

MOCK TEST PAPER
FINAL COURSE: GROUP – II
PAPER – 6B: FINANCIAL SERVICES AND CAPITAL MARKETS
SOLUTIONS

CASE STUDY 1

1. The 'Do Not Exercise' (DNE) facility acts as a fail-safe for options traders at the time of cash settlement of the options contracts. It allows a trader to instruct the broker if he/she does not wish to exercise the right to give or receive deliveries. It was introduced in 2019, discontinued in 2021, and again reintroduced in April 2022.

Last year, SEBI's Risk Management and Review Committee had said that DNE will safeguard the interests of the options traders.

It also prevented the risks around the physical settlement and allowed brokers to stop exercising Close To Money (CTM) option strikes on behalf of clients.

However now, the stock settlement will be done under the cash delivery segment where an options trader will have to pay the required margin to take delivery.

The margin will be very high and the options traders will have to pay interest and penalty if they have taken strike without having full amount in their demat account.

Stock market experts feel the discontinuation will have negative impact on options trade volume as traders won't have an auto square off facility after the end of monthly options in stock options trade.

However, they added that the discontinuation will discourage high-risk options trade and push cash trade, which is good for a low risk trader and investor.

But a few worry that traders in the options market, who are unable to close their open positions on March 29, 2023 in individual stock options contracts, may face a huge risk of settling their trade with shares.

2. (i) Portion available to retail individual investors = 35% of 400 crores = 140 crores.
(ii) Portion available to non-institutional investors = 15% of 400 crores = 60 crores.
(iii) Portion available to Qualified Institutional Buyers = 50% of 400 crores = 200 crores.
(iv) Anchor investor portion = 60% of the portion available to QIBs = 60% of 200 crores = 120 crores. Now, 1/3rd of anchor investor portion should be available to domestic mutual fund i.e. 40 crores and balance of 80 crores are available to all QIBs including mutual funds.
(v) Portion available to QIBs other than anchor investors:

80 crores share of which 4 crore equity shares reserved for mutual funds (5% of portion available to QIBs other than Anchor Investors) and balance 76 crore shares are available to all QIBs including mutual funds.

3. (i) **To hedge a portfolio**

If an investor has a sizeable equity portfolio, he may buy a PUT option as a hedge against a possible downturn. This is only a hedging strategy and may not result in gains. PUT will gain if Nifty falls below 17370 (strike price minus ₹ 630 premium). This will offset the losses in the portfolio due to market decline.

- (ii) **To earn arbitrage**

If an investor wants to buy a stock at a lower price, he may sell a PUT option of lower strike price. If XYZ stock price drops below ₹ 390 by 4 May, an investor can purchase desired

number of shares. If it does not, the investor get to pocket the premium received from the selling the PUT option.

(iii) If you expect price of your shares to remain rangebound or even fall

If an investor expects price of shares to remain rangebound or even fall, he may sell a CALL option of higher strike price. If XYZ stock price rises, the investor may gain on the shares held by him. If it does not, the investor get to pocket the premium from selling the CALL.

4. (i) (a)

(ii) (c)

(iii) (a)

(iv) (c)

(v) (b)

CASE STUDY 2

1. Option A (Buying an asset)

The loan amount is repayable together with the interest at the rate of 12% on loan amount and is repayable in equal installments at the end of each year. The PVAF at the rate of 12% for 5 years is 3.605, the amount payable will be:

$$\text{Annual Payment} = \frac{\text{₹ } 20,00,000}{3.605} = \text{₹ } 5,54,785 \text{ (rounded)}$$

Schedule of Debt Repayment

End of Year	Total Payment ₹	Interest ₹	Principal ₹	Principal Amount Outstanding ₹
1	5,54,785	2,40,000	3,14,785	16,85,215
2	5,54,785	2,02,226	3,52,559	13,32,656
3	5,54,785	1,59,919	3,94,866	9,37,790
4	5,54,785	1,12,535	4,42,250	4,95,540
5	5,54,785	59,465	4,95,540*	-----

* Balancing Figure (approximate figure considering the decimal places)

Schedule of Cash Outflows: Debt Alternative

(Amount in ₹)

