3.29787234
95	2765957.447	77.1875	15.4375	5

Analysis as per Weighted Average of application received.

	Total Shares	Total Amount
110	325000	35750000
105	500000	52500000
100	1500000	150000000
95	<u>1200000</u>	<u>114000000</u>
Total	3525000	<u>352250000</u>
Weighted Average		99.92907801

In view of the above, the cut off price shall be ₹ 100 because weighted average price is 99.93 i.e., ₹ 100. If ₹ 100 is decided as cut of price then the Pro rata in Retail category shall be 3.63:1 and in non-Retail category it shall be 3.3:1. At ₹ 100, the company shall raise 25 cr. as the required amount. Total no. of shares issued in retail category is 875000 and 1625000 in non-retail category.

But, if 105 is selected as cut off price then, pro rata in retail category is 1.91:1 and in nonretail pro rata, it shall be 1.17:1. Cut of price is well above the weighted average price. Retail category not oversubscribed without cut off price bids.

Alternative Solution

Cut off price will be the highest price at which the company will be able to raise its required amount of funding, which is ₹ 25 crores. We know the total number of shares that have been applied for at various price levels in the other categories is same as the proportion in which retail investors have applied.

	110	105	100	95	No. Of Shares
Retail Investors	3,25,000	5,00,000	15,00,000	12,00,000	35,25,000
Cumulative Share applied if this rate selected as issue price	3,25,000	8,25,000	23,25,000		
%	9.22%	14.18%	42.55%	34.04%	
Cut Off Price Applications					8,50,000
Total No. Of Share Applied in retail category i.e.					43,75,000
Retail category Oversubscription 5 times					43,75,000
Shares to be issued in Non-Retail Category – 65% of 25 lakh shares					16,25,000
Number of shares applied in non-retail Category	7,49,113	11,52,482	34,57,447	27,65,957	81,25,000
Cumulative Share applied in non-retail Category if this rate selected as issue price	7,49,113	19,01,595	53,59,042	81,25,000	

Oversubscribed 5 times					81,25,000
Total number of shares applied for across all categories	10,74,113 +8,50,000	27,26,595 +8,50,000	76,84,042 +8,50,000	1,16,50,000 + 8,50,000	
Total Amount received if the rate is selected as issue price (₹ in crore) [retail + non-retail excluding Cut off Shares] (A)	11.82	28.62	76.84	110.67	
Add amount from investors who have chosen to cut off (B) (₹ in crore)	9.35	8.93	8.50	8.08	
Total amount that can be raised(A+B) (₹ in crore)	21.17	37.55	85.34	118.75	

At ₹ 105, the company can raise ₹ 37.55 cr. Thus, the cut off price will be ₹ 105.

	Retail	Non-Retail
Shares Considered as applied for ₹ 105 (Excluding Cut off price shares)	3,25,000 + 5,00,000 = 8,25,000	749113 + 1152482 = 19,01,595
Shares applied for, agreeing for any cut-off price	8,50,000	-
Total number of shares applied @ 105	16,75,000	19,01,595
Total no. of Shares to be issued	8,75,000	16,25,000
% pro rata	1.914%	1.170%

2.7 PV of Cash outflow under lease Option.

Year	Lease Rental after tax	PVIFA@8.4% [12% (1-0.30)]	Total PV
(1-5)	40,00,000(1-0.30) = 28,00,000	3.951	1,10,62,800

Cash Flow under Borrowing option

5 equal instalments

₹ 1,50,00,000 /3.605 (PVIFA 12%)

= 41,60,887.66 Or 41,60,888

Working Notes:**(1) Debts and Interest Payments**

Year	Loans Instalment	Loan at the beginning	Interest	Principal	Bal.at the end
1	41,60,888	1,50,00,000	18,00,000	23,60,888	1,26,39,112
2	41,60,888	1,26,39,112	15,16,693	26,44,195	99,94,917
3	41,60,888	99,94,917	11,99,390	29,61,498	70,33,419
4	41,60,888	70,33,419	8,44,010	33,16,878	37,16,541
5	41,60,888	37,16,541	4,45,985	37,14,903*	-

* Difference is coming because of rounding off.

(2) Calculation of Depreciation

Year	Calculation	Depreciation
1	1,50,00,000 X 0.20	30,00,000
2	1,20,00,000 X 0.20	24,00,000
3	96,00,000 X 0.20	19,20,000
4	76,80,000 X 0.20	15,36,000
5	61,44,000 X 0.20	12,28,800

Book value of AMHS = 61,44,000 -12,28,800

= 49,15,200

Tax Advantage

Year	Loan Instalment	Interest	Depreciation	Maintenance	Net Cash Outflow	PVIF @ 8.4%	Total PV
1	41,60,888	5,40,000	9,00,000	3,00,000	24,20,888	0.923	22,34,480
2	41,60,888	4,55,008	7,20,000	3,00,000	26,85,880	0.851	22,85,684
3	41,60,888	3,59,817	5,76,000	3,00,000	29,25,071	0.785	22,96,180
4	41,60,888	2,53,203	4,60,800	3,00,000	31,46,885	0.724	22,78,344
5	41,60,888	1,33,796	3,68,640	3,00,000	33,58,452	0.668	22,43,446
							1,13,38,134

Less: PV Salvage value adjusted for Tax savings on loss of Sale of Plant (₹ 40,00,000 x 0.668 = 26,72,000 + (1,83,406 #) [See Working Note on Depreciation] # 49,15,200 - 40,00,000 = 9,15,200 X 0.30 X 0.668 = 1,83,406	28,55,406
Total PV of Cash out Flow	84,82,728

Decision: PV of Cash outflow of lease option is greater than the borrowing option. Therefore, buy through borrowing is recommended.

