

STUDY NOTES for NISM SERIES VIII : Equity Derivatives Certification Examination (EDCE)

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NISM SERIES VIII : Equity Derivatives Certification Examination

Assessment Structure The examination consists of 100 questions of 1 mark each and should be completed in 2 hours. The passing score on the examination is 60%. There shall be negative marking of 25% of the marks assigned to a question

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Chapter 1: 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. These include:

- Metals such as Gold, Silver, Aluminium, Copper, Zinc, Nickel, Tin, Lead
- Energy resources such as Oil and Gas, Coal, Electricity
- Agri commodities such as wheat, Sugar, Coffee, Cotton, Pulses and

- Financial assets such as Shares, Bonds and Foreign Exchange.

Some of the factors driving the growth of financial derivatives are:

- Increased fluctuations in underlying asset prices in financial markets.
- Integration of financial markets globally.
- Use of latest technology in communications has helped in reduction of transaction costs.
- Enhanced understanding of market participants on sophisticated risk management tools to manage risk.
- Frequent innovations in derivatives market and newer applications of products.

Forwards

It is a contractual agreement between two parties to buy/sell an underlying asset at a certain future date for a particular price that is pre-decided on the date of contract. Both the contracting parties are committed and are obliged to honour the transaction irrespective of price of the underlying asset at the time of delivery. Since forwards are negotiated between two parties, the terms and conditions of contracts are customized. These are OTC contracts.

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 An Option is a contract that gives the right, but not an obligation, to buy or sell the underlying on or before a stated date and at a stated price. While buyer of option pays the premium and buys the right, writer/seller of option receives the premium with obligation to sell/buy the underlying asset, 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 are series of forward contracts. Swaps help market participants manage risk associated with volatile interest rates, currency exchange rates and commodity prices.

There are broadly three types of participants in the derivatives market - hedgers, traders (also called speculators) and arbitrageurs

The OTC derivatives markets – transactions among the dealing counterparties, have following features compared to exchange traded derivatives:

- Contracts are tailor made to fit in the specific requirements of dealing counterparties.
- The management of counter-party (credit) risk is decentralized and located within individual institutions.
- There are no formal centralized limits on individual positions, leverage, or margining.
- There are no formal rules or mechanisms for risk management to ensure market stability and integrity, and for safeguarding the collective interest of market participants.
- Transactions are private with little or no disclosure to the entire market.

Derivatives Market serves following specific functions:

- Derivatives market helps in improving price discovery based on actual valuations and expectations.
- Derivatives market helps in transfer of various risks from those who are exposed to risk but have low risk appetite to participants with high risk appetite. For example hedgers want to give away the risk where as traders are willing to take risk.
- Derivatives market helps shift of speculative trades from unorganized market to organized market. Risk management mechanism and surveillance of activities of various participants in organized space provide stability to the financial system

Market participants, who trade in derivatives are advised to carefully read the Model Risk Disclosure Document, given by the broker to his clients at the time of signing agreement. Model Risk Disclosure Document is issued by the members of Exchanges and contains important information on trading in Equities and F&O Segments of exchanges. All prospective participants should read this document before trading on Capital Market/Cash Segment or F&O segment of the Exchanges.

Chapter 2: Understanding Index

Index is a statistical indicator that measures changes in the economy in general or in particular areas. In case of financial markets, 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. the percentage change is more important than the actual numeric value. Financial indices are created to measure price movement of stocks, bonds, T-bills and other type of financial securities. More specifically, a stock index is created to provide market participants with the information regarding average share price movement in the market. Broad indices are expected to capture the overall behaviour of equity market and need to represent the return obtained by typical portfolios in the country

Significance of Index

- A stock index is an indicator of the performance of overall market or a particular sector.
- It serves as a benchmark for portfolio performance - Managed portfolios, belonging either to individuals or mutual funds; use the stock index as a measure for evaluation of their performance.
- It is used as an underlying for financial application of derivatives – Various products in OTC and exchange traded markets are based on indices as underlying asset.

