DERIVATIVES & RISK MGMT

Submitted To

Prof. Shreya Biswas

Course Code: ECON F354

BITS Pilani Hyderabad Campus

Submitted By **Group 21**:

Name	BITS ID	Contribution
Purab Kukreja	2022B3A71319H	Yes
Amol Agrawal	2022B3A70612H	Yes
Harshita Kandikonda	2022B3TS2052H	Yes
Arpit Shah	2022A2PS1830H	Yes
Aditya Jain	2021B3A82573H	Yes
Harigovind R	2021A7PS2810H	Yes
Shlok Sahu	2022A1PS1843H	Yes
Anshul Sharma	2022A7PS1290H	No

ACKNOWLEDGEMENT

We would like to take this opportunity to express our sincere gratitude to **Dr. Shreya Biswas**, assistant professor at the **Department of Economics and Finance, BITS Pilani Hyderabad campus** for her invaluable guidance, support and feedback throughout this report. Her expertise and insights were instrumental in helping us to shape and refine our work.

We would also like to thank each of our teammates for their crucial role throughout the work, without which the report would not have taken its present shape.

In addition, we would also like to thank Shilpa Ma'm at finance WILP Lab for providing us with the resources and facilities we needed to conduct the research and complete the report.

Thank you.

TABLE OF CONTENTS:


Mphasis
The Next Applied

Analysis of MPHASIS

A] Fundamental Analysis

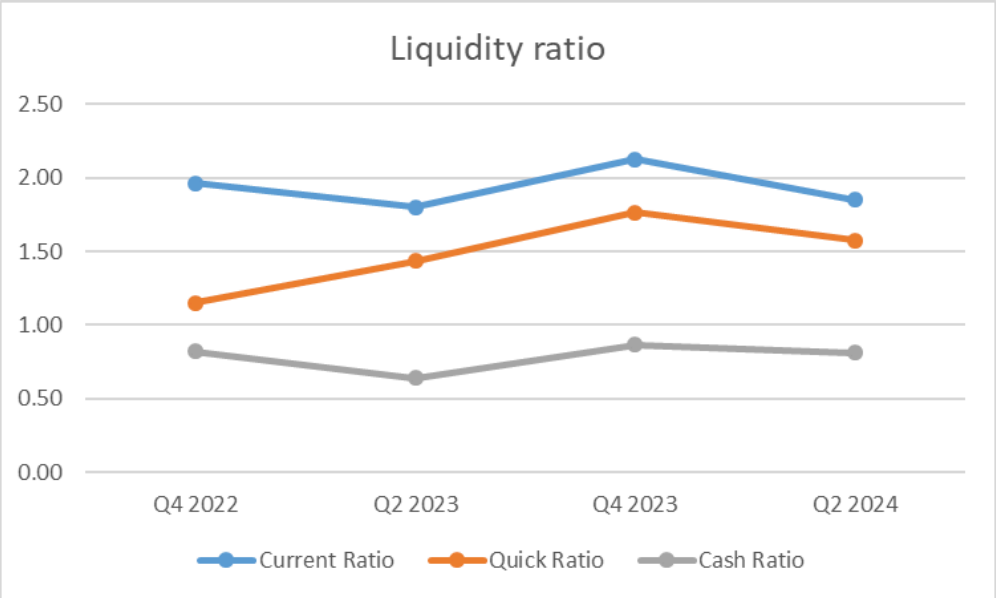
Mphasis Limited is a prominent player in the IT solutions domain, offering specialized services in cloud computing, cognitive technologies, and digital transformation. The company's strategic focus on innovation and client-centric solutions has fortified its position in key markets worldwide, ensuring its relevance amidst rapidly evolving technological landscapes. Mphasis boasts a robust portfolio of services tailored to diverse industry verticals, including banking, insurance, healthcare, and manufacturing, enabling it to address a broad spectrum of client needs.

Financially, Mphasis has exhibited commendable performance, characterized by consistent revenue growth and sound profitability metrics. Its prudent financial management practices and operational efficiencies have translated into healthy margins and shareholder returns. The company's emphasis on leveraging emerging technologies such as artificial intelligence, machine learning, and automation underscores its commitment to staying ahead of industry trends and delivering cutting-edge solutions to clients.

Moreover, Mphasis has demonstrated resilience in navigating challenging economic environments, thanks to its diversified revenue streams and global footprint. Its strong emphasis on sustainability and corporate governance further enhances its reputation as a responsible corporate entity. Looking ahead, Mphasis is poised to capitalize on the burgeoning demand for digital transformation services, driven by increasing reliance on technology and evolving customer expectations. With a solid foundation and a forward-looking approach, Mphasis remains well-positioned to sustain its growth trajectory and create long-term value for its stakeholders.

RATIO ANALYSIS:

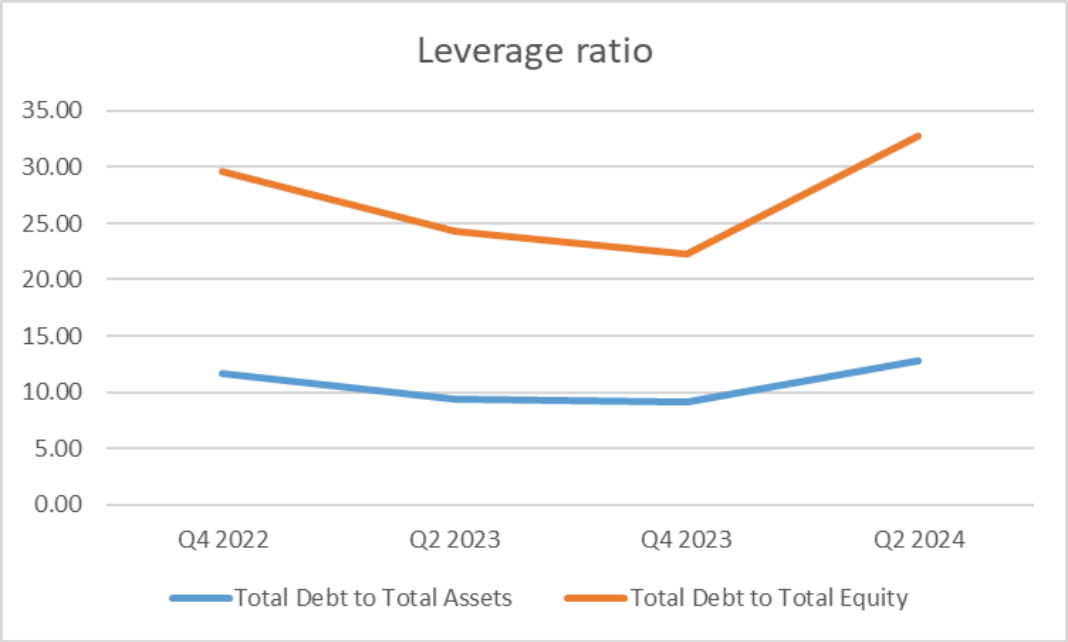
Liquidity Ratios:



Mphasis Ltd.'s liquidity ratios, as of Q2 2024, reflect a robust short-term financial position. The current ratio, consistently above 1, indicates that the company possesses more current assets than liabilities, denoting a healthy liquidity position.

