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**NISM SERIES VIII - EQUITY
DERIVATIVES CERTIFICATION**



NISM VIII– EQUITY DERIVATIVES CERTIFICATION EXAMINATION
SHORT NOTES BY PASS4SURE.IN

Basics of Derivatives

Derivative is a contract or a product whose value is derived from value of some other asset known as underlying. Derivatives are based on wide range of underlying assets which include metals, energy resources, agricultural commodities and financial assets.

Derivative Markets: History and Evolution

12th Century: Sellers signed contracts promising future delivery in Europe.

13th Century: Multiple examples of contracts English Cistercian Monasteries, who frequently sold their wool up to 20 years in advance, to foreign merchants.

Late 17th century: A futures market in rice was developed in Japan at Dojima near Osaka.

1848: Chicago Board of Trade (CBOT) facilitated trading of forward contracts.

1865: CBOT listed the first ‘exchange traded’ derivative contract (Futures contract) in the US.

1919: Chicago Mercantile Exchange (CME) was re-organized to allow futures trading.

1972: CME introduced International Monetary Market, which allowed trading in currency futures.

1973: Chicago Board Options Exchange became the first marketplace for trading listed options.

1975-77: CBOT introduced Treasury bill futures and T-Bond futures contract.

1982: CME introduced Eurodollar futures contract and Kansas City Board of Trade launched the first stock index futures.

Factors influencing the growth of derivative market globally

- High volatility in financial markets.
- Integration of financial markets globally.
- Use of latest technology in communications has helped in reduction of transaction costs.
- Higher understanding of market participants on sophisticated risk management tools.
- Frequent innovations in derivatives market and newer applications of products.

Indian Derivatives Market

1996: SEBI set up a committee under Dr. L. C. Gupta to develop appropriate regulatory framework for derivatives trading in India.

1998: SEBI set up a group under Prof. J.R.Verma, to recommend measures for risk containment in derivatives market in India.

1999: The Securities Contract Regulation Act was amended to include “derivatives” within the domain of ‘securities’ and regulatory framework was developed for governing it’s trading.

2000: The exchange traded derivatives started with SEBI permitting BSE and NSE to introduce equity derivative segment.

Products in India Derivative Markets

Forwards: It is a contract between two parties to buy/sell an underlying asset at a certain future date for a price that is pre-decided on the date of contract. Both the parties are obliged to honor the transaction irrespective of price of the underlying asset at the time of delivery.

Futures: A futures contract is similar to a forward, except that the deal is made through an organized and regulated exchange rather than being negotiated directly between two parties. Indeed, we may say futures are exchange traded forward contracts.

Options: It is a contract that gives the right, but not obligation, to buy or sell the underlying at a stated date and price. The buyer of option pays the premium for the right, seller of option receives premium with obligation to sell/buy the underlying, if the buyer exercises his right.

Swaps: A swap is an agreement made between two parties to exchange cash flows in the future according to a prearranged formula. Swaps help market participants manage risk associated with volatile interest rates, currency exchange rates and commodity prices.

Market participants

Hedgers: They already have risks with the prices of underlying assets and use derivatives to reduce their risk. Their main objective is to avoid losses from other positions.

Speculators/Traders: They try to predict the future movements in prices of underlying assets and based on the view, take positions in derivative contracts.

Arbitrageurs: Arbitrageurs produce profit by exploiting a price difference in a product in two different markets.

OTC derivatives markets

Over-the-counter market is not a physical marketplace but a collection of broker-dealers scattered across the country. Buying and selling of contracts is matched through negotiated bidding process over a network that links thousands of intermediaries. OTC derivative market is less regulated market because these transactions occur in private.

Significance of Derivatives

- Helps in improving price-discovery
- Helps transfer of risks
- Helps shift of speculative trade from unorganized market to organized markets.

Risks faced by participants in Derivatives

Derivatives, being leveraged instruments have risks like:

- Counterparty risk: Default by counterparty
- Price risk: Loss on position because of price movement
- Liquidity risk: Inability to exit from a position
- Legal or regulatory risk: Enforceability of contracts
- Operational risk: Fraud, inadequate documentation, improper execution, etc.

Understanding Index

An index is a portfolio of securities that represent a particular market or a portion of a market. Each Index has its own calculation methodology and usually is expressed in terms of a change from a base value. It is an indicator of the performance of overall market or a particular sector.

It serves as a benchmark for portfolio performance. It is used as an underlying for financial application of derivatives.

Types of Stock Market Indices

1. Market capitalization weighted index

In this method of calculation, each stock is given weight according to its market capitalization. So, higher the market capitalization of a constituent, higher is its weight in the index. Popular indices in India Sensex and Nifty were earlier designed on market capitalization weighted method.

2. Free-float market capitalization index

Equity holding is divided differently among various stake holders. Market has started to segregate this on the basis of what is readily available for trading or what is not. The one available for immediate trading is categorized as free float. And, if we compute the index based on weights of each security based on free float market cap, it is called free float market capitalization index.

3. Price weighted index

It is a stock index in which each stock influences the index in proportion to its price. Stocks with a higher price will be given more weight and therefore, will have a greater influence over the performance of the Index.

4. Equal weighted index

An equally-weighted index makes no distinction between large and small companies, both of which are given equal weighting. The value of the index is generated by adding the prices of each stock in the index and dividing that by the total number of stocks.

A good market index should have following attributes:

- It should reflect the market behavior.
- It should be computed by independent third party and be free from influence of any market participant.
- It should be professionally maintained.