(1) End of year	(2) Debt Payment	(3) Interest	(4) Dep	(3) + (4)	(5) Tax Shield [(3)+(4)] 0.30	(6) Cash outflows (2) – (5)	(7) PV factors @ 10%	(8) PV
1	5,54,785	2,40,000	3,00,000	5,40,000	1,62,000	3,92,785	0.909	3,57,042
2	5,54,785	2,02,226	2,55,000	4,57,226	1,37,168	4,17,617	0.826	3,44,952
3	5,54,785	1,59,919	2,16,750	3,76,669	1,13,000	4,41,785	0.751	3,31,780
4	5,54,785	1,12,535	1,84,238	2,96,773	89,032	4,65,753	0.683	3,18,109
5	5,54,785	59,465	1,56,602	2,16,067	64,820	4,89,965	0.621	3,04,268
Less: PV of Salvage Value								16,56,151
								1,24,200
								15,31,951

Total present value of Outflows = ₹ 15,31,951

Option B (To take an asset on lease)

Lease Rent	6,60,000
Tax Shield (6,60,000 x 0.30)	<u>(1,98,000)</u>
Outflow	<u>4,62,000</u>
	× 3.791 (PV Factor at 10%)
	₹ 17,51,442

Since PV of outflows is lower in the borrowing option, Fatafat Ltd. should avail of the loan and purchase the equipment.

2. As per regulation 4 (1) of the SEBI (Insider Trading Regulations), 2015, no insider shall trade in securities that are listed or proposed to be listed on a stock exchange when in possession of unpublished price sensitive information. Further, when a person who has traded in securities has been in possession of unpublished price sensitive information, his trades would be presumed to have been motivated by the knowledge and awareness of such information in his possession.

However, the insider may prove his innocence by demonstrating the circumstances including the following: –

- (i) the transaction is an off-market *inter-se* transfer between insiders who were in possession of the same unpublished price sensitive information without being in breach of regulation 3 of the said regulations and both parties had made a conscious and informed trade decision.

Provided that such unpublished price sensitive information was not obtained under sub-regulation (3) of regulation 3 of these regulations.

Provided further that such off-market trades shall be reported by the insiders to the company within two working days. Every company shall notify the particulars of such trades to the stock exchange on which the securities are listed within two trading days from receipt of the disclosure or from becoming aware of such information.

- (ii) the transaction was carried out through the block deal window mechanism between persons who were in possession of the unpublished price sensitive information without being in breach of regulation 3 and both parties had made a conscious and informed trade decision;

Provided that such unpublished price sensitive information was not obtained by either person under sub-regulation (3) of regulation 3 of these regulations.

- (iii) the transaction in question was carried out pursuant to a statutory or regulatory obligation to carry out a bona fide transaction.

- (iv) the transaction in question was undertaken pursuant to the exercise of stock options in respect of which the exercise price was pre-determined in compliance with applicable regulations.

Hence, in view of the above, Amit and Sumit are required to keep in mind regulation 3 and 4 of the Insider Trading regulations and ensure they are fully complied with.

3. As per regulation 9 (1) of the SEBI (Insider Trading Regulations), 2015, the board of directors of every listed company and the board of directors or head(s) of the organization of every intermediary shall ensure that the chief executive officer or managing director shall formulate a code of conduct with their approval to regulate, monitor and report trading by its designated persons and immediate relatives of designated persons towards achieving compliance with these regulations.

It is intended that every company whose securities are listed on stock exchanges and every intermediary registered with SEBI is mandatorily required to formulate a code of conduct governing trading by designated persons and their immediate relatives. The standards set out in the schedules are required to be addressed by such code of conduct.

The designated persons as mentioned above shall include:

- (i) Employees of such listed company, intermediary or fiduciary designated on the basis of their functional role or access to unpublished price sensitive information in the organization by their board of directors or analogous body;
- (ii) Employees of material subsidiaries of such listed companies designated on the basis of their functional role or access to unpublished price sensitive information in the organization by their board of directors;
- (iii) All promoters of listed companies and promoters who are individuals or investment companies for intermediaries or fiduciaries;
- (iv) Chief Executive Officer and employees upto two levels below Chief Executive Officer of such listed company, intermediary, fiduciary and its material subsidiaries irrespective of their functional role in the company or ability to have access to unpublished price sensitive information;
- (v) Any support staff of listed company, intermediary or fiduciary such as IT staff or secretarial staff who have access to unpublished price sensitive information.