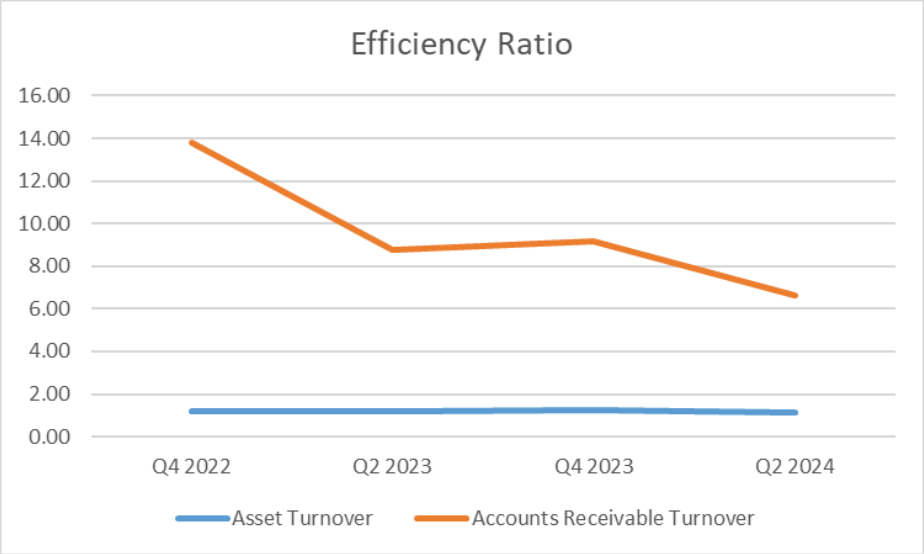
Notably, the current ratio witnessed an improvement in Q4 2023, reaching 2.13, signifying enhanced liquidity. The quick ratio, excluding inventory, provides a more conservative measure and follows a similar positive trend, consistently above 1, with a notable increase in Q4 2023 to 1.77. The cash ratio, reflecting the company's ability to cover short-term liabilities with cash, exhibited fluctuations but remained reasonable, showing an increase to 0.87 in Q4 2023. Overall, Mphasis Ltd.'s liquidity ratios suggest a sound capacity to meet short-term obligations, with a positive trajectory observed in the most recent quarter, Q2 2024.

Leverage Ratios:



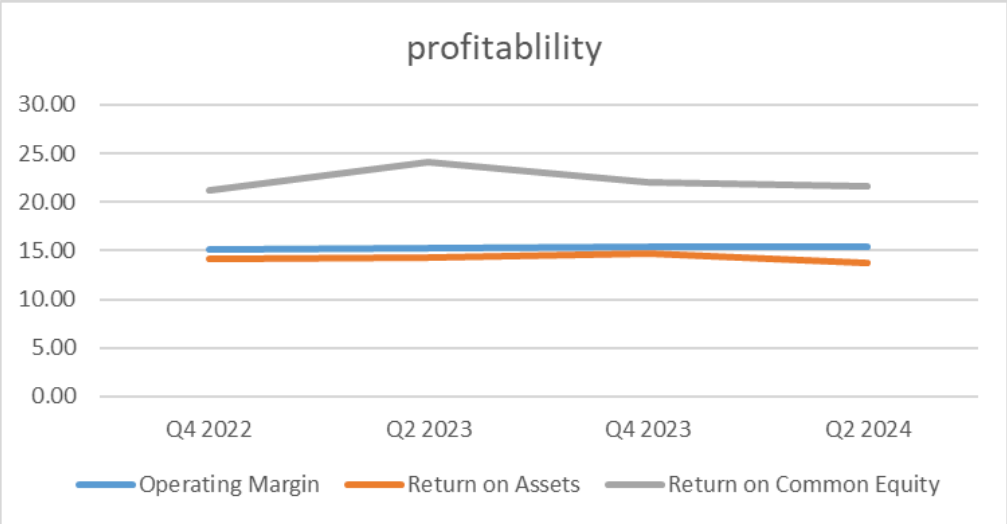
Mphasis Ltd.'s leverage ratios, as per the provided data, reveal a dynamic financial structure. The Total Debt to Total Assets ratio exhibited variability, reaching its lowest point at 9.07% in Q4 2023 before rising to 12.84% in Q2 2024. This indicates that approximately 12.84% of the company's total assets are financed through debt. Concurrently, the Total Debt to Total Equity ratio fluctuated, notably increasing to 19.98% in Q2 2024, implying a higher reliance on debt relative to equity in the company's capital structure. These ratios underscore the evolving nature of Mphasis Ltd.'s financing strategies, and a nuanced interpretation should consider industry benchmarks and the company's overarching financial objectives. Additionally, a thorough examination of interest coverage ratios and debt maturity schedules is essential for a comprehensive understanding of the impact of leverage on the company's financial health and risk exposure.

Efficiency Ratios:



Mphasis Ltd.'s efficiency ratios, as reflected in the provided data, depict a commendable operational performance. The asset turnover ratio has remained relatively stable, with a modest increase observed in Q4 2023, reaching 1.23. This signifies the company's efficient utilization of assets to generate revenue, as each unit of assets contributes to INR 1.23 in revenue. Unfortunately, specific data regarding inventory turnover is unavailable, precluding a comprehensive assessment of inventory management efficiency. However, concerning accounts receivable turnover, a declining trend is evident, from 12.61 in Q4 2022 to 5.46 in Q2 2024. This decline may imply an extended collection period for receivables, warranting further scrutiny into the company's credit and collection policies. Overall, Mphasis Ltd.'s efficiency ratios suggest strong operational efficacy, though a nuanced examination of industry benchmarks and additional financial metrics would provide a more comprehensive understanding of its operational dynamics.