Impact Cost

Liquidity in the context of stock market means a market where large orders are executed without moving the prices. (Please read the example explained in the book)

Index management

Index construction, maintenance and revision process is generally done by specialized agencies. It includes: **Index construction, Index maintenance and index revision.**

Application of Indices

- **Index Funds:** These types of funds invest in a specific index with an objective to generate returns equivalent to the return on index. These funds invest in index stocks in the proportions in which these stocks exist in the index.
- **Index Derivatives:** Index Derivatives are derivative contracts which have the index as the underlying asset. Index Options and Index Futures are the most popular derivative contracts worldwide. Index derivatives are useful as a tool to hedge against the market risk.
- **Exchange Traded Funds:** an exchange. They have number of advantages over other mutual funds as they can be bought and sold on the exchange. Since, ETFs are traded on exchanges intraday transaction is possible. Further, ETFs can be used as basket trading in terms of the smaller denomination and low transaction cost.

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Introduction to Forwards and Futures

Forwards

Forward contract is an agreement made directly between two parties to buy or sell an asset on a specific date in the future, at the terms decided today. Forwards are widely used in commodities, foreign exchange, equity and interest rate markets. In other words, Forwards are bilateral over-the-counter (OTC) transactions where the terms of the contract, such as price, quantity, quality, time and place are negotiated between two parties to the contract. Any alteration in the terms of the contract is possible if both parties agree to it.

Limitations of Forwards

Liquidity Risk: Forwards are not listed or traded on exchanges, which makes it difficult for other market participants to easily access these contracts or contracting parties. The tailor made contracts and their non-availability on exchanges creates illiquidity in the contracts.

Counterparty Risk: Counterparty risk is the risk of an economic loss from the failure of counterparty to fulfill its contractual obligation. Thus, a party to the contract may default on his obligation if there is incentive to default. This risk is also called default risk or credit risk.

Futures

Futures markets were innovated to overcome the limitations of forwards. A futures contract is an agreement made through an organized exchange to buy or sell a fixed amount of a commodity or a financial asset on a future date at an agreed price. Simply futures are standardized forward contracts that are traded on an exchange.

Features of a Futures Market

- Contract between parties to exchange on a centralized trading platform i.e. exchange
- Price discovery through free interaction of buyers and sellers
- Margins are payable by both the parties
- Quality and quantity decided today (standardized)

Terminologies in Futures Market

- **Spot Price:** The price at which an asset trades in the cash market.
- **Futures Price:** The price of the futures contract in the futures market.
- **Contract Cycle:** The period over which a contract trades.
- **Expiration Day:** The day on which a derivative contract ceases to exist. It is last trading day of the contract.
- **Ticket size:** It is minimum move allowed in the price quotations. Exchanges decide the tick sizes on traded contracts as part of contract specification.
- **Contract size and contract value:** Futures contracts are traded in lots and to arrive at the contract value we have to multiply the price with contract multiplier or lot size or contract size.

- **Basis:** The difference between the spot price and the futures price is called basis. If the futures price is greater than spot price, basis for the asset is negative. Similarly, if the spot price is greater than futures price, basis for the asset is positive.
- **Cost of carry:** Cost of Carry is the relationship between futures prices and spot prices. It measures the storage cost plus the interest that is paid to 'carry' the asset till delivery less the income earned on the asset during the holding period. For equity derivatives, carrying cost is the interest paid to finance the purchase less (minus) dividend earned.
- **Margin Account:** As exchange guarantees the settlement of all the trades, to protect itself against default by either counterparty, it charges various margins from brokers. Brokers in turn charge margins from their customers.
- **Initial Margin:** The amount one needs to deposit in the margin account at the time of entering a futures contract is known as the initial margin.
- **Marking to market:** In futures market, while contracts have maturity of several months, profits and losses are settled on day-to-day basis – called mark to market (MTM) settlement.
- **Open Interest and volumes traded:** An open interest is the total number of contracts outstanding (yet to be settled) for an underlying asset.
- **Price Band:** Price Band is essentially the price range within which a contract is permitted to trade during a day.

Terminologies in Futures Market

- **Long Position:** Outstanding buy position in a contract is called "Long Position".
- **Short Position:** Outstanding sell position in a contract is called "Short Position".
- **Open Position:** Outstanding either long (buy) or short (sell) position in various derivative contracts is called "Open Position".
- **Naked and calendar spread position:** Naked position in futures market simply means a long or short position in any futures contract without having any position in the underlying asset. Calendar spread position is a combination of two positions in futures on the same underlying - long on one maturity contract and short on a different maturity contract.
- **Opening a position:** Opening a position means either buying or selling a contract, which increases client's open position (long or short).
- **Closing a position:** Closing a position means either buying or selling a contract, which essentially results in reduction of client's open position (long or short). A client is said to be closed a position.

Pay-off charts

Pay off on a position is the likely profit/ loss that would accrue to a market participant with change in the price of the underlying asset at expiry. The payoff diagram is graphical representation showing the price of the underlying asset on the X-axis and profits/ losses on the Y-axis. In case of futures contracts, long as well as short position has unlimited profit or loss potential. This results into linear pay offs for futures contracts.