2.8 Probability of Default of 3-year NCD

$$= 1 - \frac{(1 + \text{Riskfree Bond rate \%})}{(1 + \text{Risk adjusted bond rate \%})} = 1 - \frac{(1 + 0.0630)}{(1 + 0.0960)} = 1 - \frac{(1.0630)}{(1.0960)}$$

$$= 1 - 0.9699 = 0.0301 = 3.01\%$$

Probability of Default of 10-year debenture

$$= 1 - \frac{(1 + 0.0950)}{(1 + 0.1250)} = 1 - \frac{(1.0950)}{(1.1250)}$$

$$= 1 - 0.9733 = 0.0267 \text{ or } 2.67\%$$

CASE STUDY - 3

ABC Ltd. is listed on BSE and is located in Mumbai. The current quoted price of ABC Ltd. is INR 40. The Company is part of a fast rising group called Sigma Group that has interest in diversified business. The promoters of the Sigma group have now been recognized for their ethical practices and fair treatment to stakeholders. The Sigma Group follows the best practices in corporate governance. ABC Ltd. has a robust treasury management and has been working as a profit-centre under the mandate of the Board. You have recently joined the treasury team. The chief of treasury has given the following information:

(A) An extract of a newspaper that reads as under:

"The Union Finance Minister of country Z is contemplating measures to increase GDP growth rate of country Z by following a liberal fiscal policy. This is likely to increase the fiscal deficit by more than 200 basis points as a percentage of GDP. The Finance Minister wants the central bank to further compliment the growth strategy by adopting an accommodative monetary policy with a bias towards low interest rates."

(B) ABC Ltd. has made investment in a callable bond with a call price of INR 1080, and the current price of which is INR 990. If the yield curve shifts up by 0.5% then the bond price

will fall to INR 950, and if the yield curve shifts down by 0.5%, the bond price will rise to INR 1040.

The chief of treasury wants you to prepare a brief note on (A) above and help him in computing effective duration in case of (B) above. In addition to the above, you are supposed to cover on the implications of short and long option positions. Currently major currency risks are being hedged using currency forwards. In future, ABC Ltd. may plan to use currency futures and currency options after comprehensive analysis of the currency derivatives. ABC Ltd. wants to use a currency derivative that has the following characteristics and meets certain objectives listed below:

- *need not support in hedging date-for-date and amount-for-amount currency exposures,*
- *is ready to offer margins if required,*
- *is comfortable with position of under hedge or over hedge,*
- *prefers liquidity,*
- *any payment in the nature of expenses at the time of entering into the contract would not be appreciated.*

After ABC Ltd., the next well-performing company of the Sigma Group is MSW which is a leading coated steel producer in domestic and international markets, with one galvanizing line and two color coating lines. MSW is located at 180 km from Nasik. It is also home to first-of-its-kind appliance grade color coating line, primarily producing steel for refrigerators, air conditioners, washing machines and other home appliances.

American Depository Receipt (ADR) plan of ABC Ltd.

ABC Ltd. plans to start a chain of Supermarkets in the US under the brand FRIS, which stands for "Find Real India Stores". The Super-markets will stock all ingredients that are used in Indian kitchen, items that are normally used in Indian household items as well as exclusive Indian art and craft items.

ABC Ltd. plans to fund this business by coming up with an ADR issue. 1 ADR will be convertible into 2 equity shares of ABC Ltd. ABC Ltd. plans to raise USD 50 million, pricing each ADR at USD 10. This will dilute the ownership of existing shareholders to the extent of 25%. In other words, they will now be holding only 75% of the total shares issued by ABC Ltd. The USD/INR rate has been stable at INR 80 per USD for the last 2 months and is expected to be around the same level in the foreseeable future.

The FRIS brand becomes hugely popular with the Indian Diaspora. Standalone US operations clocked revenues of USD 120 million and a net profit of USD 30 million. This encouraged the management to consider an expansion into traditional Indian Jewelry. The Company plans to curate designs from various popular Jewelry Stores across India that will help resident Indians

in the US to buy their favourite Jewelry without having to wait for a trip to India. However, this will increase money blocked in working capital. Considering that exclusive Jewelry Stores will need to be opened up, management envisages that an addition USD 50 million of investment is required. The Company estimates that profitability from Jewelry will have the same margins as its current business. Great Grade Gold and Jewelry Inc. (GGGJ) is willing to invest USD 25 million in ABC Ltd., provided it is allotted ADR at USD 10, the same price as that of the ADR. The remaining USD 25 million needs to be funded from internal accruals. An investment banker, Mr. Lucky Rogers, suggested that the Company must approach a VC. However, he has also informed that VC would want to control at least 20% of ownership and a seat on the Board.

MSW

MSW uses large quantities of fine-grade quality Zinc for galvanizing purposes. It purchases required Zinc quantity from a plant located in Visakhapatnam, and the Visakhapatnam Plant procures the Zinc Ore from a mining company in Rajasthan.

MSW requires at least 100 tons of zinc a year, and the average price per ton of zinc in the spot market is INR 2,70,000 per ton. The existing zinc inventory would be sufficient for the next 12 months. MSW production projection indicates the need for 100 tons of Zinc for the next year (2023) of operations. MSW managers are concerned about the zinc miners' possible labour unrest and strike which is likely to raise zinc prices in world markets and affect MSW's operations negatively. It has been decided to hedge against increasing prices of zinc. The Multi Commodity Exchange trades standard zinc futures contracts of 5 tons each. Traded price of zinc future contract in January 2022 was INR 280 per kg, the spot price at that date was about INR 270 per kg.

MSW Minority Investment in XYX Ltd.

MSW has a minority interest in XYX Limited which is listed on NSE. XYX reported EBITDA of INR 1000 million and PAT of INR 300 million. XYX has 10 million outstanding shares. The current market price of the XYX stock is INR 600 per share. The XYX is planning to repurchase 1 million shares. After the share repurchase, the profitability of XYX will not change.