- 4. (i) (d)
- (ii) (a)
- (iii) (d)
- (iv) (d)
- (v) (c)

CASE STUDY 3

1. It sure does. EBLR (External Benchmark Lending Rate) was introduced to ensure monetary transmission on lending rates. Retail CDs will do the same for liability products. Market will price in current and future expectations of policy rates and express them in market levels of CDs. Any changes in trajectory of policy rates will get instantaneously priced in. The Overnight Indexed Swap (OIS) market is the one that is used by the market to price in future rate trajectory expectations. It is also being argue by experts that a funded instrument like CD is a better product for that purpose as it also factors credit offtake expectations.

RBI mandates listing of bank equity on stock exchanges to improve disclosures and governance. Having CDs widely traded in the market would achieve the same purpose. CDs of different banks will trade at varying levels and any abnormal changes in yield would provide early information to the regulator on any change in the bank's internals. Offshore markets provide this information to a certain extent and having a vibrant domestic CD market can serve a much better indicator on market perception of banks.

It surely is. This is a product with maximum retail participation. Converting a depositor to a CD holder can dramatically improve the liquidity in non-SLR markets. There would be increased participation from Corporate Treasuries, intermediaries, and aggregators and this would help increase liquidity manifold for the benefit of individual investors.

2. (i) $\text{Modified Duration} = D/(1 + R) = 6/1.08 = 5.56$
- (ii) $\text{Price Volatility} = (-5.56) \times (0.00165) = -0.00917 = 0.917\%$
- (iii) $\text{Daily Earnings at Risk} = (76.04 \text{ crores}) \times (-0.00917) = -₹ 0.70 \text{ crore}$
- (iv) Hence, bank may lose ₹ 70 lacs if tomorrow is a bad day in next 20 days.
3. There are basically four different mechanisms through which monetary policy influences the price level and the national income. These are:
- (i) **Interest Rate Channel** – Interest rates increases the cost of capital and real cost of borrowing for firms with the result that they cut back on their investment expenditures. Similarly, general public

facing the heat of high interest rate cut back on their purchase of homes, cars, air-conditioners and other goods. So, a decline in aggregate demand results in the decline in aggregate output and goods.

On the other hand, decrease in interest rates has the opposite effect of decrease in cost of capital of firms and cost of borrowing for households.

- (ii) **Exchange Rate Channel** – Appreciation of the domestic currency makes domestically produced goods more expensive compared to foreign-produced goods. The reason is that import from countries outside India will become cheaper and it will make the goods produced in India dearer in comparison. This will cause the net export to fall (because expensive good produced in India will have to be sold at a higher price and it will find few takers outside India). Consequently, domestic output and employment will also fall.

On the other hand, as rupee depreciates, exports become more profitable, because the exporter earns more rupees for exchanging dollar. On the other hand, imports become expensive as the importer needs to pay more rupees for the dollars billed. Industries linked to exports like pharma and IT benefit with depreciation, whereas those industries linked to imports (or having vital components of their product imported) have to bear higher input cost, which is ultimately passed on to the end users.

- (iii) **Quantum Channel (relating to money supply and credit)** – Two things are worth mentioning in this regard – the bank lending (credit) channel and the balance sheet channel. Credit channel operates by altering the access of firms and households to bank credit. Most of the business organizations depend on bank loans for their borrowing needs. To restrict the flow of credit in times of inflation, the RBI sells government securities to commercial banks and the public and squeeze money from them. This makes the firms which are dependent on bank loans to cut back on their spending on investment. This will diminish aggregate output and employment following a reduction in money supply.

Now, we shall look at how the balance sheet channel works. The direct effect of monetary policy on balance sheet is that it will show the interest cost and increase in payments through loan repayments. An indirect effect is that the same increase in interest rate works to reduce the capitalized value of the firm's fixed assets. This will also raise the company's cost of capital and consequently, precipitate reduction in production and output.

- (iv) **Asset Price Channel** – The standard asset price channel indicates that changes in credit policy effects output, employment and inflation. An increase in interest rates in debt securities makes them more attractive to investors than equity. This leads to a fall in the share prices which resulted in the consequent fall in the consumption, production and employment. These also affect the overall financial wealth of the investors.