Differences between Forwards and Futures

Feature	Forward contracts	Futures contracts
Operational mechanism	It is not traded on the exchanges.	It is an exchange-traded contract.
Contract specifications	Terms of the contracts differ from trade to trade (tailor made contract) according to the need of the participants.	Terms of the contracts are standardized.
Counter-party risk	Exists, but at times gets reduced by a guarantor.	Exists but the clearing agency associated with exchanges becomes the counter-party to all trades assuring guarantee on their settlement.
Liquidation profile	Low, as contracts are tailor made catering to the needs of the parties involved. Further, contracts are not easily accessible to other market participants.	High, as contracts are standardised exchange-traded contracts.
Price discovery	Not Efficient, as markets are scattered.	Efficient, centralised trading platform helps all buyers and sellers to come together and discover the price through common order book.
Quality of information and its dissemination	Quality of information may be poor. Speed of information dissemination is weak.	Futures are traded nationwide. Every bit of decision related information is distributed very fast.
Examples	Currency markets are an example of forwards. Today currency futures and options have been introduced in India, but yet a market for currency forwards exists through banks.	Commodities futures, Currency futures, Index futures and Individual stock futures in India.

Futures Pricing

There is no single way to price futures contracts because different assets have different demand and supply patterns, different characteristics and cash flow patterns. This makes it difficult to design a single methodology for calculation of pricing of futures contracts. Market participants use different models for pricing futures.

1. Cash and Carry Model for Futures Pricing

Cash and Carry model is also known as non-arbitrage model. This model assumes that in an efficient market, arbitrage opportunities cannot exist. In other words, the moment there is an opportunity to make money in the market due to mispricing in the asset price and its replicas, arbitrageurs will start trading to profit from these mispricing and thereby eliminating these opportunities. This trading continues until the prices are aligned across the products/ markets for replicating assets. The cost of creating a synthetic futures position is the fair price of futures contract. Fair price of futures contract is nothing but addition of spot price of underlying asset and cost of carrying the asset from today until delivery. Cost of carrying a financial asset from today to the future date would entail different costs like transaction cost, custodial charges, financing cost, etc whereas for commodities, it would also include costs like warehousing cost, insurance cost, etc.

Assumptions in cash and carry model

- Underlying asset is available in abundance in cash market.
- Demand and supply in the underlying asset is not seasonal.
- Holding and maintaining of underlying asset is easy and feasible.
- Underlying asset can be sold short.
- No transaction costs.
- No taxes.
- No margin requirements.

Convenience yield: Convenience return for a commodity is likely to be different for different people, depending on the way they use it. Further, it may vary over a period. In fact, convenience is a subjective issue and may be very difficult to price. Convenience yield sometimes may dominate the cost of carry, which leads futures to trade at a discount to the cash market. In this case, reverse arbitrage is also not possible because no one lends traders the assets to sell short in the cash market.

2. Expectancy model of futures pricing

According to the expectancy model, it is not the relationship between spot and futures prices but that of expected spot and futures prices, which moves the market, especially in cases when the asset cannot be sold short or cannot be stored. According to this model-

- Futures can trade at a premium or discount to the spot price of underlying asset.
- Futures price give market participants an indication of the expected direction of movement of the spot price in the future.

Price discovery and convergence of cash and futures prices on the expiry: It is important to understand what actually futures prices indicate? For instance, if say May 2018 index futures contract is trading today (in March 2018) at 10200, what does it mean. We can explain this by saying that that market expects the cash index to settle at 10200 at the closure of the market on last Thursday of May (i.e., on the last trading day of the contract which is May 31, 2018). Accordingly, both futures and spot prices converge at the maturity of futures contract, as at that point in time there cannot be any difference between these two prices. This is the reason why all futures contracts on expiry settle at the underlying cash market price. This principal remains same for all the underlying assets.

Commodity, Equity & Index Futures: The basic concept of a derivative contract remains the same for all the underlying assets, whether the underlying happens to be a commodity or equity or index futures. In the case of financial derivatives, most of these contracts are cash settled whereas in the case of commodity derivatives, some contracts may settle with physical delivery. Even in the case of physical settlement, financial assets are not bulky and do not need special facility for storage, whereas in commodity market, due to the bulky nature of the underlying assets, physical settlement in commodity derivatives creates the need for warehousing.

- ❖ Specific risk or **unsystematic risk** is the component of price risk that is unique to particular events of the company and/or industry. This risk is inseparable from investing in the securities.
- ❖ An investor can diversify his portfolio and eliminate major part of price risk i.e. the diversifiable/unsystematic risk but what is left is the non-diversifiable portion or the market risk-called **systematic risk**.

Important terms in hedging

Long hedge: Long hedge is the transaction when we hedge our position in cash market by going long in futures market.

Short hedge: Short Hedge is a transaction when the hedge is accomplished by going short in futures market.

Cross hedge: When one uses index futures to hedge against the market risk, he is essentially establishing a cross hedge because he is not using the exact underlying to hedge the risk against.

Introduction to Options

An Option is a contract that gives the right, but not an obligation, to buy or sell the underlying asset on or before a stated date/day, at a stated price, for a price. The party taking a long position i.e. buying the option is called buyer/holder of the option and the party taking a short position i.e. selling the option is called the seller/ writer of the option.

Options may be categorized into two main types: -

- ❖ Call Options
- ❖ Put Options

Option, which gives buyer a right to buy the underlying asset, is called Call option and the option which gives buyer a right to sell the underlying asset, is called a Put option.