Types of Stock Market Indices

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.

Free-Float Market Capitalization Index

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. Indeed, both Sensex and Nifty, over a period of time, have moved to free float basis

Price-Weighted Index

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.

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

The difference between the best buy and the best sell orders is 0.50 - called bid-ask spread. The “bid-ask spread” therefore conveys transaction cost for small trade

Percentage degradation, which is experienced vis-à-vis the ideal price, when shares are bought or sold, is called impact cost. Impact cost varies with transaction size. Also, it would be different for buy side and sell side.

all NSE indices are managed by a separate company called “India Index Services and Products Ltd. (IISL)”, a joint venture between Standard and Poor’s (S&P), National Stock Exchange (NSE) and CRISIL Ltd. (Now a part of Standard & Poor’s). Bombay Stock Exchange (BSE) manages its indices through its Index Cell

A good index is a trade-off between diversification and liquidity. A well diversified index reflects the behaviour of the overall market/ economy

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. For instance, Sensex index fund would get the similar returns as that of Sensex index.

Exchange Traded Funds Exchange Traded Funds (ETFs) is basket of securities that trade like individual stock, on 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. The first ETF in Indian Securities Market was the Nifty BeES, introduced by the Benchmark Mutual Fund in December 2001. Prudential ICICI Mutual Fund introduced SPICE in January 2003, which was the first ETF on Sensex.

Chapter 3: Introduction to Forwards and Futures

Essential features of a forward are:

- It is a contract between two parties (Bilateral contract).
- All terms of the contract like price, quantity and quality of underlying, delivery terms like place, settlement procedure etc. are fixed on the day of entering into the contract

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. Corporations, traders and investing institutions extensively use OTC transactions to meet their specific requirements.

Major limitations of forwards

Liquidity Risk Liquidity is nothing but the ability of the market participants to buy or sell the desired quantity of an underlying asset

Counterparty risk Counterparty risk is the risk of an economic loss from the failure of counterparty to fulfil its contractual obligation

In addition to the illiquidity and counterparty risks, there are several issues like lack of transparency, settlement complications as it is to be done directly between the contracting parties

Currently, all equity derivatives contracts (both on indices and individual stocks) on NSE are cash settled whereas on BSE, derivative contracts on indices are cash settled while the contracts on individual stocks are delivery settled.

Tick Size: It is minimum move allowed in the price quotations. Exchanges decide the tick sizes on traded contracts as part of contract specification. Tick size for Nifty futures is 5 paise. Bid price is the price buyer is willing to pay and ask price is the price seller is willing to sell.

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. For S&P CNX Nifty, lot size is 50 and for Sensex Index futures contract, it is 15.

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. During the life of the contract, the basis may become negative or positive, as there is a movement in the futures price and spot price. Further, whatever the basis is, positive or negative, it turns to zero at maturity of the futures contract i.e. there should not be any difference between futures price and spot price at the time of maturity/ expiry of contract

Cost of Carry Cost of Carry is the relationship between futures prices and spot prices. It measures the storage cost (in commodity markets) plus the interest that is paid to finance or

‘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 entering a futures contract is known as the initial margin

Marking to Market (MTM) 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. The exchange collects these margins (MTM margins) from the loss making participants and pays to the gainers on day-to-day basis.

Open Interest and Volumes Traded An open interest is the total number of contracts outstanding (yet to be settled) for an underlying asset. The level of open interest indicates depth in the market.

Long position Outstanding/ unsettled buy position in a contract is called “Long Position”.

Short Position Outstanding/ unsettled sell position in a contract is called “Short Position”.

Open position Outstanding/ unsettled either long (buy) or short (sell) position in various derivative contracts is called “Open Position”

Naked and calendar spread positions 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. For instance, a short position in near month contract coupled with a long position in far month contract is a calendar spread position. Calendar spread position is computed with respect to the near month series and becomes an open position once the near month contract expires or either of the offsetting positions is closed. A calendar spread is always defined with regard to the relevant months i.e. spread between August contract and September contract, August contract and October contract and September contract and October contract etc.