The various credit policy instruments are explained in the following paragraphs:

- (i) **Cash Reserve Ratio (CRR):** Cash reserve ratio is the amount which the commercial banks have to maintain as cash deposit with the Reserve Bank of India. RBI may increase the CRR if it thinks that there is large amount of money supply in the economy. Conversely, it will decrease the CRR if it is of the opinion that inflation is in control and the industry needs a monetary boost up. The reduction in CRR will provide more money in the hands of commercial banks which it will pass it on to the industry. More money in the hands of industry will boost up production, consumption and employment.
- (ii) **Statutory Liquidity Ratio (SLR):** Statutory Liquidity Ratio is the amount which commercial banks have to keep it with itself. So, SLR is the amount of money which banks have to keep in its custody at all times. SLR is also a very powerful tool to control liquidity in the economy. To encourage industries to boost up their production, SLR may be decreased to put more money in the hands of commercial banks. An increase in SLR is used as an inflation control measure to control price rise.

Maintenance of CRR and SLR are a part of what is known as the 'Fractional Reserve System' in Central Banking. Fractional Reserves are a part of the wider Quantitative Monetary Policy.

- (iii) **Liquidity Adjustment Facility (LAF):** Under this facility, the commercial banks can borrow from RBI through the discount window against the collateral of securities like commercial bills, treasury bills or other eligible papers. Currently, the RBI provides financial accommodation to the commercial banks through repos/reverse repos under the LAF.

Repo is defined as an instrument through which commercial banks borrow from RBI. So, it is basically borrowing funds by selling securities with an agreement to repurchase the securities on a mutually agreed future date at an agreed price which includes interest for the funds borrowed. In other words, repo is a money market instrument, which enables collateralized short term borrowing and lending through sale/purchase operations in debt instruments.

Reverse Repo, on the other hand, is an instrument through which RBI borrows from commercial banks by giving them securities. So, reverse repo is defined as an instrument for lending funds by purchasing securities with an agreement to resell the securities on a mutually agreed future date at an agreed price which includes interest for the funds lent.

- (iv) **Margin Standing Facility (MSF):** Margin Standing Facility announced by the Reserve Bank of India (RBI) in its Monetary Policy, 2011-12 refers to the facility under which scheduled commercial banks can borrow additional amount of overnight money from the central bank over and above what is available to them through the LAF facility upto a limit at a penal rate of interest.

The minimum amount which can be assessed through MSF is ₹ 1 crore and more will be available in multiples of ₹ 1 crore. The MSF would be the last resort for banks once they exhaust all borrowing options including the liquidity adjustment facility on which the rates are lower compared to the MSF.

- (v) **Market Stabilization Scheme:** Under the market stabilization scheme, the Government of India borrows from the RBI and issues treasury bills/dated securities for absorbing excess liquidity from the market arising from large capital inflows. Now, with the introduction of Liquidity Adjustment Facility (LAF) i.e. Repo and Reverse Repo mechanism, bank rate has become dormant as an instrument of monetary policy.

The bank rate has been aligned to the Marginal Standing Facility (MSF) rate and therefore, as and when the MSF rate changes alongside policy repo rate changes, the bank rate also changes automatically. Now, bank rate is used only for calculating penalty on default in the maintenance of Cash Reserve Ratio (CRR) and the Statutory Liquidity Ratio (SLR).

- (vi) **Open Market Operations:** Open Market Operation is basically a tactic employed by the RBI to control the liquidity in the economic system. When the RBI feels there is excess liquidity in the market, it resorts to sale of securities thereby reducing excess rupee flowing in the Indian economy. Similarly, when there is tight liquidity situation in the economy, the RBI will buy securities from the market, thereby releasing money (rupee) into the system.

Note: The solution is for the guidance of the students. The students may shorten it as per the need of the question and the marks allotted.