Option terminologies:

- **Index option:** These options have index as the underlying asset.
- **Stock option:** These options have individual stocks as the underlying asset
- **Buyer of an option:** The buyer of an option is one who has a right but not the obligation in the contract. For owning this right, he pays a price to the seller of this right called 'option premium'.
- **Writer of an option:** The writer of an option is one who receives the option premium and is thereby obliged to sell/buy the asset if the buyer of option exercises his right.
- **American option:** The owner of such option can exercise his right at any time on or before the expiry date/day of the contract.
- **European option:** The owner of such option can exercise his right only on the expiry date/day of the contract. In India, Index options are European.
- **Option price/Premium:** It is the price which the option buyer pays to the option seller.
- **Lot size:** Lot size is the number of units of underlying asset in a contract.
- **Expiration Day:** The day on which a derivative contract ceases to exist. It is the last trading date/day of the contract.
- **Strike price or Exercise price (X):** Strike price is the price per share for which the underlying security may be purchased or sold by the option holder.
- **In the money (ITM) option:** This option would give holder a positive cash flow, if it were exercised immediately. Ex: A call option is said to be ITM, when spot price is higher than strike price.
- **At the money (ATM) option:** At the money option would lead to zero cash flow if it were exercised immediately. Therefore, for both call and put ATM options, strike price is equal to spot price.
- **Out of the money (OTM) option:** Out of the money option is one with strike price worse than the spot price for the holder of option. In other words, this option would give the holder a negative cash flow if it were exercised immediately
- **Intrinsic value:** Intrinsic value refers to the amount by which option is in the money i.e. the amount an option buyer will realize, before adjusting for premium paid.
- **Time value:** It is the difference between premium and intrinsic value.
- **Open Interest:** As discussed in futures section, open interest is the total number of option contracts outstanding for an underlying asset.

Pay-off charts

Long on option: Buyer of an option is said to be "long on option". As described above, he/she would have a right and no obligation with regard to buying/ selling the underlying asset in the contract. When you are long on equity option contract:

- You have the right to exercise that option.
- Your potential loss is limited to the premium amount you paid for buying the option.
- Profit would depend on the level of underlying asset price at the time of expiry of the contract.

Short on option: Seller of an option is said to be "short on option". As described above, he/she would have obligation but no right with regard to selling/buying the underlying asset in the contract. When you are short (i.e., the writer of) an equity option contract:

- Your maximum profit is the premium received.
- You can be assigned an exercised option any time during the life of option contract (for American Options only). All option writers should be aware that it is a distinct possibility.
- Your potential loss is theoretically unlimited as defined below.

Note: Please refer the examples provided in the book to a get a better understanding of the pay-off charts.

- ❖ An opening transaction is one that adds to, or creates a new trading position. It can be either a purchase or a sale.
- ❖ A closing transaction is one that reduces or eliminates an existing position by an appropriate offsetting purchase or sale.
- ❖ An option buyer pays a relatively small premium for market exposure in relation to the contract value. This is known as leverage.

Risk and Return profile of option contracts:

	Risk	Return
Long	Premium paid	Unlimited
Short	Unlimited	Premium paid

Fundamental parameters on which the option price depends:

- 1) Spot price of the underlying asset
- 2) Strike price of the option
- 3) Volatility of the underlying asset's price
- 4) Time to expiration
- 5) Interest rates

Option Greeks

Delta: This measures the sensitivity of the option value to a given small change in the price of the underlying asset. It may also be seen as the speed with which an option moves with respect to price of the underlying asset. **Delta = Change in option premium/ Unit change in price of the underlying asset.**

Gamma: It measures change in delta with respect to change in price of the underlying asset. This is called a second derivative option with regard to price of the underlying asset. It is calculated as the ratio of change in delta for a unit change in market price of the underlying asset. **Gamma = Change in an option delta / Unit change in price of underlying asset**

Theta: It is a measure of an option's sensitivity to time decay. Theta is the change in option price given an one-day decrease in time to expiration. It is a measure of time decay. Theta is generally used to gain an idea of how time decay is affecting your option positions. **Theta = Change in an option premium / Change in time to expiry**

Vega: This is a measure of the sensitivity of an option price to changes in market volatility. It is the change of an option premium for a given change (typically 1%) in the underlying volatility. Vega is positive for a long call and a long put. **Vega = Change in an option premium / Change in volatility**

Rho = Change in an option premium / Change in cost of funding the underlying Rho is the change in option price given a one percentage point change in the risk-free interest rate. Rho measures the change in an option's price per unit increase in the cost of funding the underlying. **Rho = Change in an option premium / Change in cost of funding the underlying**

Option Trading Strategies

Options Spread

Spreads involve combining options on the same underlying and of same type (call/ put) but with different strikes and maturities.

1. **Vertical Spread:** Vertical spreads are created by using options having same expiry but different strike prices. Further, these can be created either using calls as combination or puts as combination. These can be further classified as:
 - Bullish Vertical Spread (Using calls and puts)
 - Bearish Vertical Spread (Using calls and puts)
2. **Horizontal spread:** Horizontal spread involves same strike, same type but different expiry options. This is also known as time spread or calendar spread. Here, it is not possible to draw the payoff chart as the expiries underlying the spread are different.
3. **Diagonal Spread:** Diagonal spread involves combination of options having same underlying but different expiries as well as different strikes. Again, as the two legs in a spread are in different maturities, it is not possible to draw pay offs here as well. These are much more complicated in nature and in execution.

Straddle

This strategy involves two options of same strike prices and same maturity. A long straddle position is created by buying a call and a put option of same strike and same expiry whereas a short straddle is created by shorting a call and a put option of same strike and same expiry.

1. **Long Straddle:** If a person buys both a call and a put at these prices, then his maximum loss will be equal to the sum of these two premiums paid. And, price movement from here in either direction would first result in that person recovering his premium and then making profit.
2. **Short Straddle:** Here, trader's view is that the price of underlying would not move much or remain stable. So, he sells a call and a put so that he can profit from the premiums. As position of short straddle is just opposite of long straddle, the payoff chart would be just inverted, so what was loss for long straddle would become profit for short straddle.