Multiple Choice Questions

- 3.1 Suppose zinc future contracts deliverable in Mumbai are trading at INR 280 per kg, and zinc future contracts deliverable at Ahmedabad are trading at INR 282 per kg. Given the information about price of zinc future, which of the following is correct regarding the type of basis risk and the amount of basis risk per kg?
- (A) Simple basis risk and INR 2 per kg
 - (B) Arbitrage basis risk and INR 2 per kg
 - (C) Speculative basis risk and INR 2 per kg

- (D) Locational basis risk and INR 2 per kg **(2 Marks)**
- 3.2 After share repurchase by XYZ, what would be the revised EPS of XYZ?
- (A) INR 30.00
(B) INR 36.33
(C) INR 33.33
(D) INR 34.33 **(2 Marks)**
- 3.3 What would be the effective duration of the callable bond mentioned, in the Case Study?
- (A) 8.33 years
(B) 8 Years
(C) 9.09 years
(D) 10 years **(2 Marks)**
- 3.4 Assuming ABC Ltd, has created a long position on put USD/INR currency option to hedge dollar receivables. Which one of the following is correct with respect to underlying position under the long put USD/INR currency option?
- (A) Long USD
(B) Short USD
(C) Long INR
(D) Short INR **(2 Marks)**
- 3.5 Based on the information given in the Case Study, which currency derivative would be the most appropriate for ABC Ltd.
- (A) Currency Future
(B) Currency Forward
(C) Currency Swap
(D) Currency Option **(2 Marks)**
- 3.6 Compute the number of shares issued by ABC Ltd. before going for the ADR. **(3 Marks)**
- 3.7 If ABC Ltd. decides to go for VC Funding and also select GGGJ as preferential shareholder, what will be the extent of dilution of shareholders, who were holding shares before the ADR issue? **(3 Marks)**
- 3.8 (A) What position and how many contracts in zinc future would provide hedge against rising prices of zinc? **(2 Marks)**
(B) What would be the contract value of Zinc Future contracts used for hedging? **(1 Mark)**

(C) What would be the profit/loss if MSW closes out future position in Dec. 2022 at INR 285? **(1 Mark)**

(D) Suppose zinc futures contract used for hedging requires an initial margin of 5% of the contract value and the maintenance margin of 3%. What change in the futures price will lead to a margin call? What happens if MSW fails to meet the margin call?

(2 Marks)

3.9 What would be the impact of an increase in fiscal deficit on the economy of country Z assuming no change in other macro-economic factors? **(3 Marks)**

ANSWER TO CASE STUDY 3

3.1 (D)

3.2 (C)

3.3 (C)

3.4 (B)

3.5 (A)

3.6 1 ADR = 2 shares

Price of ADR		10 USD
Size of ADR issue		50 million
No. of ADRs being issued (50 million/10 USD)		5 million
Thus, equivalent number of shares		10 million
Or		1 crore shares
Dilution because of this issue		25%
Let shares held by original owners be	X	
Shares issued for ADR	1 crore	
Shares after Issue	X + 1	
Dilution is 25%		
Thus,		$X/X + 1 = 0.75$ $X = 0.75X + 0.75$ $X - 0.75X = 0.75$ $0.25X = 0.75$ $\text{Or } X = 0.75/0.25$ $= 3 \text{ crores}$

3.7

Shares before ADR	3 Cr
Shares issued in respect of ADR	1 Cr
Number of shares after ADR, before issuing shares to Great Grade	4 Cr
Terms of issue of shares to Great Grade	
Amount to be invested	25 MM USD
Issue price per ADR	10 USD
No. of ADR to be issued	2.5 MM
No. of equivalent shares	5 MM or 0.5 Cr.
Total Shares to be issued to VC (4 Cr + 0.5 Cr)	4.5 Cr.
VC will take 20% stake	
Thus, shares held by original shareholders, holders of ADR and Great Grade, will come to 80%.	
Thus, shares to be issued to VC (4.5 crores x 20/80)	1.125 Cr.
Total shares issued, after ADR, VC funding and having Great Grade as preferential partner = 4.5 Cr. + 1.125 Cr.	5.625
% holding by original shareholders (3/5.625 x 100)	53.33%
Extent of dilution (100% – 53.33%)	46.67%

3.8 (A) MSW need to create a long position in Zinc Future.

Quantity of zinc to be purchased = 100 tons. Each future contract is of 5 tonnes. This means 20 contracts to be bought.

- (B) MSW is required to buy 20 contracts at a price of ₹ 280 per kg. It means ₹ 2,80,000 per ton. And, for one contract, it would be ₹ 14,00,000 (2,80,000 x 5). Therefore, the value of 20 contracts = 20 x ₹ 14,00,000 = ₹ 280 lakhs.
- (C) When MSW closed out the future position in December 2022, the price is ₹ 285 per kg. It means 2,85,000 per tonne, and for 1 contract, it would be ₹ 2,85,000 x 5 = ₹ 14,25,000. Therefore, the value of 20 contracts would be ₹ 285 lakhs i.e., 20 x ₹ 14,25,000. So, the profit will be ₹ 14,25,000 – ₹ 14,00,000 = ₹ 25,000.
- (D) The total initial margin required is 5% of 280 lakhs = ₹ 14 lakhs. Maintenance Margin is 3% of ₹ 280 lakhs = ₹ 8.40 lakhs. Thus, there will be a margin call when ₹ 5,60,000 or more has been taken out from the margin account for MTM settlement. This will occur when the price of zinc decreases by ₹ 5,600 per ton (5,60,000/20 = 28,000 or 28000/5 = 5,600), or ₹ 5.6 per kg. or more.

If MSW receive a margin call, it must ensure that it increase the equity in its Margin Trading Facility (MTF) account. Firstly, the brokers notify on margin calls via text or email. Once the margin call gets issued, it has a predetermined number of days to fix the issue. Investors should pay the debt and interest amount as per the signed agreement. The number of days will differ from broker to broker. Failure in doing so will allow the broker to sell off its positions to recuperate the loan amount. If it waits and the prices fall even further, recovering the debt against the collateral would deem unobtainable.

- 3.9** If there is no change in other macro-economic factors, the impact of an increase in fiscal deficit on the economy of country Z would in long term be negative. The reason is that higher fiscal deficit will lead to more expenditure on the part of government. And the government will in most probability manage this by resorting to higher borrowings which will put more pressure on the exchequer. For instance, when the government continues borrowing and stops printing currency notes, there is an upwards pressure on interest rates. Increased interest rates then result in increased production costs which lead to higher prices.

On the other hand, if higher fiscal deficit is complemented by adopting an accommodative monetary policy with a bias towards low interest rates as given in the case study, then it would have a positive impact on the economy of country Z. Fiscal deficits can help a slow economy, especially if the money is spent on productive assets that create investment and job opportunities. However, in this case, it cannot be assumed that there is no change in other macro-economic factors.

Alternative Solution

Fiscal deficit is the extent by which Government revenues fall short of government expenditure. It is the amount which government will have to borrow, so that it can pay for all the expenses it has budgeted. It is expressed as a percentage of GDP.