4. (i) (c)
(ii) (a)
(iii) (b)
(iv) (b)
(v) (c)

CASE STUDY 4

1. Note 1 Calculation of amount kept as reserve by factor

Factor will keep reserve equal to 20% of amount after adjusting commission and 10% of receivable.

$$\begin{aligned}\text{Average Receivable (in crores)} &= (\text{₹ } 3600 / 360) * 90 \\ &= \text{₹ } 900 \text{ Crores} \\ \text{Factoring Commission (in crores)} &= \text{₹ } 900 * 1.8\% \\ &= \text{₹ } 16.2 \text{ Crores} \\ 10\% \text{ of receivable (in crores)} &= \text{₹ } 900 * 10\% \\ &= \text{₹ } 90 \text{ crores} \\ \text{Reserve kept by factor (in crores)} &= 20\% (\text{₹ } 900 - \text{₹ } 16.2 - \text{₹ } 90) \\ &= \text{₹ } 158.76 \text{ crores}\end{aligned}$$

Note 2 Calculation of Interest amount charged by factor

The factor will provide advance after adjusting reserve, commission charges and interest amount.

$$\begin{aligned}\text{Amount available for advance before adjusting interest (in crores)} &= \text{₹ } 900 - \text{₹ } 158.76 - \text{₹ } 16.2 \\ &= \text{₹ } 725.04 \text{ Crores} \\ \text{Interest amount (in crores)} &= \text{₹ } 725.04 * 18\% * (90/360) \\ &= \text{₹ } 32.63 \text{ crores}\end{aligned}$$

Note 3 Amount paid as advance by factor

The factor will provide advance after adjusting reserve, commission charges and interest amount.

$$\begin{aligned}\text{Amount paid as advance by factor} &= \text{Amount available for advance before adjusting interest (in crores)} \\ &- \text{Interest amount (in crores)} = \text{₹ } 725.04 - \text{₹ } 32.63 \\ &= \text{₹ } 692.41 \text{ crores}\end{aligned}$$

2. Note 1 Calculation of yearly factoring cost

Factoring cost for 90 days

$$\begin{aligned}(\text{in crores}) &= \text{Commission charges} + \text{Interest amount} \\ &= \text{₹ } 16.2 + \text{₹ } 32.63 \\ &= \text{₹ } 48.83 \text{ crores}\end{aligned}$$

$$\begin{aligned}\text{Yearly factoring cost (in crores)} &= \text{₹ } 48.83 * (360/90) \\ &= \text{₹ } 195.32 \text{ crores}\end{aligned}$$

Note 2 Calculation of saving in cost due to factoring

Saving in administrative cost = ₹ 75 crores

Saving in bad debts = Nil*

*This factoring arrangement is on recourse basis. So bad debts will be borne by RFTL.

Note 3 Calculation of effective factoring cost (%)

Particulars	₹ in crores	₹ in crores
Yearly factoring cost		₹ 195.32
Less: Cost Saved per year		
Bad debts	Nil	

Administrative cost	₹ 75	₹ 75
Net Factoring cost per year		₹ 120.32
Net Factoring cost per year (%)	$(₹120.32 / ₹ 692.41) \times 100$	17.38%

3. Increase in Turnover= (₹720 crores/ ₹3600 crores) *100 = 20%

Note 1 Calculation of amount kept as reserve by factor

Factor will keep reserve equal to 20% of amount after adjusting commission and 10% of receivable.

Average Receivable (in crores) = $(₹ 4320 / 360) \times 90$

= ₹ 1080 Crores

Factoring Commission (in crores) = ₹ 1080 * 1.8%

= ₹ 19.44 Crores

10% of receivable (in crores) = ₹ 1080 * 10%

= ₹ 108 crores

Reserve kept by factor (in crores) = 20% (₹ 1080– ₹19.44 - ₹ 108)

= ₹ 190.51 crores

Note 2 Calculation of Interest amount charged by factor

The factor will provide advance after adjusting reserve, commission charges and interest amount.

Amount available for advance before adjusting interest (in crores) = ₹1080–₹190.51–₹19.44

= ₹870.05 Crores

Interest amount (in crores) = ₹ 870.05 * 18% * (90/360)

= ₹ 39.15 crores

Note 3 Calculation of yearly factoring cost

Factoring cost for 90 days (in crores) = Commission charges + Interest amount

= ₹ 19.44 + ₹ 39.15

= ₹ 58.59 crores

Yearly factoring cost (in crores) = ₹ 58.59 * (360/90)

= ₹ 234.36 crores

Note 4 Calculation on effect of Profit after accepting new orders and factoring proposal