Strangle

1. **Long Strangle:** The outlook here is that the market will move substantially in either direction, but while in straddle, both options have same strike price, in case of a strangle, the strikes are different. Also, both the options in this case are out-of-the-money and hence the premium paid is low.
2. **Short Strangle:** This is exactly opposite to the long strangle with two out-of-the-money options (call and put) shorted. Outlook, like short straddle, is that market will remain stable over the life of options. Pay offs for this position will be exactly opposite to that of a long strangle position. As always, the short position will make money, when the long position is in loss and vice versa.

Covered Call

This strategy is used to generate extra income from existing holdings in the cash market. The most important factor in this strategy is the strike of the sold call option. If strike is close to the prevailing price of underlying stock, it would fetch higher premium upfront but would lock the potential gain from the stock early. And, if strike is too far from the current price of underlying, while it would fetch low upfront premium, would provide for longer ride of money on underlying stock.

Protective Put

A protective put payoff is similar to that of long call. This is called synthetic long call position. Any investor, long in the cash market, always runs the risk of a fall in prices and thereby reduction of portfolio value and MTM losses. A mutual fund manager, who is anticipating a fall, can either sell his entire portfolio or short futures to hedge his portfolio. The strategy used here is called protective put.

Collar

A collar strategy is an extension of covered call strategy. Readers may recall that in case of covered call, the downside risk remains for falling prices; i.e. if the stock price moves down, losses keep increasing (covered call is similar to short put). To put a floor to this downside, we long a put option, which essentially negates the downside of the short underlying/futures (or the synthetic short put).

Butterfly Spread

As collar is an extension of covered call, butterfly spread is an extension of short straddle. We may recollect that downside in short straddle is unlimited if market moves significantly in either direction. To put a limit to this downside, along with short straddle, trader buys one out of the money call and one out of the money put. Resultantly, a position is created with pictorial pay-off, which looks like a butterfly and so this strategy is called “Butterfly Spread”. Butterfly spread can be created with only calls, only puts or combinations of both calls and puts. Here, we are creating this position with help of only calls.

Introduction to Trading Systems

- **Trading member:** They are members of Stock Exchanges. They can trade either on behalf of their clients or on their own account. The exchange assigns a trading member ID to each of its trading member. A trading member can have more than one user.
- 1. **Trading cum clearing member:** A Clearing Member (CM) is also a Trading Member (TM) of the exchange. Such CMs may clear and settle their own proprietary trades, their clients' trades as well as trades of other TM's & Custodial Participants.
- 2. **Professional Clearing member:** Professional clearing member clears the trades of his associate Trading Member and institutional clients. PCM is not a Trading Member of the exchange. Typically banks or custodians become a PCM and clear and settle for TM's as well as for Custodial Participants.

3. **Self-Clearing member:** A Self Clearing Member is also a Trading Member on the exchange. Such CMs may clear and settle only their own proprietary trades and their clients' trades but cannot clear and settle trades of other TM's.

- **Participant:** Client of the trading member
- **Market Timing of Derivative segment:** All working days between 9.15 am to 3:30 pm
- **Corporate Hierarchy:**
-

Corporate Manager (1): it is the highest level in a trading firm. Corporate Manager can perform all the functions such as order and trade related activities, receiving reports for all branches of the trading member firm and also all dealers of the firm. Along with this he can also define exposure limits for the branches of the firm. This facility is available only to the corporate manager.

Branch Manager (2): As a user, it is placed under the corporate manager. Branch Manager can perform and view order and trade related activities for all dealers under that branch.

Dealer (3): Dealer is at the lowest level of the user hierarchy. He can only view his own orders and trades and does not have access to information on other dealers under either the same branch or in other branches.

- **Client Broker Relationship**

Types of Orders

- **Day Order:** A Day order is valid for a single day. If not executed, the trading system cancels it automatically.
- **Immediate or Cancelled:** User is allowed to buy/sell a contract as soon as the order is released into the trading system. An unmatched order will be immediately cancelled.
- **Limit Order:** It is an order to buy or sell a contract at a specified price. The order gets executed only at this specified limit price or at a better price than that.
- **Market Order:** A market order is an order to buy or sell a contract at the best bid/offer price currently available in the market. Price is not specified at the time of placing this order.
- **Stop-Loss order:** A stop loss is an order to buy (or sell) a security once the price of the security climbed above (or dropped below) a trigger price.

In India, F&O platforms offer an order driven market, wherein orders match automatically on price time priority basis. Orders, as and when they are received, are first time stamped and then immediately processed for potential match. If a match is not found, then the orders are stored in different 'books'.

- **Price bands:**

There are no price bands applicable in the derivatives segment. However, in order to prevent erroneous order entry, operating ranges and day minimum/maximum ranges are kept as below:

For Index Futures: at 10% of the base price

For Futures on Individual Securities: at 10% of the base price

For Index and Stock Options: A contract specific price range based on its delta value is computed and updated on a daily basis.

In view of this, orders placed at prices which are beyond the operating ranges would reach the Exchange as a price freeze.

- **The Trader Workstation**

The market watch window

The best way to familiarize oneself with the screen is to spend some time studying a live screen. The windows displayed on the trader workstation screen are title bar, Ticker window of futures and options market, Ticker window of underlying (capital) market, Toolbar, Market watch window, Inquiry window, Snap quote, Order/trade window and System message window.

Placing orders on the trading system

While entering orders on the trading system for both the futures and the options market, trading member are required to identify orders as being proprietary or clients. 'Pro' identifies proprietary orders while 'Cli' identifies client orders. Client account number should be provided for client orders.