Profitability Ratios:



Mphasis Ltd.'s profitability ratios, as indicated by the provided data, showcase a commendable financial performance. The operating margin, representing the percentage of revenue converted into operating profit, has exhibited a consistent upward trajectory, culminating in a robust 15.46% in Q2 2024. This sustained increase underscores the company's adept cost management and operational efficiency. Return on Assets (ROA), reflecting the efficiency of profit generation from assets, experienced fluctuations, with a marginal decrease to 13.69% in Q2 2024. This variation prompts a closer examination of the company's asset utilization strategies. Meanwhile, Return on Common Equity (ROCE), assessing the profitability of equity, has demonstrated a positive trend, reaching 21.57% in Q2 2024. This suggests effective utilization of equity capital to generate favorable returns for shareholders. Overall, Mphasis Ltd.'s profitability ratios underscore a sound financial footing, although ongoing monitoring and contextual analysis against industry benchmarks will provide a comprehensive understanding of the company's sustained performance.

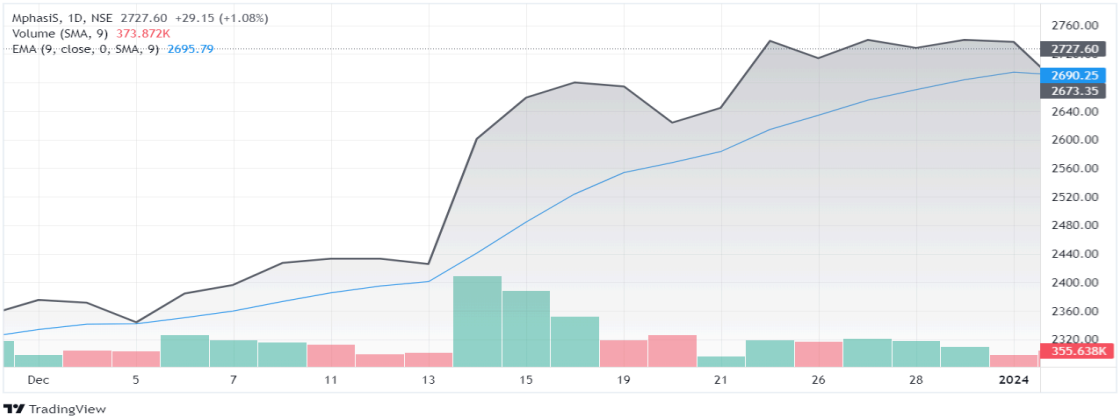
B] Technical Analysis

Expectations for the next 1 month - Mildly Bullish expectation

To explain the view behind this observation, we have taken daily data from 1 dec. 23 to 31 dec. 23 to form expectations using various technical indicators that show that we should buy the stock i.e there is a bullish expectation.

Exponential Moving Average:

An exponential moving average (EMA) is a type of moving average (MA) that places a greater weight and significance on the most recent data points.As we can see there is an uptrend in ema signal and it is about to cross the price we can safely assume that it is a signal to buy i.e. *MILDLY BULLISH signal.*



Moving Average Convergence/Divergence

MACD is above the signal line and the histogram is above the MACD's baseline, or zero line that indicates a Bullish expectation which confirms our previous view

The Average Directional Index:

The Average Directional Index (ADX) is not inherently bullish or bearish by itself. Instead, it is a trend strength indicator that helps traders assess the strength of a trend. ADX is used to measure the strength and momentum of a trend, regardless of its direction.
The ADX identifies a strong trend when the ADX is over 25 and a weak trend when the ADX is below 20.Here ADX is above 20 suggesting strong bullish trend so it is a MILDLY *BULLISH signal.*

The Relative Strength Index (RSI):

The RSI provides technical traders with signals about bullish and bearish price momentum.An asset is usually considered overbought when the RSI is above 70 and oversold when it is below 30.The RSI line crossing below the overbought line or above oversold line is often seen by traders as a signal to buy or sell.Since crossing between overbought line (70) it is a sign to buy.so we can infer it is a *MILDLY BULLISH signal*.

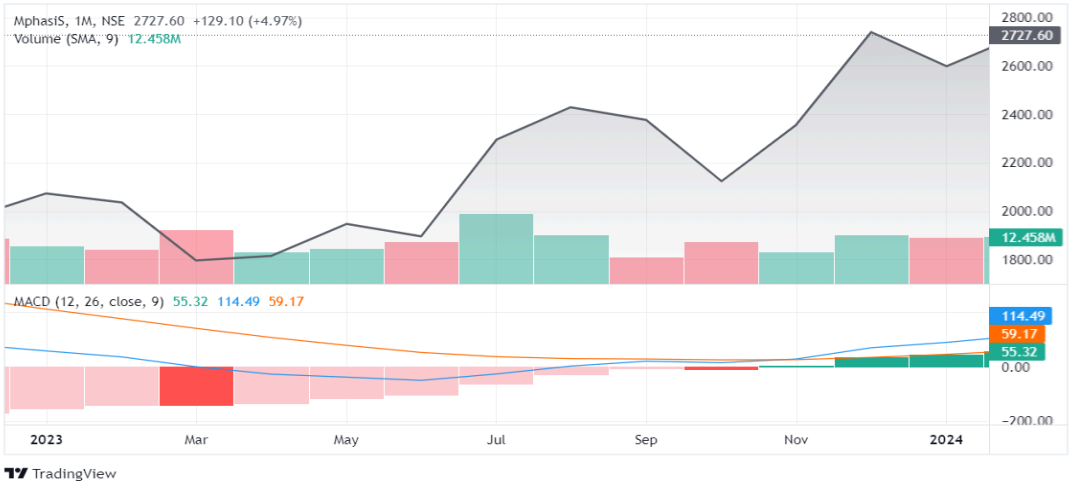
Expectations for the next 2 month - Moderately Bullish expectations:

To explain this observation, we have taken monthly data from January '23 to December '23 to form expectations using various technical indicators that show there is a bullish expectation.

Moving Average Convergence/Divergence:

MACD, or MAC-D is a trend-following momentum indicator that shows the relationship between two exponential moving averages (EMAs) of a security's price.

Here the MACD line crosses above the signal line, it may be considered a *MODERATELY BULLISH signal*, indicating it might be a good time to buy.