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.

When an underlying asset is not storable i.e. the asset is not easy to hold/maintain, then one cannot carry the asset to the future. The cash and carry model is not applicable to these types of underlying assets.

in case of natural disaster like flood in a particular region, people start storing essential commodities like grains, vegetables and energy products (heating oil) etc. As a human tendency we store more than what is required for our real consumption during a crisis. If every person behaves in similar way then suddenly a demand is created for an underlying asset in the cash market. This indirectly increases the price of underlying assets. In such situations people are deriving convenience, just by holding the asset. This is termed as convenience return or convenience yield.

if futures price is higher than spot price of an underlying asset, market participants may expect the spot price to go up in near future. This expectedly rising market is called “Contango market”. Similarly, if futures price are lower than spot price of an asset, market participants may expect the spot price to come down in future. This expectedly falling market is called “Backwardation market”.

Price risk is nothing but change in the price movement of asset, held by a market participant, in an unfavourable direction. This risk broadly divided into two components - specific risk or unsystematic risk and market risk or systematic risk.

Unsystematic Risk 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. This risk could be reduced to a certain extent by diversifying the portfolio.

Systematic Risk 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. Variability in a security’s total returns that are directly associated with overall movements in the general market or economy is called systematic risk

Beta - a measure of systematic risk of a security that cannot be avoided through diversification. It measures the sensitivity of a scrip/ portfolio vis-a-vis index movement over a period of time, on the basis of historical prices. Suppose a stock has a beta equal to 2. This means that historically a security has moved 20% when the index moved 10%, indicating that the stock is more volatile than the index. Scrips/ portfolios having beta more than 1 are called aggressive and having beta less than 1 are called conservative scrips/ portfolios.

To find the number of contracts for perfect hedge ‘hedge ratio’ is used. Hedge ratio is calculated as:

$$\text{Number of contracts for perfect hedge} = V_p * p / V_i$$

V_p – Value of the portfolio β – Beta of the portfolio V_i – Value of index futures contract Value of index futures contract or contract size = futures index level * contract multiplier. Readers may note that for simplification purpose, beta of futures index vis-a-vis cash index is taken as one.

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 futures contract on an asset is not available, market participants look forward to an asset that is closely associated with their underlying and trades in the futures market of that closely associated asset, for hedging purpose. They may trade in futures in this asset to protect the value of their asset in cash market. This is called cross hedge.

Hedge contract month: Hedge contract month is the maturity month of the contract through which we hedge our position

Arbitrage opportunities in futures market Arbitrage is simultaneous purchase and sale of an asset or replicating asset in the market in an attempt to profit from discrepancies in their prices. Arbitrage involves activity on one or several instruments/assets in one or different markets, simultaneously. Important point to understand is that in an efficient market, arbitrage opportunities may exist only for shorter period or none at all. The moment an arbitrageur spots an arbitrage opportunity, he would initiate the arbitrage to eliminate the arbitrage opportunity. Arbitrage occupies a prominent position in the futures world as a mechanism that keeps the prices of futures contracts aligned properly with prices of the underlying assets. The objective of arbitrageurs is to make profits without taking risk, but the complexity of activity is such that it may result in losses as well

Arbitrage in the futures market can typically be of three types:

- Cash and carry arbitrage: Cash and carry arbitrage refers to a long position in the cash or underlying market and a short position in futures market.
- Reverse cash and carry arbitrage: Reverse cash and carry arbitrage refers to long position in futures market and short position in the underlying or cash market.
- Inter-Exchange arbitrage: This arbitrage entails two positions on the same contract in two different markets/ exchanges.

Inter-market arbitrage This arbitrage opportunity arises because of some price differences existing in same underlying at two different exchanges. If August futures on stock Z are trading at Rs. 101 at NSE and Rs. 100 at BSE, the trader can buy a contract at BSE and sell at NSE. The positions could be reversed over a period of time when difference between futures prices squeeze. This would be profitable to an arbitrageur.