The government can either borrow from the market, or from RBI. If it borrows from the market, it will result in increase in interest rates. This is because government is safest borrower. It is also the largest borrower. Thus, a lot of money available for lending with banks, other financial institutions and retail investor are diverted to government. With lesser amount available for private sector, competition for funds will push up interest rates.

The government can borrow from RBI. This effectively result in printing of more money by RBI. With more money supply without corresponding increase in demand, inflation will shoot up.

High inflation will result in depreciation of currency. Thus, foreign institutional investors (foreign investors who have invested their capital in Indian markets to earn returns) will immediately pull money out of the economy, as their returns are calculated in USD terms. This will further impact the value of domestic currency.

A higher fiscal deficit means, higher government debt. This can result in downgrade of credit rating of the country. All the above factors can negatively impact economic growth of a country.

CASE STUDY - 4

Good Perform Ltd. (GPL) is a holding company and has set up four entities which operate in printing, banking, private equity and infrastructure sectors. Manaank Publications Ltd. (MPL) is in printing business, Right Bank Ltd. (RBL) is in banking and Clear Waters (CW) in private equity funding business. Delhi Engineering Company Ltd. (DECL) operates in infrastructure segment and is also listed. Currently, infrastructure team of DECL is considering a proposal for construction of a road project in Public Private Partnership (PPP) mode. The project finance team is estimating one-time Viability Gap Funding (VGF) of the likely PPP project.

DECL

In December 2022, DECL announced its offer of rights issue of 3 million shares in the ratio of 1:1 for INR 200 per equity share; the entire amount is payable on application. Assuming a full subscription, DECL would mobilize INR 600 million. The issue opened on December 12, 2022 and closed on December 23, 2022. Mr. Sinha, Chairman and Managing Director of DECL, said that the fund raised through the rights issue would help the Company reach the target debt reduction, and also help the Company's working capital requirements. Before the rights offering, DECL had issued and fully subscribed 3 million shares of INR 10 face value. Current market price of DECL's share is INR 250. You have been approached to estimate theoretical ex-right price, and explain differences between 'rights offer' and typical issue of common shares through the FPO.

MPL

It is one of the leading publishers of text books that are specifically written for class XII students of a particular state. Mr. Ravindra Mantri is the proprietor of MPL. The books are very popular amongst the students as well as teachers because of their simplicity, small size and low price, apart from being examination oriented. For many years, MPL have followed a very lean model. The publication works with certain authors, who send the soft copy of the content to Mr. Mantri, who in turn forwards it to Sai Graphics which is a separate entity that does end-to-end printing of all types'. On receiving the soft copy, Sai Kumar, the proprietor of Sai Graphics, processes the content up to the binding stage and the "ready for sale" books are delivered to the office-cum-godown of MPL. The Company then calls and informs a few wholesale distributors with whom they have been working for many years. The wholesalers in turn send their delivery vans to collect the text books in bulk from the office-cum-godown of MPL. Stock at godown is negligible, as books are printed based on orders received from distributors, who collect the books as soon as they are available. However, books are supplied on credit. Mr. Mantri then visits the offices of the wholesale distributors and collects the money. Typically, 1-month of credit is granted. There are no retail sales at the office. Thus, the operating expenses of MPL are just

rent for their office-cum-godown and salary of two employees. This comes to INR 50,000 per month. There are no sales executives, as the books are popular. Given its model, the costs involve payment of royalty to authors @ 10% of the Maximum Retail Price (MRP) of the books, and printing expenses. Royalty is paid on actual number of books sold. It is typically settled at the end of the year after all accounts with wholesalers are settled.

MPL supplies books to wholesalers at a trade discount of 30%. It keeps a margin of 100% of cost of printing and production, to meet its operating expenses and earn a decent profit for itself. An amount equal to 1 % of sales is always held in cash and cash equivalents. Last two years performances have been adversely impacted as result of COVID. Colleges were closed, classes were held online and the exam pattern was changed. Mr. Mantri feels that many students were able to pass the exams without having to read text books. Wholesalers started delaying payment and the debtors have been piling up since then. Today, average collection period has reached 60 days. This is causing strain on the publications, as Mr. Mantri is very prompt with his payment to Sai Graphics. Printing bills are cleared within 2 days of delivery of books by Sai Graphics. There is no short-term borrowing. Working capital locked in the business has shot up because of high debtors. Mr. Mantri is evaluating a working capital loan from Jai Hind Bank (JHB). Interest is likely to be 14% p.a. Mr. Mantri seeks your advice on how to resolve this issue. The following information is made available to you:

- Net Sales FY 2022-23: INR 5 crore
- Normal Credit Period: 30 days
- Current Collection period: 60 days
- Bad Debts: Given its strong relationships, MPL did not have bad debts earlier. However, Mr. Mantri feels that he will have to be prepared to lose 2% of debtors as write-offs.

Mr. Mantri feels that sales for FY 2023-24 will go up by 20%, but he is not comfortable spending time on collections. He estimates that he is spending about INR 10,000 per month because of collection related efforts. One of his entrepreneur friends suggested Factoring as a model to Mr. Mantri. Factoring services are available on the following terms:

The Factor will pay 80% of receivables upfront @ 12% p.a. but will charge commission of 1 %. If Credit rating of debtors is available, the Factor will consider a 200 basis point difference in interest rates. Factoring will be on a non-recourse basis. The Factor uses 360 days a year for calculation.

RBL

RBL has a large base of depositors. It has built a strong brand for itself through its efficient service, strong relationship with depositors as well as borrowers, apart from offering competitive rates of interest. Interest rates on deposits are at least 50 basis points higher than competing banks, while lending rates are at least 50 basis points lower than competing banks. RBL offers

traditional products such as savings bank Accounts, fixed deposits (FD) for various periods and current accounts on the liabilities side. Products on the asset side are largely term loans of 5 years, gold loans, overdrafts and personal loans.