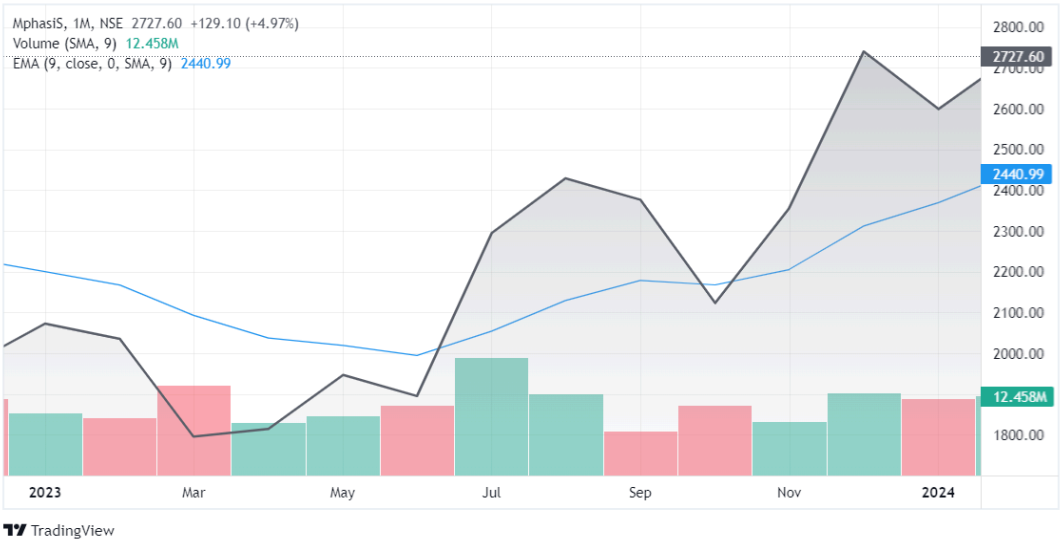


The Average Directional Index:

The Average Directional Index (ADX) is not inherently bullish or bearish by itself. Instead, it is a trend strength indicator that helps traders assess the strength of a trend. ADX is used to measure the strength and momentum of a trend, regardless of its direction.Since it is greater than 25 indicating strong trend.

Exponential Moving Average:

An exponential moving average (EMA) is a type of moving average (MA) that places a greater weight and significance on the most recent data points.As we can see there is an uptrend in ema signal we can safely assume that it is a signal to buy i.e. *BULLISH signal*.



The Relative Strength Index (RSI):

The RSI provides technical traders with signals about bullish and bearish price momentum.Since we can see that the RSI is consistently trending higher, it suggests that buying pressure is increasing, potentially signaling a *MODERATELY BULLISH trend*.

EXPECTATION:

- For a short term (1 month) the graph shows a **mildly bullish signal.**
- For the 2nd month the graph shows a **moderately bullish signal,** moving towards price consolidation in the longer term**.**

Strategy 1 - Bull Put Spread

A bull put spread is an options trading strategy designed to benefit from a stock's limited decrease in price. The strategy uses two put options to create a range consisting of a higher strike price and a lower strike price. The bullish put spread helps to limit losses of selling short, but it also caps the gains.

This strategy involves writing or short selling a put option with a higher strike price while concurrently purchasing another put option with the same expiration date but a lower strike price. It's suitable for investors moderately bullish on the stock who want to limit downside risk.

Strategy Formation with 25th Jan, 2024 expiry :

Short Put: Strike Price (K_2) = ₹2800, Premium (p_2) = ₹146.50
Long Put: Strike Price (K_1) = ₹2680, Premium (p_1) = ₹56.05

Net Inflow:
Cost of Strategy : p_1-p_2 = 146.50-56.05 = ₹90.45

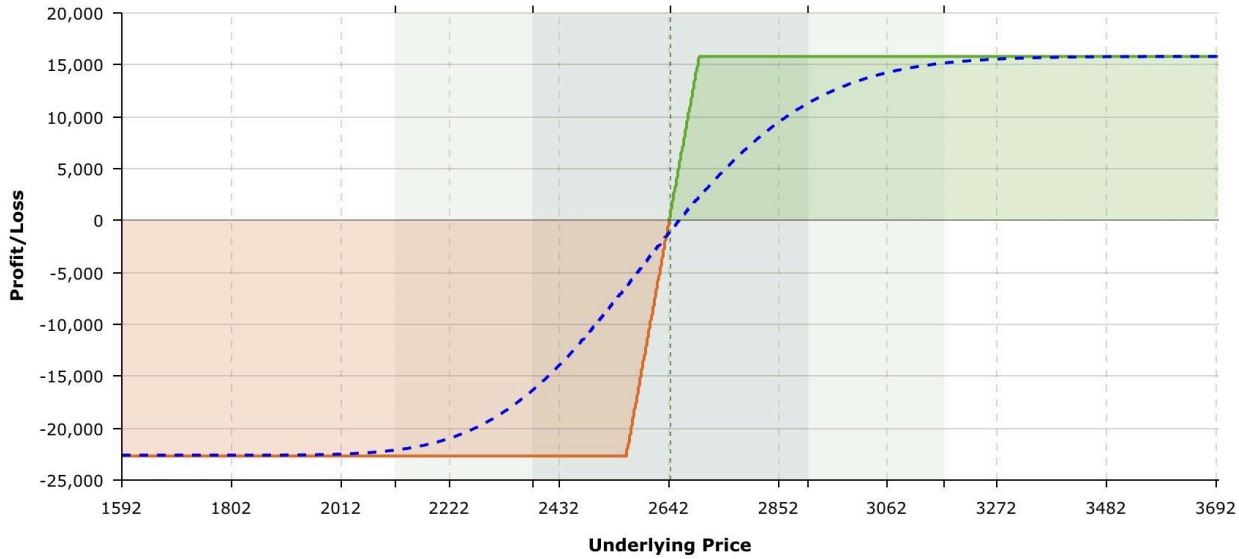
Payoff/Profit Matrix:

Position	$S_T < K_1$	$K_1 \le S_T \le K_2$	$S_T > K_2$
Long Put	$K_1 - S_T$	0	0
Short Put	$S_T - K_2$	$S_T - K_2$	0
Payoffs	$K_1 - K_2$	$S_T - K_2$	0
Profits	$K_1 - K_2 + p_2 - p_1$	$S_T - K_2 + p_2 - p_1$	$(p_2 - p_1)$

After substituting values,

Position	$S_T < K_1$	$K_1 \le S_T \le K_2$	$S_T > K_2$
Long Put	$2680 - S_T$	0	0
Short Put	$S_T - 2800$	$S_T - 2800$	0
Payoffs	2680-2800 =-120	$S_T - 2800$	0
Profits	**-29.55**	$S_T - 2800 + 90.45$ **$= S_T - 2709.55$**	**90.45**

Profit Diagram: (X axis: S_T, Y axis: Profit)



Note: The graph depiction is on a certain lot size and is not on per share basis. However, for ease of understanding, the following analysis is according to per share prices.