Chapter 4: Introduction to Options

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 Put option

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

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. A call option is said to be ITM, when spot price is higher than strike price. And, a put option is said to be ITM when spot price is lower than strike price. In our examples, call option is in the money.

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. A call option is said to be OTM, when spot price is lower than strike price. And a put option is said to be OTM when spot price is higher than strike price. In our examples, put option is out of the money.

Leverage An option buyer pays a relatively small premium for market exposure in relation to the contract value. This is known as leverage

Leverage also has downside implications. If the underlying price does not rise/fall as anticipated during the lifetime of the option, leverage can magnify the investment's percentage loss. Options offer their owners a predetermined, set risk

	Risk / Loss	Return / Profit
Long	Premium paid	Unlimited
Short	Unlimited	Premium received

There are five 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

Spot price of the underlying asset

If price of the underlying asset goes up the value of the call option increases while the value of the put option decreases. Similarly if the price of the underlying asset falls, the value of the call option decreases while the value of the put option increases.

Strike Price If all the other factors remain constant but the strike price of option increases, intrinsic value of the call option will decrease and hence its value will also decrease. On the other hand, with all the other factors remain constant, increase in strike price of option increases the intrinsic value of the put option which in turn increases its option value.

Volatility It is the magnitude of movement in the underlying asset's price, either up or down. It affects both call and put options in the same way. Higher the volatility of the underlying stock, higher the premium because there is a greater possibility that the option will move in-the-money during the life of the contract.

Higher volatility = Higher premium, Lower volatility = Lower premium (for both call and put options).

Time to expiration The effect of time to expiration on both call and put options is similar to that of volatility on option premiums. Generally, longer the maturity of the option greater is the uncertainty and hence the higher premiums. If all other factors affecting an option's price remain same, the time value portion of an option's premium will decrease with the passage of time. This is also known as time decay. Options are known as 'wasting assets', due to this property where the time value gradually falls to zero.

high interest rates will result in an increase in the value of a call option and a decrease in the value of a put option.

Options Pricing Models

The Binomial Pricing Model

This is a very accurate model as it is iterative, but also very lengthy and time consuming



The Black & Scholes Model

It is one of the most popular, relative simple and fast modes of calculation. Unlike the binomial model, it does not rely on calculation by iteration.

Option Greeks

Delta (Δ) The most important of the ‘Greeks’ is the option’s “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. $\Delta = \text{Change in option premium} / \text{Unit change in price of the underlying asset}$.

Delta for call option buyer is positive

Delta for put option buyer is negative

Gamma (Γ) 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. $\Gamma = \text{Change in an option delta} / \text{Unit change in price of underlying asset}$

Theta (Θ) It is a measure of an option’s sensitivity to time decay. Theta is the change in option price given a 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. $\Theta = \text{Change in an option premium} / \text{Change in time to expiry}$

Vega (ν) 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. $\nu = \text{Change in an option premium} / \text{Change in volatility}$

Rho (ρ) 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. $\rho = \text{Change in an option premium} / \text{Change in cost of funding the underlying}$

Chapter 5: Option Trading Strategies

Option Spreads

Spreads involve combining options on the same underlying and of same type (call/ put) but with different strikes and maturities. These are limited profit and limited loss positions. They are primarily categorized into three sections as:

- Vertical Spreads
- Horizontal Spreads
- Diagonal Spreads

Vertical Spreads 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**

- o Using Calls
- o Using Puts

- **Bearish Vertical Spread**

- o Using Calls
- o Using Puts

Horizontal Spread Horizontal spread involves same strike, same type but different expiry options. This is also known as time spread or calendar spread.

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 payoffs here as well.

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.

Strangle

This strategy is similar to straddle in outlook but different in implementation, aggression and cost. **Long Strangle** As in case of straddle, the outlook here (for the long strangle position) 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 (call and put) in this case are out-of-the-money and hence the premium paid is low.