RBL is unlisted and closely held, but Priyanka Deshpande, the majority share-holder and Managing Director, wants to go for an IPO in the next 3 years and wants the financials of RBL to look attractive for prospective investors. She is targeting an ambitious and aggressive growth for the Bank so that rich valuation can be achieved. Tanushree Mathur, the Chief Financial Officer of RBL, suggests that RBL can increase its profitability by increasing its Net Interest Margins. She suggests that RBL should offer home loans of 15 to 20 year, which can earn higher interest rates. However, to gain market share, RBL will have to offer rates that are 50 basis points lower than home loan rates offered by competing banks. While the current going rates for 20 year home loans is 8.5% p.a., Tanushree proposes that home loans should be offered at an aggressive fixed interest rate of 8% p.a.

Mehak Agarwal, who is heading the Treasury Department of RBL, says that she can compensate for this loss of interest by sourcing the funds required for home loans from the money market at much lower rates. In fact, Mehak asserts that Net Interest Margins will increase as the rate of borrowing in the money market is much lower than the rates at which RBL accepts fixed deposits. Mehak is confident of borrowing at 4% p.a. from the Call and Notice Money market, which is lower than 6% offered on a 5-year FD.

Priyanka is thrilled that her vision is finally taking shape. For the first year, Priyanka plans to disburse home loans of INR 100 crore, taking this number to INR 250 crore and INR 500 crore in the second year and third year, when the IPO is planned. She visualizes herself on the cover page of business magazines as the lady who revolutionized banking.

CW

Ms. Kavita is the Chief Investment Officer of CW. The private equity firm CW searches for privately held firms with excellent growth potential and whose owners are willing to sell a fraction of ownership. It is now competing to acquire stake in a local logistics company named Pro-Fast Logistics Private Limited, a fast-growing end-to-end service provider with supply chain logistics. Pro-Fast was incorporated by Mr. Bansal ten years ago. In addition to cargo services, Pro-Fast also ensures warehousing, inventory management and transportation network. The Company has established partners and an associate network spanning domestic and international borders. Thus, they bring logistics services that are fast, convenient and reliable. Pro-Fast ensures flexibility, scalability, and economic feasibility in carrying out the logistics requirements of their clients. In December 2022, Ms. Kavita contacted Mr. Bansal, and the two decided to discuss the possible investment in Pro-Fast. Mr. Bansal decided to solicit an offer from CW in response to Ms. Kavita's request. CW is willing to invest INR 20 million today and exit after 5 years at EBITDA multiple of 12 times.

- The expected EBITDA after five years from now is INR 50 million
- CW expects 40% IRR from this investment.

Multiple Choice Questions

- 4.1 The cost of printing and production, as a percentage of MRP, of MPL is:
- (A) 14%
 - (B) 20% '
 - (C) 30%
 - (D) Insufficient information to calculate **(2 Marks)**
- 4.2 The amount of money, that is stuck in debtors, for FY 2022-23 rounded off to nearest INR in lakhs, for which Mr. Mantri will have to take a working capital loan is -
- (A) INR 37 lakhs
 - (B) INR 40:'lakhs
 - (C) INR 84 lakhs
 - (D) INR 83 lakhs **(2 Marks)**
- 4.3 The net amount of money that Mr. Mantri will receive, from the Factor services if he opts for factoring in 2023-24, will be:
- (A) INR 77.60 lakhs
 - (B) INR 65.60 lakhs
 - (C) INR 68.0 lakhs
 - (D) INR 80 lakhs **(2 Marks)**
- 4.4 Which of the following is correct regarding VGF in a PPP project?
- (A) It is designed to provide capital support to PPP projects which would not otherwise be financially viable.
 - (B) It is designed to discourage private participation in infrastructure projects.
 - (C) It is meant to absorb the risk in PPP projects which would not make otherwise sustainable.
 - (D) It is profit sharing mechanism between government agency and private parties in a PPP Project. **(2 Marks)**
- 4.5 In case of factoring, which of the following statements do you agree with?
- (A) A higher Credit rating will result in lower interest rates.
 - (B) A lower Credit rating will result in lower interest rates.

- (C) Credit Rating has no bearing on interest rates.
- (D) Credit Rating does not matter if Factoring is on a non-recourse Basis. **(2 Marks)**
- 4.6 (A) Based on the information given in the Case Study, evaluate the growth strategy of RBL from the point of profitability, liquidity and risk Management. **(3 Marks)**
- (B) Why are interest rates in the Call and Notice Money market are generally lower than the interest rates offered on fixed deposits? **(2 Marks)**
- (C) Are the interest rates in the Call and Notice Money market always lower than the interest rates offered on fixed deposits? **(1 Mark)**
- 4.7 Based on the information given in the Case Study, answer the following questions:
- (A) What will be the value of Prof-Fast after 5 years? **(1 Marks)**
- (B) If CW invests INR 20 million today, what percentage of stake should they have in Pro-Fast assuming a 40% IRR? **(2 Marks)**
- (C) What would be the estimated difference in Pre-Money and Post Money valuation as per CW's expected return of 40% IRR? **(1 Mark)**
- 4.8 (A) What would be the ex-right price of DECL's shares? **(2 Marks)**
- (B) What is the difference between 'rights-offer' and typical issue of common shares through FPO? **(3 Marks)**

ANSWER TO CASE STUDY 4

4.1 (C)

4.2 (A)

4.3 None of the option is correct *

4.4 (A)

4.5 (A)

*The answer is ₹ 77,42,000.

4.6 (A) Profitability

Short term profitability may be affected because of low lending rate in comparison to other banks. However, high loan tenure of 15-20 years may lead to higher interest earnings in long term. Further, compensating the loss of interest by sourcing the funds from money markets at lower rates may not bring much fillip to the profitability position as only interest expense is reduced. Overall profitability depends upon the whether RBL will be able to attract customers with low interest rate on a consistent basis for a long period of time.

Liquidity

RBL should safeguard against laxity in scrutinizing the home loan applications of home buyers in quest for customer building and higher profitability because if they fail to pay their interest and principal on time that will jeopardize the liquidity situation of the company.

Apart from the mismatches in assets and liabilities, the inherent weaknesses of the banks to reasonably forecast their liquidity position had often pushed some of them to the state of severe liquidity crunch.

Risk Management

RBL should install a proper risk management process by scrutinizing the loan applications of the home buyers very thoroughly so that the company may not find itself in a tight liquidity situation in future. Gradually, RBL should think of decreasing the deposit rate and increasing the lending rates in line with other banks once their customer base is enhanced.