Breakeven:

Breakeven = K_2-(p_2–p_1)

= 2800-90.45

= **₹2709.55**

Max Loss :

Max Loss = (K_1 – K_2- (p_1–p_2))

= (2680–2800+90.45)

= **₹29.55 per share**

Maximum Profit:

Max Profit = (p_2–p_1)

= (146.50 - 56.05)

= **₹90.45 per share**

The Bull Put Spread strategy, based on the provided values and formulas, has a breakeven point of ₹2709.55 and a maximum loss of ₹29.55 per share. This strategy is suitable for investors who are moderately bullish on Mphasis and want to limit downside risk while still maintaining profit potential.

Conclusion:

The Bull Put Spread strategy, based on the given strike prices and premiums, is a relatively conservative options strategy that is appropriate for investors who are bullish on Mphasis and who want to limit their risk exposure while still maintaining the potential for profit. The reason for deploying this strategy was the mild bullish expectation, where the Bull Put Spread can tap into profits if the expectation is correct while also limiting losses if the market moves against the expectation.

Realised Profit/Loss:

On Jan 25,2024: Market Price of MPHASIS share = ₹2522.40
Loss Realized/share: ₹29.55/share as $S_T < K_1$.

Strategy 2: Strap

The strap strategy is a bullish options tactic that involves buying two in-the-money call options and one out-of-the-money put option, all with the same strike price and expiration date. This approach is geared towards profiting from a significant rise in the underlying asset's price while limiting potential losses.

Here are the steps involved in executing a Strap:

1.) Buy 2 in-the-money call options:
Strike Price – K, Premium – p_1
2.) Buy an out-of-the-money put option:
Strike Price – K, Premium – p_2

where,
K = ₹2800, p_1 = ₹94.15 p_2 = ₹143.50

Cash flow on Jan 1,2023(t=0): 2(94.15) + 143.50 = ₹331.8 (outflow of cash)

Options purchased on Jan 1, 2023 with 1 month maturity (expires on 25 Jan 2024) and market Price of MPHASIS (S_0) on Jan 1, 2023 was ₹2736.85

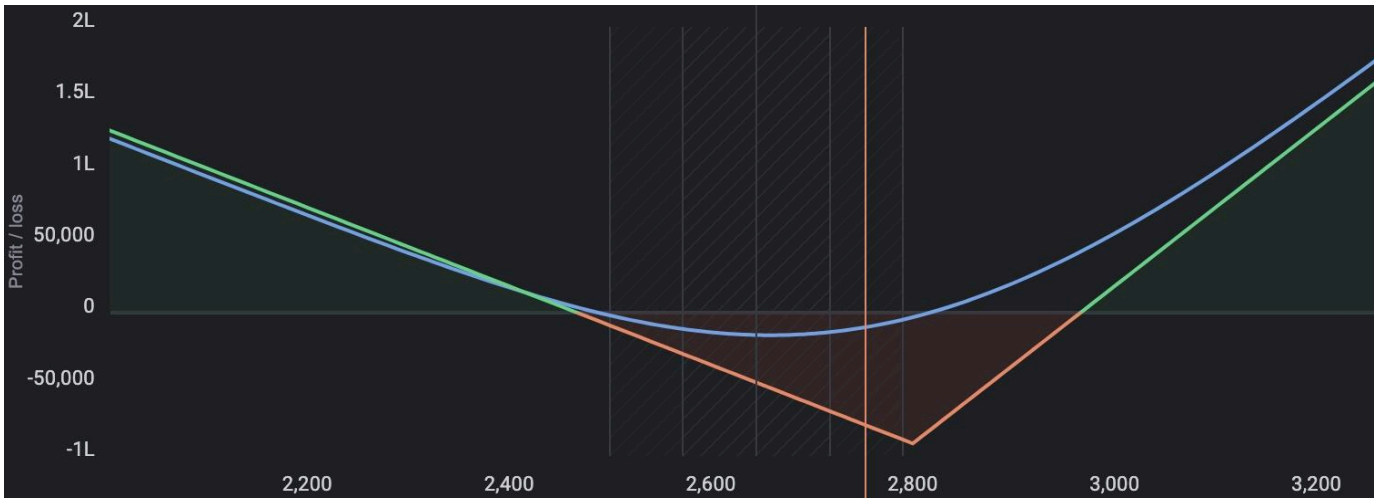
Payoff matrix:

Position	**S_T<K**	**S_T>=K**
Long Call	0	$2(S_T-K)$
Long Put	$K-S_T$	0
Net Payoff	$K-S_T$	$2(S_T-K)$
Profit	$K-S_T-p_1-p_2$	$2(S_T-K)-p_1-p_2$

After substituting values:

Position	**S_T < K**	**S_T >= K**
Long Call	0	$2(S_T-2800)$
Long Put	$2800-S_T$	0
Net Payoff	$2800-S_T$	$2(S_T-2800)$
Profit	$2800-S_T-331.8$	$2(S_T-2800)-331.8$
	$=2468.2-S_T$	**$=2S_T-5931.8$**

Profit Diagram: (X axis: S_T, Y axis: Profit)



Note: The graph depiction is on a certain lot size and is not on per share basis. However, for ease of understanding, the following analysis is according to per share prices.

Breakeven price: Lower Breakeven : $2468.2 - S_T = 0 \Rightarrow S_T = ₹2468.2$

Upper Breakeven : $2S_T - 5931.8 = 0 \Rightarrow S_T = ₹2965.9$

Max profit: Unlimited

Max loss/share: ₹331.8

Realized Profit/Loss:

On Jan 1,2024: Market Price of MPHASIS share = ₹2522.40

Loss Realized/share: (2468.2-2522.49) = **₹54.29**

Conclusion:

The Strap strategy is a bullish options tactic aimed at profiting from a substantial rise in the underlying asset's price while limiting potential losses. By purchasing two in-the-money call options and one out-of-the-money put option, all with the same strike price and expiration date, traders anticipate bullish movements in the stock's price.

In this strategy, the breakeven points at ₹2468.2 and ₹2965.9 define the range where profits can be realized. While offering unlimited profit potential, it comes with an upfront cash outflow of ₹331.8 and a maximum loss of the same amount per share.