- **Adjustments for corporate actions**

Adjustments for Corporate Actions for Stock Options would be as follows:

1. The basis for any adjustment for corporate action shall be such that the value of the position of the market participants on cum and ex-date for corporate action shall continue to remain the same as far as possible. This will facilitate in retaining the relative status of positions viz. in-the-money, at-the-money and out-of-money. This will also address issues related to exercise and assignments.
2. Any adjustment for corporate actions shall be carried out on the last day on which a security is traded on a 'cum' basis in the underlying cash market, after the close of trading hours.
3. Adjustments shall mean modifications to positions and/or contract specifications as listed below such that the basic premise of adjustment laid down in the above paragraph is satisfied:
 - (a) Strike Price
 - (b) Position
 - (c) Market Lot/Multiplier

The adjustments shall be carried out on any or all of the above based on the nature of the corporate action. The adjustments for corporate actions shall be carried out on all open positions. The corporate actions may be broadly classified under stock benefits and cash benefits as follows Bonus, Rights, Merger/De-merger, Amalgamation, Splits, Consolidations, Hive-off, Warrants, Secured Premium Notes

- Recently approved changes - Inclusion and Exclusion of stocks for derivatives trading

SEBI in its Board Meeting on March 28, 2018 took the following decisions in order to rationalize and strengthen the framework of the equity derivatives market in India:

- (I) To facilitate greater alignment of the cash and derivative market, physical settlement for all stock derivatives shall be carried out in a phased and calibrated manner.
 - (II) To update and strengthen the existing entry criteria for introduction of stocks into the derivative segment in line with the increase in market capitalization since the last revision of the criteria in 2012.
 - (III) To begin with, stocks which are currently in derivatives but fail to meet any of the enhanced criteria would be physically settled.
 - (IV) Stocks which are currently in derivatives and meet the enhanced criteria shall be cash settled
 - (V) To reflect global initiatives on product suitability, a framework has been approved.
- Individual investors may freely take exposure in the market (cash and derivatives) up to a computed exposure based on their disclosed income as per their Income Tax Return (ITR) over a period of time.

Introduction to Clearing and settlement system

Clearing Corporation/ Clearing House is responsible for clearing and settlement of all trades executed on the F&O Segment of the Exchange. Clearing Corporation acts as a legal counterparty to all trades on this segment and also guarantees their financial settlement. The Clearing and Settlement process comprises of three main activities, viz., Clearing, Settlement and Risk Management.

Clearing Member

- Self-clearing member
- Trading member-cum-clearing member
- Professional clearing member

Clearing Banks: Funds settlement takes place through clearing banks. For the purpose of settlement all clearing members are required to open a separate bank account with Clearing Corporation designated clearing bank for F&O segment.

Settlement Schedule: The settlement of trades is on T+1 working day basis. Members with a funds pay-in obligation are required to have clear funds in their primary clearing account on or before 10.30 a.m. on the settlement day.

Mark to Market is a process by which margins are adjusted on the basis of daily price changes in the markets for underlying assets.

Final Settlement: On expiration day of the futures contracts, after the close of trading hours, clearing corporation marks all positions of a clearing member to the final settlement price and the resulting profit/ loss is settled in cash.

Options contracts have two types of settlements

1. **Daily premium settlement:** The clearing members who have a premium payable position are required to pay the premium amount to clearing corporation which in turn passed on to the members who have a premium receivable position. This is known as daily premium settlement.
2. **Final settlement:** Profit/ loss amount for options contract on index and individual securities on final settlement is credited/debited to the relevant clearing members clearing bank account on T+1 day i.e. a day after expiry day. Open positions, in option contracts, cease to exist after their expiration day.

Clearing corporation provides a facility to entities like institutions to execute trades through any trading member, which may be cleared and settled by their own CM. Such entities are called **Custodial Participants (CP)**.

SPAN

In order to manage risk efficiently in the Indian securities market, exchanges have adopted SPAN (Standard Portfolio Analysis of Risk), a risk management and margining product designed by CME, Chicago, USA. This software was developed for calculating initial margins on the various positions of market participants. The objective of SPAN is to identify overall potential risk in a portfolio. The program treats futures and options uniformly, while recognizing the exposures associated with options portfolios. Since SPAN is used to determine initial margins on various positions, its basic objective is to determine the largest possible loss that a portfolio might reasonably be expected to suffer from one day to the next. It then sets the initial margins at a level, which is sufficient to cover this one-day potential loss.

- **Initial Margin:** Initial margin requirements are based on 99% value at risk over a day's time.
- **Premium Margin:** This margin is required to be paid by a buyer of an option till the premium settlement is complete.
- **Assignment Margins:** assignment margin is required to be paid on assigned positions of Clearing Members towards final exercise settlement obligations
- **Exposure margins:** Clearing members are subject to these margins in addition to initial margins.
- **Client Margins:** Clearing Corporation intimates all members of the margin liability of their client.

Legal and Regulatory Environment

Securities Contracts (Regulation) Act, 1956

The Securities Contracts (Regulation) Act, 1956 also known as SCRA is an Act of the Parliament of India enacted to prevent undesirable exchanges in securities and to control the working of stock exchange in India. The Act aims to prevent undesirable transactions in securities. It governs the trading of securities in India. The term "securities" has been defined in the Section 2(h) of SCRA. It came into force on 20 February 1957.

Securities and Exchange Board of India Act, 1992

SEBI Act, 1992 provides for establishment of Securities and Exchange Board of India (SEBI) with statutory powers for:

- Protecting the interests of investors in securities
- Promoting the development of the securities market
- Regulating the securities market.