Furthermore, the interest rate in the market is market driven and is highly sensitive to the forces of demand and supply. Within one fortnight, rates are known to have moved very high and may even touch a level as low as 0.50% to 1%. Intra-day variations are also quite large. Hence, the participants in the markets are exposed to a high degree of interest rate risk.

The call money rates have been fluctuating widely, going up to 70 per cent and dropping to around 3 per cent in the recent past.

Also, one of the most important factors contributing to volatility in the market is mismatches in assets and liabilities created by the banks.

- (B) Call money market (or markets for overnight) is a market where banks borrow and lend for a period of 1 day. Notice money market is market for securities with maturity less than 14 days. Typically, large institutions borrow large amounts for a small period of time. The tenure is low and consequently, risk is also lower. Hence, interest rates are lower.

First Alternative Answer

Interest rates in the call and notice money market are generally lower than the interest rate offered on fixed deposits because of the following reasons:

- (i) Call and notice money markets are subject to lower interest rates because of the underlying assets, and because they are dependent on the applicable market interest rates.
- (ii) They are safe and come with low risk.

Second Alternative Answer

The interest rates are purely determined by demand and supply position available with Discount and Finance House of India (DFHI). Normally, it is low since supply exceeds demand. However, during closing period of banks, when the demand increases for meeting margins, the rates shoot up significantly.

- (C) No, when liquidity becomes tight, the interest rates can shoot up to very high level in the Call and Money market.

4.7 (A) The value of Prof-Fast after 5 years

$$= ₹ 50 \text{ million} \times 12 = ₹ 600 \text{ million}$$

- (B) Exit Value = $12 \times ₹ 50 \text{ million} = ₹ 600 \text{ million}$

Post Money Valuation

$$= 600 / (1.40)^5 = 600 / 5.37824$$

$$= ₹ 111.56 \text{ million}$$

Equity Percentage that CW should have in Pro-Fast

$$= ₹ 20 \text{ million} / ₹ 111.56 \text{ million}$$

$$= 17.93\%$$

- (C) Pre money valuation = Post Money Valuation – Funds Invested
 $= ₹ 111.56 \text{ million} - ₹ 50 \text{ million} = ₹ 61.56 \text{ million}$

So, estimated difference in Pre-Money and Post Money valuation.

$$= 111.56 - 61.56 = 50 \text{ million}$$

4.8 (A) Ex Right Price

$$= 30,00,000 \text{ shares} \times ₹ 250 + 30,00,000 \text{ shares} \times ₹ 200 / 30,00,000 \text{ shares} + 30,00,000 \text{ shares}$$

$$= ₹ 75,00,00,000 + ₹ 60,00,00,000 / 60,00,000 \text{ shares}$$

$$= ₹ 225$$

- (B) The differences between 'rights-offer' and typical issue of common shares through FPO are as follows:

1. In the rights issue, only the existing shareholders are allowed to subscribe. So, the shareholding pattern does not get significantly altered.
2. Further, in right issue, the allotment would be in proportion to the existing shareholding pattern on the record date. So, one does not have to worry about over subscription.
3. The FPO is usually at the prevailing rates (or at a 5% discount) so that the

existing shareholder's interests do not get hurt. But the rights issue is usually a significant discount from the prevailing market rate to encourage subscription and enable the existing shareholders to save taxes by booking paper losses.

4. This discount in prices in a right issue leads to a significant fall in the share price of the company post record date. But, now since the investors have more shares, their wealth post right issue does not alter. And this fall gives room for booking of paper losses and getting tax shields.
5. But this also has a downside. If a company issues rights shares (at a significant discount) then the existing shareholders must invest in the company, else they will suffer a significant dilution of stakes and capital losses.

CASE STUDY - 5

Mr. Mahindra, Chief Financial Officer of Excel Finance Limited (EFL), joined the Company only a month ago and has been given the additional responsibility of statutory compliances. EFL is listed on both NSE and BSE and is ranked 350 based on market capitalisation. Mr. Mahindra has more than two decades of experience at various levels of accounting and financial reporting function in large corporates. EFL's company secretary and chief compliance officer left the Company a year ago due to health issues. The Company is in the process of finding a suitable candidate for the position. After reviewing individual profiles of board members, Mr. Mahindra came to know that one of the directors Mr. Anish Thakur is a company secretary.

- (A) *Immediately after assuming office Mr. Mahindra has carried out a detailed review of compliances and certain issues have been identified that need special attention. Such issues are given below:*
- (i) *A fraud was committed by Mr. Shark who is a KMP. However, this event was not reported to the stock exchange as it was found to be immaterial by the then compliance officer.*
 - (ii) *On one occasion, no independent director was present in the meeting of the Audit Committee of the Board (ACB), and on two occasions, only one independent director was present in the ACB meeting.*
 - (iii) *One of the independent directors has resigned in the past and the matter was reported within 21 days counted from the date of resignation.*
 - (iv) *The Chairman of the Board of EFL Mr. Mahendra Nath is father of the MD and CEO Mr. Bakshi.*
 - (v) *There is only one single woman independent director on the Board of EFL.*
- (B) *During FY 2021, financial markets globally witnessed a low-interest rate environment and abundant liquidity. Taking the benefits of low interest rates before the turn in the interest*

rate cycle, EFL successfully refinanced its liabilities by borrowing in foreign currency. The credit rating of EFL was improved by two notches which enabled the company to borrow at competitive prices.

The Company raised USD 10 million at an interest rate of 2% annually on April 1, 2021 from a global lender. The exchange rate of USD/INR on April 1, 2021 was INR 66.50 per USD. Due to inflationary pressure, the exchange rate USD/INR rose to INR 72.50 per USD on March 31, 2022. The Company did not foresee such a huge depreciation in the rupee. The Company could have borrowed the equivalent INR amount from a bank on April 1, 2021 at 10.50%.

- (C) EFL has invested INR 100 crore in Collateralized Debt Obligations (CDOs), Mr. Mahindra asked his colleague to prepare a report indicating the risk-return profile of the CDOs. Relevant extracts of the report are given below.