Overall, the Strap strategy is suitable for traders with a bullish outlook on the market who are seeking significant profits from an upward stock price movement, albeit with limited downside protection.

Strategy 3: Protective Put (Stock + Option)

The protective put option strategy, also known simply as a protective put, is a risk management strategy used by investors to protect their existing long positions in a stock from potential losses. It involves purchasing put options on the same underlying stock that the investor holds.

How it Works:

1. Existing Long Position:
- The investor already holds a long position in a particular stock, meaning they own shares of that stock.

2. Purchase of Put Options:
- The investor purchases put options with a strike price and expiration date that align with their desired level of protection and investment horizon.

3. Protection Against Downside Risk:
- If the stock price falls below the strike price of the put option, the put option provides the investor with the right to sell the stock at the strike price.
- This limits the investor's potential losses on the stock position, as they can sell the shares at the predetermined strike price, even if the market price of the stock falls further.

S_0 =₹ 2736.85
K = ₹ 2800.00
C = ₹ 146.50
Expiry - 29 Feb 2024

Long Stock	K_1 = 2736.85	C_1 = 0
Long Put	K_2 = 2800	C_2 = 146.50

K = Strike Price
C = Premium
S_T = Spot price at expiry

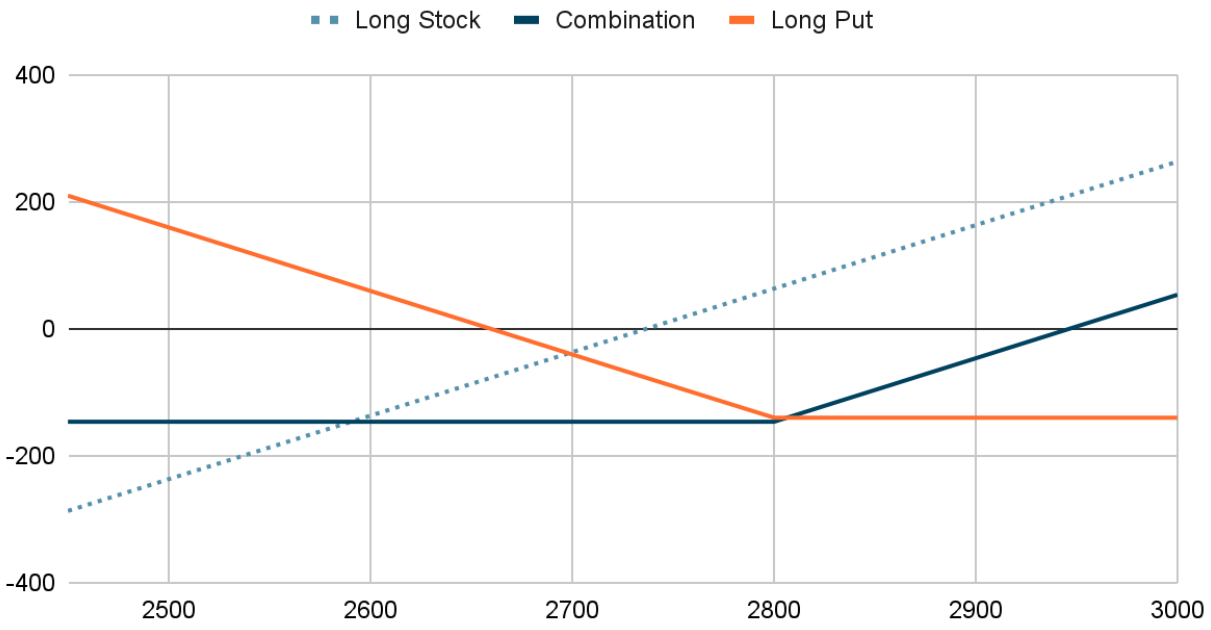
Payoff/Profit Matrix:

Payoffs	$S_T >= K$	$S_T <= K$
Long Stock	S_T	S_T
Long Put	0	$K - S_T$
Net Payoff	S_T	K
Profit	$S_T - S_0 - C$	$K - S_0 - C$

After substituting values:

Payoffs	$S_T >= 2800$	$S_T <= 2800$
Long Stock	S_T	S_T
Long Put	0	$2800 - S_T$
Net Payoff	S_T	2800
Profit	S_T - 2736.85 - 146.50 = **S_T - 2590.35**	2800 - 2736.85 - 146.50 = **-83.35**

Profit Diagram: (X axis: S_T, Y axis: Profit)



Max Profit : Unlimited
Max Loss : ₹146.50 per share

In conclusion, the protective put strategy offers valuable advantages for investors seeking to safeguard their existing stock positions. By providing downside protection, it enables investors to mitigate potential losses while retaining their long exposure to a stock. Moreover, the strategy offers a defined risk profile, with the maximum loss limited to the premium paid for the put option.

Realized Profit/Loss:

On Feb 29, 2024: Market Price of MPHASIS share = ₹2617.35
So put option is not exercised and net profit can be calculated as:

Profit Realized per share: -83.35
Loss Realized/share: ₹83.35/share.

New Strategies

Strategy 4: Bull Condor Spread

This strategy is specifically designed for securities whose price is forecasted to rise to a particular price range.Its a bullish strategy and hence aligns with our expectations.It's similar to bull butterfly spread but does not require the same levels of accuracy. It includes four transactions.

The reasonably low upfront costs and high potential return on investment make it a good strategy to make maximum profits from an accurate forecast. While calls have been used in the given case, this strategy can also be extended to puts.

Steps involved:

1. Predict the range within which the security price is going to rise. Lower Limit = K_l and Upper limit = K_u.

Long Positions

2. Buy a call option for a particular strike price K_a ,such that $K_a < K_l$.(Premium P_a)
3. Buy a call option for a particular strike price K_b, such that $K_b > K_u$.(Premium P_b)

Short Positions

4. Sell a call option for price K_u.(Premium P_u)
5. Sell a call option for price K_l.(Premium P_l)

Profit and Loss:

The maximum Loss in this strategy will be equal to $(P_a+P_b) - (P_l+P_u)$.The max profit one could earn using this strategy is when the price of the security is between the Predicted range $K_l<=x<=K_u$.