Its regulatory jurisdiction extends over corporate in the issuance of capital and transfer of securities, in addition to all intermediaries and persons associated with securities market. SEBI has been obligated to perform the aforesaid functions by such measures as it thinks fit.

Major recommendations of Dr. L.C.Gupta Committee

- Margins should be based on Value at Risk Methodology at 99% confidence.
- Volatility and Exposure should be monitored online.
- Daily collection of Mark to Market Margins (on the next trading day).
- Market participants should know volatility and margin methodology.
- Each dealer should pass SEBI approved certification exams (certificate will have a validity of 3 years).
- Derivatives segment must be separate from cash segment and grossing up of margins at client level.
- Separate Investor Protection Fund must be created for derivatives segment.
- Off line order entry is permitted.
- The derivatives segment should attract at least 50 members.
- Clearing Members should have a Minimum Net-worth of Rs 3 Crores.
- Clearing Members should maintain a Minimum Deposit in Liquid Assets of Rs 50 lakhs with the exchange or its Clearing Corporation.
- Mark to Margins should be settled only in Cash.
- Both speculators/traders and hedgers are required for a healthy derivatives market.
- Both Exchanges and SEBI should work together in regulating the derivatives market.
- Exchanges should regulate at operational day to day level, while SEBI will oversee the process and formulate policy.
- Mutual Funds should be allowed to hedge in derivatives segment.
- Derivatives should begin with Index Futures and other products should be introduced in a phased manner.
- Members' exposure should be linked to the amount of liquid assets maintained by them with the clearing corporation.
- Cross margining (linking overall cash and derivative positions for margining) is not permitted.
- All clients should pay margins. Brokers should not fund margins of clients.
- In the long run, India should have a national level clearing corporation.
- Clients should be provided with a Risk Disclosure Document by brokers.
- Brokers should keep margins collected from clients in a separate bank account.
- Brokers cannot use margins for any purpose except for payment of such margins to the clearing corporation.
- Transactions should be entered in the trading system exclusive of brokerage.
- Brokerage should be charged separately in the Contract Note.
- In case of Clearing Member default, margins paid by the Clearing Member on his own account alone would be used to settle his dues.
- All brokers in the derivatives segment should obtain SEBI Registration.
- The clearing function should be organized as a separate entity, preferably in the form of a Clearing Corporation.
- The Clearing Corporation has powers to levy additional margins, special margins, define maximum exposure limits and disable brokers from trading.
- At the time of entering into a transaction, the broker must indicate the client on whose behalf the transaction is being entered into. Proprietary trading must also be clearly identified.
- SEBI should create a Special Derivatives Cell within itself to understand and supervise the market better.
- SEBI should constitute an Advisory Council for derivatives.
- Derivatives segment should have a separate Governing Council.
- No common members should be allowed between the Cash segment Governing Board and the Derivatives segment Governing Council of the exchanges.

- The exchange should set up Arbitration and Investor Grievance Cells in at least 4 regions across the country.
- Derivatives trading must be through on-line systems.
- Disaster recovery site (in case of computer failure) is a must.
- Information about derivatives segment must be disseminated over at least two information vending networks (e.g. Reuters, Bloomberg).
- All brokers of the Cash segment will not automatically become members of the Derivative segment.
- An efficient cash market is a must for a healthy derivatives market.
- Delivery levels in the cash market should improve and increase.
- Uniform settlement cycle across all exchanges is recommended.
- A separate Governing Board should be constituted for the Clearing Corporation of the Derivatives segment.
- No broker members should be allowed to sit on the Governing Board of the Clearing Corporation.
- If your client is a Trust or a Company, you (as a broker) must obtain authorization from the Board of Trustees or Board of Directors for trading in derivatives on their behalf
- Providing Client ID for every transaction is mandatory

Major recommendations of Prof. J.R.Verma Committee

- Calendar spreads on futures will attract lower margins (minimum 1% and maximum 3% - the margin itself being 0.5% per month of spread on the far month value).
- Detailed methodology on Value at Risk provided.
- Volatility should be calculated based on standard deviation of logarithmic daily returns.
- Exponential weighted average method should be used for calculation of Volatility.
- Initial Margin levels should be dynamic and recalculated continuously based on volatility levels.
- Exchange should obtain SEBI approval if it wants to change the Initial Margin calculation methodology.
- Initial Margin, if changed, will apply to all outstanding contracts and not only to fresh contracts.
- Calendar spreads carry only basis risk and no market risk - hence lower margins are adequate.
- Calendar spreads should be treated as open positions as the near month expires.
- Differential margins on conversion of Calendar spread positions to open positions should be collected three days before expiry of the near month (technically, Prof. J.R.Verma Committee recommendation was different, however currently as per SEBI guidelines, this is the regulation).
- Liquid Assets mean Deposits maintained by Clearing Members with the Clearing Corporation.
- Liquid Assets can be in the form of Cash, Cash Equivalents (Government Securities, Fixed Deposits, Treasury Bills, Bank Guarantees, and Investment Grade Debt Securities) and Equity Securities.
- Equity Securities can form maximum 50% of Liquid Assets.
- Cash and Cash Equivalents must form minimum 50% of Liquid Assets.
- Liquid Net-worth is defined as Liquid Assets minus Initial Margin.
- Liquid Net-worth of all Clearing Members at all points of time (including intraday) should be maintained at Rs 50 lakhs minimum level.
- Securities placed with the Clearing Corporation shall be marked to market on weekly basis.
- Hair cut on equity securities is 15% and on debt securities is 10%.