Particulars	₹ in crores	₹ in crores
Annual Turnover		₹ 4320
Less: Variable Cost		
= ₹ 2160 + 20% of ₹ 2160	₹ 2592	
Less: Saving in Bad debts	Nil*	₹ 2592
Fixed Cost	₹ 450	
Less: Saving in Fixed Cost	₹ 75	₹ 375
Factoring Cost		₹ 234.36
Profit		₹ 1118.64

* This factoring arrangement is on recourse basis. So bad debts will be borne by RFTL

$$\begin{aligned}\text{Increase in Profit (in crores)} &= ₹ 1118.64 - ₹ 990 \\ &= ₹ 128.64 \text{ crores}\end{aligned}$$

It is worthwhile for RFTL to accept new order worth ₹720 crores as it will result in increase in profits.

4. (i) c
- (ii) c
- (iii) d
- (iv) b
- (v) c

CASE STUDY 5

1. Exit Value = $10 \times ₹ 150 \text{ crores} = ₹ 1500 \text{ crores}$
 Post money valuation = $1500/1.70^5 = ₹ 105.64 \text{ crores}$
 The equity percentage of the company the VC may ask for
 $= ₹ 20 \text{ crores} / ₹ 105.64 \text{ crores} = 18.93\%$

Note: There is a small typographical error in the question. Revenue multiple should be read as 10x or 10 times instead of 10000. So, if the student has shown good grasp of the concept while solving the question, marks will be given accordingly.

2. Every mutual fund has a designated fund manager of a scheme who is responsible for taking the day-to-day investment decisions and is also responsible for the scrip selection and portfolio creation.

The fund manager records the relevant information of the trade order i.e., scheme name, stock name, buy/sell, quantity, price limit etc. with a short reason and is required to place the orders as decided by him in the Bloomberg Order Management System (for Axis mutual fund).

On the other hand, the dealing team is responsible for the execution of trades. Upon receiving the order on Bloomberg Order Management System, the dealer routes the said order to a specific / selected stockbroker at his/her discretion out of the many empanelled stock brokers.

Depending on various factors including market situation, stock liquidity and order size, the dealer may either split the order across multiple stock brokers or may execute the said order through one stockbroker. These are day-to-day operational decisions taken by the dealer, driven by the need to execute the desired quantity at the best available price in the best interest of the mutual fund.

Further, the dealer monitors and reviews the ongoing trades and carries out appropriate modifications of the orders wherever required (e.g., with respect to price limit given to a stock broker(s), quantity based on the availability of liquidity, execution style, and any other relevant factor) within the parameters already provided by the fund manager.

On a given trading day, it is the Fund Manager who decides the crucial aspects of an order, that is, the specific stock to purchase, buy/sell, quantity and price limit of the stock, whereas it is the dealer who decides the timing and manner of execution of the order, depending upon the liquidity aspects of stock, flows available, volume etc. observed for the said selected stock in the securities market.

In the matters of front running, it is the timing of the placement of the impending orders on behalf of Axis mutual fund which assumes importance as the size of the order of a client like Axis mutual fund would be large enough to create an impact on the price movement of the specified scrip. Any trader possessing advanced knowledge of the impending order of the mutual fund has an advantage and can use it to make illegal gains.

No, the SEBI Regulations for Insider Trading does not apply to front running inspite of the fact they are very similar in nature. In fact, SEBI (Prohibition of Fraudulent and Unfair Trade Practices Relating to Securities Market) Regulations, 2003 applies to front-running and characterises it as a fraudulent and

unfair practice. SEBI has invoked this section many times to pass orders against front-runners. However, SEBI recently brought Mutual Fund managers who are making this front running practice on the basis of insider information under the ambit insider trading rules.

3. The front-running trades were executed using the Buy-Buy-Sell trade pattern or Sell-Sell-Buy trade pattern, and the trades were timed around the orders of the Axis mutual fund.

The tranches of the orders of the first leg of intra-day trades from the trading accounts (front running leg) have been placed/executed just prior to the impending large orders of the Axis mutual fund or before the last tranche of said large order was placed by Axis mutual fund while the second leg of the intra-day trade (squaring off of trades) begins by placing orders either prior to the last tranche of the order of the Big Client or immediately after it.

4. (i) (c)
(ii) (b)
(iii) (a)
(iv) (c)
(v) (d)