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

Covered Call

This strategy is used to generate extra income from existing holdings in the cash market. If an investor has bought shares and intends to hold them for some time, then he would like to earn some income on that asset, without selling it, thereby reducing his cost of acquisition.

Protective Put

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 protective put payoff is similar to that of long call. This is called synthetic long call position. Its like buying insurance to protect your existing portfolio against market falls.

Collar

A collar strategy is an extension of covered call strategy. 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.

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.

Chapter 6: Introduction to Trading Systems

The Trading system of BSE is called Derivatives Trading & Settlement System (DTSS) and that of NSE is called NEAT-F&O trading system. Both these trading systems provide a fully automated screen-based trading for index futures, index options, stock futures and stock options.

Entities in the trading system Broadly there are four entities in the trading system

- Trading Members
- Trading cum Clearing Members
- Professional Clearing Members and
- Participants

Corporate Hierarchy In the Futures and options trading software, trading member will have a provision of defining the hierarchy amongst users of the system. This hierarchy comprises:

- Corporate Manager
- Branch Manager and
- Dealer

Time conditions *Day order*: A Day order is an order which is valid for a single day on which it is entered. If the order is not executed during the day, the trading system cancels the order automatically at the end of the day. *Immediate or cancel (IOC)*: 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. Partial order match is possible in this order, and the unmatched portion of the order is cancelled immediately.

Price condition

Limit order: It is an order to buy or sell a contract at a specified price. The user has to specify this limit price while placing the order and 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 bid or offer price currently available in the market. Price is not specified at the time of placing this order.

Order Matching Rules In India, F&O system supports an order driven market, wherein orders match automatically. The best buy order will match with the best sell order. For order matching, the best buy order is the one with highest price and the best sell order is the one with lowest price. Matching is essentially on the basis of security, its price, time and quantity.

Price Band 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 20% 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.

Eligibility criteria of stocks

a) The stock shall be chosen from amongst the top 500 stock in terms of average daily market capitalization and average daily traded value in the previous six months on a rolling basis.

b) The stock's median quarter-sigma order size (MQSOS) over the last six months shall be not less than Rs.10 Lakhs (Rupees Ten Lakhs). For this purpose, a stocks quarter-sigma order size shall mean the order size (in value terms) required to cause a change in the stock price equal to one-quarter of a standard deviation.

c) The market wide position limit (MWPL) in the stock shall not be less than Rs.300 crores (Rupees Three Hundred crores). Since market wide position limit for a stock is computed at the end of every month, the Exchange shall ensure that stocks comply with this criterion before introduction of new contracts. Further, the market wide position limit (which is in number of shares) shall be valued taking the closing prices of stocks in the underlying cash market on the date of expiry of contract in the month.

Exit criteria for stocks in equity derivatives The criteria for retention of stock in equity derivatives segment are as under:

a) The stock's median quarter-sigma order size over last six months shall not be less than Rs. 5 lakhs (Rupees Five Lakhs).

b) MWPL of the stock shall not be less than Rs. 200 crores (Rupees Two Hundred crores).

c) The stock's average monthly turnover in derivatives segment over last three months shall not be less than Rs. 100 crores (Rupees Hundred crores).