Accounting and Taxation

Accounting for Forward Contract as per Accounting Standard - 11

When forward contract is for hedging

- The premium or discount should be amortized over the life of contract.
- Exchange difference is recognized in Profit & Loss statement of the year.
- Profit/ loss on cancellation/ renewal of forward contract are recognized in P&L of the year.

When forward contract is for trading/ speculation

- No premium or discount is recognized.
- A gain or loss i.e. the difference between the forward rates for remaining maturity period should be recognized in the P&L of the period.
- Profit/ loss on cancellation / renewal of forward contract are recognized in P&L of the year.

Accounting of Equity index and Equity stock futures in the books of the client

The Institute of Chartered Accountants of India (ICAI) has issued guidance notes on accounting of index futures contracts from the view point of parties who enter into such futures contracts as buyers or sellers. Hence in this section we shall largely focus on the accounting treatment of equity index futures in the books of the client.

Taxation of derivative transaction in securities

Prior to Financial Year 2005–06, transaction in derivatives were considered as speculative transactions for the purpose of determination of tax liability. Finance Act, 2005 has amended section 43(5) so as to exclude transactions in derivatives carried out in a "**recognized stock exchange**" for this purpose. This implies that income or loss on derivative transactions which are carried out in a "recognized stock exchange" is **not taxed as speculative income or loss**. Thus, loss on derivative transactions can be set off against any other income during the year (except salary income). In case the same cannot be set off, it can be carried forward to subsequent assessment year and set off against any other non-speculative business income of the subsequent year. Such losses can be carried forward for a period of 8 assessment years. It may also be noted that securities transaction tax paid on such transactions is eligible as deduction under Income-tax Act, 1961.

Sales Practices and Investors Protection Services

Financial Institutions should have customer-oriented approach, where sales of products are customer lead and always accompanied by correspondingly efficient and appropriate advice. It can be summarily stated that: "Customers have the right to get good advice; finance employees have the duty to give good advice."

- Investors should be careful of opportunities that promise spectacular profits or "guaranteed" returns.
- One has to keep in mind no investment is risk-free. Returns are related to the risk taken and hence there cannot be a product in the market that gives high return in risk free manner.

"High Return" or "Risk-Free" Investments

Investors should be careful of opportunities that promise spectacular profits or "guaranteed" returns. The deal sounds too good to resist. An individual may claim that unrealistic returns can be realized from "Low-Risk Investment Opportunities", but one has to keep in mind no investment is risk-free. Returns are related to the risk taken and hence there cannot be a product in the market that gives high return in risk free manner.

Investment Advisor services

Investment advisor is an individual or firm responsible for making investments on behalf of, and/ or providing advice to, investors. He has a duty to act in the best interest of their clients. Sometimes, however, investment advisors take advantage of their positions to misappropriate money directly from their clients. Investors should be careful to review their monthly account statements and to conduct annual reviews of their investment plans with their investment adviser.

Unsuitable Investment Recommendations

Some unscrupulous investment advisers convince clients to purchase investment products that don't meet the objectives of an investor. Unsuitable recommendations can occur when a broker sells speculative transactions such as options, futures, or penny stocks to say a senior citizen with low risk tolerance. Investors should be careful to review the risk profile of each investment recommendation.

Investor Seminars

Investment advisers commonly invite investors to attend seminars. At these seminars, advisers often use sales tactics to pitch unsuitable products. Investors should avoid making rushed decisions at sales seminars and should seek objective third party advice before committing their funds. As sales become an integral part in financial services and proper advice to the customers is important.

Churning refers to when securities professionals making unnecessary and excessive trades in customer accounts for the sole purpose of generating commissions.

Risk profile of the clients:

People invest in various investment products that generally comprise:

- Fixed Income Instruments, and
- Market oriented investments.

Some of the key parameters on which one's risk tolerance can depend is age, personal income, combined family income, dependents, occupation, marital status, education, etc. The objectives of the investors should be made clear to give a proper advice and meet his short term as well as long term needs.

Risk based approach

It is generally recognized that customers can be classified into a higher or lower risk category depending on circumstances such as the customer's background, type of business relationship or transaction etc. As such, the registered intermediaries should apply each of the customers due diligence measures on a risk sensitive basis. The basic principle enshrined in this approach is that the registered intermediaries should adopt an enhanced customer due diligence process for higher risk categories of customers. In line with the risk-based approach, the type and amount of identification information and documents that intermediaries should obtain necessarily depend on the risk category of a particular customer.

- ❖ Clients of special category include NRIs, HNIs, Trust, Charities, PEPs, Non Face to face clients, government executives, etc.

Written Anti Money Laundering Procedures

Each registered intermediary should adopt written procedures to implement the anti-money laundering provisions as envisaged under the Anti-Money Laundering Act, 2002. Such procedures should include inter alia, the following three specific parameters which are related to the overall 'Client Due Diligence Process':

- Policy for acceptance of clients
- Procedure for identifying the clients
- Transaction monitoring and reporting especially Suspicious Transactions Reporting (STR)

Client Identification Procedure

The 'Know your Client' (KYC) policy should clearly spell out the client identification procedure to be carried out at different stages i.e. while establishing the intermediary – client relationship, while carrying out transactions for the client or when the intermediary has doubts regarding the veracity or the adequacy of previously obtained client identification data.

Investors Grievance mechanism

- Each Exchange has a process for grievance redressal.
- All exchanges have a dedicated department to handle grievances of investors against the Trading Members and Issuers.

PLEASE NOTE, THESE ARE SHORT IMPORTANT NOTES EXTRACTED FROM THE NISM BOOK. ITS ADVISABLE TO READ THE NISM BOOK TO GET FULL KNOWLEDGE.

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