Debt/ Maturity	Rating	YTM	Recovery Rate	Probability of Default	Price INR	Coupon Rate	Tranche
Senior -1 3 Years	AAA	8.00%	99%	0.02%	99.66	7.00%	50.00%
Senior -2 2 Years	AAA	8.00%	98%	0.03%	100.00	8.00%	35.00%
Mezzanine 5 Years	BBB	10.00%	90%	2.00%	103.78	11.00%	10.00%
Junior 4 Years	B	12.00%	80%	4.00%	?	12.00%	5.00%

Mr. Mahindra wants that every team member in the treasury should develop expertise in CDOs as these instruments have given good returns in the past. You have been approached to prepare a note on the functioning of CDOs so that new members also can be trained. He also wants your inputs on CDO vs. Assets Backed Securities (ABS) backed by retail loans with a focus on the process of credit quality analysis of the underlying.

- (D) The promoters of EFL also run a very old family business of stock broking which is named as Goldline FinTech Ltd. (GFT). GFT is one of India's largest broking entities, which provides end-to-end solutions for all capital market related activity. Apart from serving as a broker with both NSE and BSE, it has a separate trading desk that carries out trades on behalf of the entity. GFT has a Portfolio Management Services (PMS) license and it offers PMS to its clients with a minimum investment size of one crore. It is also a Depository Participant with NSDL. GFT has seen rapid growth over the last decade and is rated as one of the most respected and trust-worthy brokerage house in India. The growth has come at a huge cost, as GFT has invested significant Capex into building infrastructure. Having hired some of the best professionals, its operating costs have also shot up. The

management is aware that it needs to increase its revenues to remain profitable, but markets have slowed down over the last two years, resulting in strain on resources of GFT.

GFT has an army of smart dealers punching trades on its behalf, but Mr. Mani has been a star trader. Whatever trades he has executed have resulted in huge profits for the entity. The CEO of GFT calls Mr. Mani for a meeting, in which he gives Mr. Mani the mandate to increase its profits through trading. Thereafter Mr. Mani's trading limits were increased and he was given all operational freedom. In addition, a 20% share in profits is offered to Mr. Mani, on all profits earned by him for GFT, but Mr. Mani does not have to bear any share of the losses that his trades might lead to. Encouraged by this offer, Mr. Mani spends a lot of time researching potential multi-baggers. He zeroes in on JPC Agrotech. Mr. Mani realizes that this company is a turnaround candidate and there is sufficient liquidity in the counter to take up large positions and benefit from the turnaround. JPC Agrotech is currently trading at INR 60 on the BSE. Given the liberty offered to him, Mr. Mani starts accumulating shares of JPC Agrotech. He purchases a large quantity of shares, but to his bad luck, the price of JPC Agrotech kept falling and is now trading at INR 45. Mr. Mani wants to average cost of buying and hence buys more quantity but he finds that there is no money in the bank to fund the purchase. To ensure that he does not lose the opportunity, Mr. Mani enters into a deal with WeHelp Investment and Finance Ltd. wherein WeHelp agrees to extend a loan to GFT on pledging of shares. Mr. Mani pledges the shares of JPC Agrotech to avail of the loan and invests the entire amount in purchase of additional shares of JPC Agrotech. Mr. Mani is happy that his average cost is now INR 50, on account of larger quantity bought at a lower price. He feels that it is just a matter of time before the share price of JPC bounces back. He was visualizing a hefty bonus payment on account of his smart move.

To his dismay, information about change in fertilizer policy impacted the share prices of all Agrotech companies and the price of JPC Agrotech dipped sharply to INR 35. Mr. Mani does a quick study and arrives at a conclusion that the new policy is actually beneficial to JPC Agrotech, which will now be instrumental in the share prices going up. He rushes to WeHelp Finance to get some more funding.

Unfortunately, the CEO of WeHelp tells Mr. Mani that they are no longer in a position to fund him and that they have already sold the shares pledged by Mr. Mani towards margin payment. Mr. Mani is devastated and he explains to the CEO as to why JPC Agrotech is such a great Investment idea. The CEO, while in agreement with Mr. Mani's analysis, says that he cannot provide funds without security. When Mr. Mani forcefully argues that JPC Agrotech is a great investment, the CEO gives a proposal to Mr. Mani. He says that, since GFT is a DP and thus has access to shares of its clients in its Demat accounts, Mr. Mani could pledge those shares and use the funds to buy more shares of JPC. Seeing no other alternative and confident that the shares will bounce back, Mr. Mani pledges shares belonging to clients with WeHelp and borrows another large amount from WeHelp and buys more shares of JPC Agrotech.

Within a few days, shares of JPC Agrotech further tanked to INR 25. WeHelp sells all the shares pledged by Mr. Mani. This information becomes public and investors, not finding their shares in their Demat account, file complaints and cases with the regulator and in the court.

Within a few days, GFT is stripped of all its licenses and the management is faced with criminal charges. Mr. Mani is fired. GFT applies for insolvency.

Over the next few days, JPC Agrotech reports stellar results. The industry suddenly takes cognizance of its unique position to benefit from the new policy. The share price touches the upper circuit every day and is now trading at INR 95 with a lot more buying interest from Flis likely to take the stock price past INR 100. Mr. Mani, meanwhile, has been arrested and is sulking in Jail, but is happy that his stand has been vindicated. He had identified a true multi-bagger. It was not in his destiny to make money from it.

Multiple Choice Questions

5.1 Which of the following is incorrect about the CDO?

- (A) A CDO creates fixed income securities with widely different risk characteristics from a pool of risky assets.
- (B) A CDO is called synthetic CDO if the risky assets in the underlying pool are Credit Default Swap (CDS).
- (C) A CDO neither reduces risk nor increases the total risks associated with the pool of risky assets.
- (D) A CDO reduces total risk associated with the pool of risky assets. **(2 Marks)**

5.2 Which of the following is correct with respect to appointment of Mr. Anish Thakur as a compliance officer of EFL?

- (A) The appointment cannot be done as it is against regulations of SEBI.
- (B) The appointment can be done as there is no restrictions prescribed in the regulations of SEBI
- (C) The appointment is not covered by the SEBI regulations.
- (D) The appointment is possible after taking approval of the Ministry of Corporate Affairs.

(2 Marks)

5.3 Which of the following is correct with respect to resignation of the independent director?

- (A) Disclosure to stock exchange done by EFL within 21 days from the date of resignation is in compliance of the regulation.
- (B) Disclosure to the stock exchange should have been done by EFL within 7 days from the date of resignation.