Scenarios:

$S_T<K_l$:

Pay off = 0

Profit = $- (P_a+P_b)+(P_l+P_u)$

$K_a<=S_T<K_l$:

Long call with K_a: Payoff = $S_T - K_a$

Long call with K_b : Payoff=0

Short Call with K_l: Payoff=0

Short call with K_u: Payoff= 0

Net profit=$S_T - K_a - (P_a + P_b) + (P_l + P_u)$

$K_l<=S_T<=K_u$:

Long call with K_a: Payoff =S_T-K_a

Long call with K_b: Payoff=0

Short Call with K_l: Payoff=K_l-S_T

Short call with K_u: Payoff= 0

Net profit=$K_l-K_a-(P_a+P_b)+(P_l+P_u)$

$K_u<S_T<=K_b$:

Long call with K_a: Payoff =S_T-K_a

Long call with K_b : Payoff=0

Short call with K_l: Payoff=K_l-S_T

Short call with K_u: Payoff= K_u-S_T

Net Profit=$K_u+K_l-K_a-S_T-(P_a+P_b)+(P_l+P_u)$

$S_T>K_b$:

Long call with K_a: Payoff $=S_T-K_a$
Long call with K_b : Payoff$=S_T-K_b$
Short Call with K_l: Payoff$=K_l-S_T$
Short call with K_u: Payoff$= K_u-S_T$
Net Profit $= K_u + K_l - K_a - K_b - (P_a+P_b) + (P_l+P_u)$

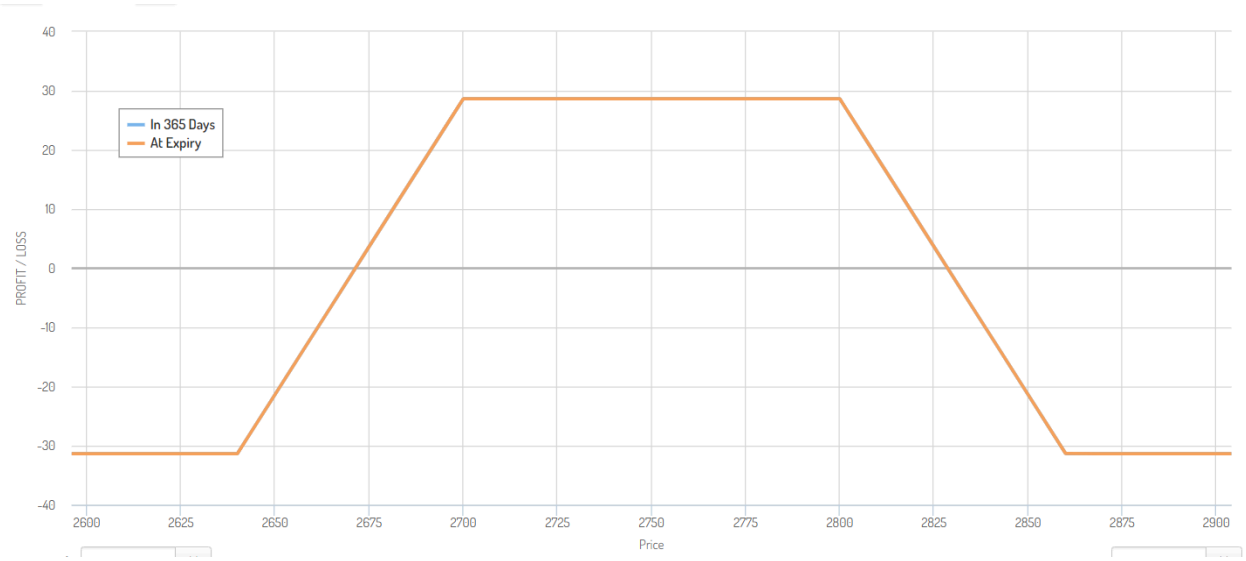
Securities	$S_T<K_a$	$K_a<=S_T<K_l$	$K_l<=S_t<=K_u$	$K_u<S_T<=K_b$	$K_b<S_t$
Long Call (K_a)	0	$S_T - K_a$	$S_T - K_a$	$S_t - K_a$	S_T-K_a
Long Call (K_b)	0	0	0	0	St-Kb
Short Call (K_l)	0	0	$K_l - S_T$	$K_l - S_T$	$K_l - S_T$
Short Call (K_u)	0	0	0	$K_u - S_T$	K_u-S_T
Payoff	0	$S_T - K_a$	$K_l - K_a$	$K_u + K_l - K_a - S_t$	Ku+Kl-Ka-Kb
Net Profit	$-(P_a+P_b)+(P_l+P_u)$	$S_T-K_a-(P_a+P_b)+(P_l+P_u)$	$K_l-K_a-(P_a+P_b)+(P_l+P_u)$	$K_u+K_l-K_a-S_t-(P_a+P_b)+(P_l+P_u)$	$K_u+K_l-K_a-K_b-(P_a+P_b)+(P_l+P_u)$

Payoff Matrix:

After Substituting values :

K_I = ₹2700
K_a = ₹2640
K_b = ₹2840
K_u = ₹2800
P_a = ₹182.25
P_I = ₹132.8
P_b = ₹71.90
P_U= ₹90

Profit Diagram: (X axis: S_T, Y axis: Profit)



Securities	**S_T < 2640**	**2640<=S_T<2700**	**2700<=S_T<=2800**	**2800<S_T<=2860**	**2860 < S_T**
Long Call (K_a=2640 , P_a=182.25)	0	S_T-2640	S_T-2640	S_T-2640	S_T-2640
Long Call (K_b=2860, P_b=71.95)	0	0	0	0	S_T-2860
Short Call (K_l=2700 P_l=132.8)	0	0	2700 - S_T	2700 - S_T	2700 - S_T
Short Call (K_u=2800 P_u=90)	0	0	0	2800-S_T	2800-S_T
Payoff	0	S_T-2640	2700-2640=60	2800+2700-2640-St=2860-S_T	2800+2700-2640-2840=-7.55
Net Profit	-(182.25+79.95)+(132.8+90) =-31.35	S_T-2640-(182.25+79.95)+(132.8+90) =S_T-2671.35	2700-2640-(182.25+79.95)+(132.8+90) =28.65	2800+2700-2640-S_T-(182.25+79.95)+(132.8+90) =2828.65 - S_T	2800+2700-2640-2860-(182.25+79.95)+(132.8+90) =-31.35

Break Even Price:

There are 2 Break even prices :

1. S_T - 2671.35 = 0 So when S_T = **₹2671.35**
2. 2828.65 - S_T = 0 So when S_T = **₹2828.65**

Max Profit:

When the price of the stock is within the predicted range = **₹28.65**.

Max Loss:

When the price is below the Strike price K_a or above the strike price K_b is **₹31.35**.

Realized Profit/loss:

On Jan 25,2024: Market Price of MPHASIS share = ₹2522.40
Since the Value lies below Ka, the strategy has incurred a loss of **₹31.35 per share.**

Conclusion :

The Bull Condor Spread strategy reinforces bullish expectations by strategically positioning for anticipated upward movements in the underlying asset's price within a predetermined range. By engaging in call options transactions, it demonstrates confidence in the market's upward trajectory while seeking to optimize profits. This structured approach not only leverages bullish trends but also provides a buffer against potential downside risks. Thus, the strategy reflects a comprehensive bullish outlook, acknowledging potential market fluctuations while actively seeking to capitalize on projected price increases within a defined range.

STRATEGY 5: JADE LIZARD STRATEGY

Trader Sentiment : Range Bound Expectations

Strategy Setup: To implement a Jade Lizard, individuals must take positions in:

1. Short Put: One lot with the lowest strike price (OTM).
2. Short Call: One lot with an in-between strike price (OTM).
3. Long Call: One lot with the highest strike price (OTM).

All contracts must have the same expiration date.

Features:

- Capped profits and unlimited losses.
- No upfront cost to implement the strategy; individuals earn money from premiums.
- Favored by individuals who anticipate the stock price to be within a range and are unwilling to put in any upfront money for premium payments.

Our Strategy:

- On Jan 1st, we entered into positions in the contracts listed below, with the expectation that the stock would move up but mainly stay in the 2600 to 3000 level with a 29th Feb expiry.

Position	Strike Price (₹)	Premium (₹)
Short Put	2640	80
Short Call	2840	105.15
Long Call	2940	71.40

Net Premium = p1 + p2 - p3
= 80 + 105.15 - 71.40
= ₹113.75

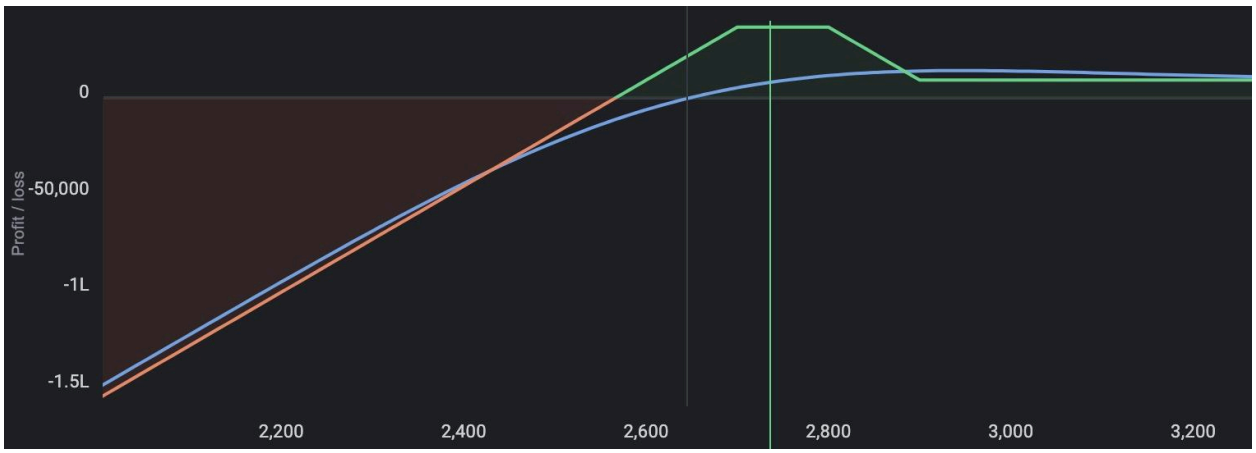
The net premium earned is 113.75 per share. This means that the trader receives this amount upfront for implementing the strategy. The fact that the strategy generates a net credit implies a bullish bias, as the trader benefits from the passage of time (theta decay) and potentially upward movement in the stock price.

Based on the specific options selected in our case, we stand to gain not only from range-bound projections but even benefit mildly when the stock price increases beyond our initial forecast. This situation is particularly advantageous for our stock, which exhibits range-bound indicators along with indications of bullish trends in the future based on our analysis.

Payoff/Profit Matrix:

	$S_T < 2640$	$2640 \leq S_T < 2840$	$2840 \leq S_T < 2940$	$S_T \geq 2940$
Short Put	S_T - 2640	0	0	0
Short Call	0	0	2840 - S_T	2840 - S_T
Long Call	0	0	0	S_T - 2940
Payoffs	S_T - 2640	0	2840 - S_T	-100
Profits	S_T - 2526.25	113.75	2953.75 - S_T	13.75

Profit Diagram: (X axis: S_T, Y axis: Profit)



Note: The graph depiction is on a certain lot size and is not on per share basis. However, for ease of understanding, the following analysis is according to per share prices.

Maximum Profit:

Maximum profit is achieved if the stock price remains between the short put and short call strike prices at expiration. It is equal to the net premium received.

Maximum Profit = Net Premium = **₹113.75**

Maximum Loss:

Maximum loss occurs if the stock price falls below the strike price of the short put option. The loss would be the difference between the strike price of the short put and the stock price at expiration, minus the net premium received.

Maximum Loss = (Strike Price of Short Put−Strike Price of Long Call)−Net Premium Received

= (2640 - 2940) - 113.75

= **-₹413.75**

Break Even Point:

Break Even point for the put side is the strike price of the short put minus the net premium received.

Break Even Point = Strike Price of Short Put - Net Premium

= 2640 - 113.75

= **₹2526.25**

Realized Profit/loss:

On Feb 29,2024: Market Price of MPHASIS share = ₹2617.35

Since S_T<2640, **Loss Realized/share** = 2617.35 - 2526.25 = **₹91.1/share.**

Conclusion :

Overall, the calculations and outcomes of the strategy indicate a moderately bullish expectation. The net premium earned upfront, limited downside risk, and potential for profit within a defined range all suggest a stance that leans towards bullishness, albeit with a degree of caution. The strategy is designed to benefit from upward or range-bound movement in the stock price, reflecting a positive outlook tempered by risk management considerations.

References:

https://in.tradingview.com/
https://opstra.definedge.com/
https://sensibull.com/
https://www.nseindia.com/
https://www.investopedia.com/the-jade-lizard-option-strategy-7229206
https://www.optionstrading.org/strategies/bullish-market/bull-condor-spread/
Bloomberg Terminal