- (C) Disclosure to the stock exchange should have been done by EFL within 14 days from the date of resignation.
- (D) Only detailed reasons given by the independent director is required to disclose to the stock exchange and there is no need to get confirmation from the independent director that no other material reasons exist. **(2 Marks)**
- 5.4 Which of the following is correct with respect to the position of chairman of the Board of EFL?
- (A) The chairman can be executive director.
- (B) The chairman can be related to the MD & CEO.
- (C) The chairman shall not be related to the MD & CEO.
- (D) The chairman shall be non-independent director. **(2 Marks)**
- 5.5 Which of the following is correct about the appointment of a woman director on the Board of EFL?
- (A) When a woman independent director has been appointed there is no need to appoint an additional woman director.
- (B) Despite that a woman independent director has been appointed there is a need to appoint an additional woman director.
- (C) Minimum three-woman directors including one independent directors must be on the Board.
- (D) There is no need to appoint a woman director if after reasonable search no suitable candidate could be found. **(2 Marks)**
- 5.6 (A) What is the cost of borrowing USD 10 million from the global lender? **(1 Mark)**
- (B) Determine the amount of loss/gain because of borrowing in foreign currency from global lender instead of a bank. **(1 Mark)**
- 5.7 Given that the probability of default of junior debt is 4%, and expected recovery is 80%, what would be its expected loss? **(3 Marks)**
- 5.8 In what context ABS backed by retail loans is similar to a COO? Do you see any difference in the process of analysis of credit quality of underlying assets in a COO and an ABS backed by retail loans? **(3 Marks)**
- 5.9 Do you think non-reporting of fraud event of Mr. Shark, on materiality ground, to the stock exchange was right? **(2 Marks)**
- 5.10 What are the key issues in case of GFT that highlights the need for risk management? **(5 Marks)**

ANSWER TO CASE STUDY 5

5.1 (D)

5.2 (B)

5.3 (B)

5.4 (C)

5.5 (A)

5.6 (A) Amount borrowed in USD = USD 10 million

Amount borrowed in INR at Spot Rate (66.50×10 million) = INR 665 million

Interest on USD for period (1/4/21 to 31/3/22) = USD 0.20 million

Amount repayable on 31/3/22 = USD 10.20 million

Applicable Spot Rate = INR 72.50

Amount repayable in INR ($10.20 \text{ million} \times 72.50$) = INR 739.50 million

Interest Cost ($739.50 - 665.00$) = INR 74.50 million

Interest Cost in % = $\text{INR } 74.50 / 665 \times 100 = 11.20\%$

(B) If equivalent loan has been taken from a bank @10.50% ($665 \text{ million} \times 10.50\%$)
= INR 69.825 million

Thus, loss due to loan from a global lender ($74.50 - 69.825$) = INR 4.675 million

Or $11.20\% - 10.5\% = 0.70\%$

5.7 Total investment in junior debt is 5% of total investment in CDOs which is ₹ 100 crore.
Therefore, investment in junior debt is ₹ 5 Crore.

Loss Given Default (LGD) is = Exposure at Risk $\times (1 - \text{Recovery Rate}) = ₹ 5 \text{ crore} \times (1 - 0.8) = ₹ 1 \text{ crore}$.

Therefore, expected loss = probability of default \times LGD = 4% of ₹ 1 crore = ₹ 4 lakhs.

5.8 A CDO is similar to ABS as both are backed by retail loans and are created by the sale of pool of risky assets by a financial institution to a SPV which issues CDO and/or ABS.

The process of analysis of credit quality of the underlying assets in CDO is different from an ABS backed by retail loans.

- Every asset in a CDO analysis requires detailed and specific analysis while in ABS it is done collectively.

- Credit rating is typically available for the underlying in a CDO and the same is not available for each underlying asset.

Alternative Solution

An asset-backed security (ABS) is a type of investment that is backed by a pool of debt, such as auto loans or home loans. So, it is a type of investment that offers returns based on the repayment of debt owed by a pool of consumers.

On the other hand, a collateralized debt obligation (CDO) is a version of an ABS that may include mortgages as well as other types of assets.

In either case, the owner of such a product makes money, directly or indirectly, from the repayment of principal and interest by the pool of consumers whose loans have been packaged to create that security.

- 5.9** No, it was not right. In fact, it is a violation of sub-regulation (4) of regulation 30 of SEBI (LODR) Regulations, 2015.

Moreover, as per Regulation 5 of SEBI (LODR) Regulations, 2015, it is the obligation of the listed entity to ensure that a Key Managerial Person (KMP) complies with the responsibilities or obligations, if any, assigned to them under these regulations.

Furthermore, as per Regulation 6 of SEBI (LODR) Regulations, 2015, the compliance officer shall be responsible for co-ordination with and reporting to the Board, recognized stock exchange(s) and depositories with respect to compliance with rules, regulations and other directives of these authorities in manner as specified from time to time.

So, in view of the above, the non-reporting of fraud event of Mr. Shark, on materiality ground, to the stock exchange was not right.

- 5.10** The issues which have gone wrong and need risk management are as follows:

1. Proprietary Trading should not be allowed for PMS and broking firms.
2. Lack of internal controls.
3. No limit on trading by dealers.
4. Unhindered leverage.
5. Pledging client assets for proprietary trade.

Alternative Solution**Key issues in GFT that highlights the need for Risk Management**

- (i) Investing of significant Capex into building infrastructure. It could have done slowly and gradually.

- (ii) Operational freedom to Mr. Mani mandating that he does not have to share any of the losses that his trades might lead to. Mandating losses would have acted as a check on the activities of Mr. Mani.
- (iii) Pledging of shares of JPC Agrotech to avail loan to purchase additional shares of JPC Agrotech.
- (iv) Practice wrongdoing by pledging the shares of its clients in its Demat account to obtain more funds for further investment in the shares of JPC Agrotech.
- (v) Not exercising enough patience to hold on to the shares of JPC Agrotech for a longer period to avail of the benefit of increase in its share price ultimately. Further, a proper study of the time of its likely increase in future is lacking. Also, a consultation with other professionals in its field would have helped.