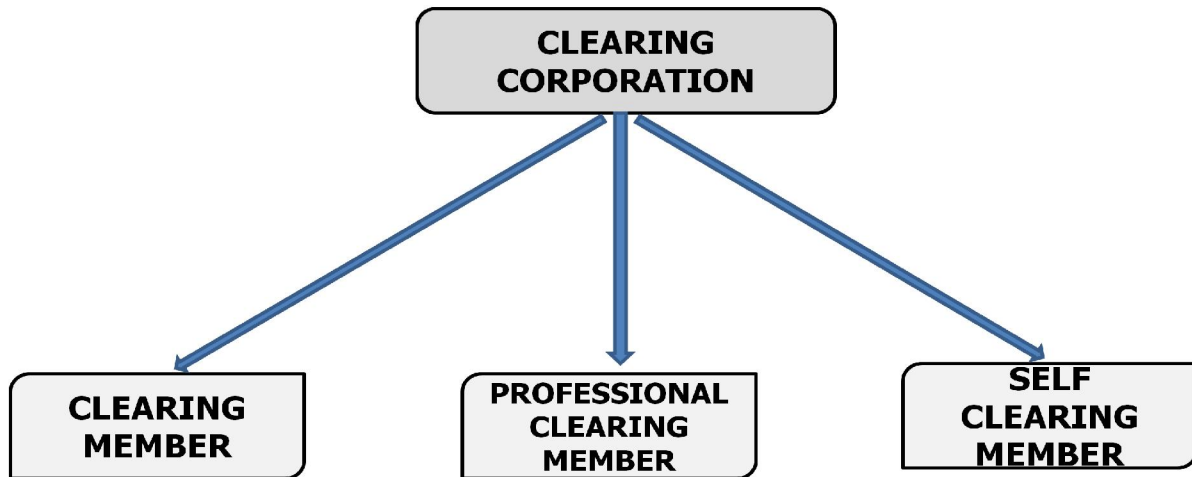
If a stock fails to meet these retention criteria for three months consecutively, then no fresh month contract shall be issued on that stock. However, the existing unexpired contracts may be permitted to trade till expiry and new strikes may also be introduced in the existing contract months. Further, once the stock is excluded from the F&O list, it shall not be considered for re-inclusion for a period of one year.

Eligibility criteria of Indices The Exchange may consider introducing derivative contracts on an index, if weightage of constituent stocks of the index, which are individually eligible for derivatives trading, is at least 80%. However, no single ineligible stock in the index shall have a weightage of more than 5% in the index

Dividends Dividends which are below 10% of the market value of the underlying stock would be deemed to be ordinary dividends and no adjustment in the Strike Price would be made for ordinary dividends. For extra-ordinary dividends, above 10% of the market value of the underlying stock, the Strike Price would be adjusted.

Chapter 7: Introduction to Clearing and Settlement System

CLEARING MEMBERSHIPS



Trading cum Clearing Member	• Can do both clearing & Trading
Professional Clearing Member	• Can only do Clearing
Self Clearing Member	• Can Clear Own trades only
Custodian	• Can only do Clearing • Settles accounts of a client of Trading member

A Custodian is an entity that helps register and safeguard the securities of its clients. Besides safeguarding securities, a custodian also keeps track of corporate actions on behalf of its clients. It also helps in:

- Maintaining a client's securities account
- Collecting the benefits or rights accruing to the client in respect of securities
- Keeping the client informed of the actions taken or to be taken by the issue of securities, having a bearing on the benefits or rights accruing to the client

The capital adequacy requirements by a trading member comprises of the following two components viz., Base Minimum Capital and the Additional or Optional capital related to the volume of business. An absolute minimum of Rs. 5 lakh as a deposit is required to be kept with the Exchange, which is irrespective of the volume of the business of the trading member

25% of the base minimum capital is to be maintained in cash with the exchange; another 25% in the form of long term (3years or more) fixed deposit with the bank with which the stock exchange has given complete lien; the remaining shall be in form of securities with 30% margin (the securities should be in the name of members). The additional capital required at any point of time shall be such that the base minimum capital is not less than 8% of the gross outstanding business in the Exchange.

T+2 settlement cycle is followed in the Indian equities market, i.e. which means that a transaction entered into on Day 1 has to be settled on the Day 1 + 2 working days, when funds pay in or securities pay out takes place. "T+2" here, refers to Trade day + 2 working days.

The settlement of derivative trades is on T + 0 or T + 1 working day basis. Final settlement of Currency derivatives is T + 2 days. 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. The payout of funds is credited to the primary clearing account of the members thereafter

Settlement Price for derivatives is given in the following table:

Product	Settlement	Price
Futures Contracts on Index or Individual Security	Daily Settlement	Closing price of the futures contracts on the trading day (closing price for a futures contract shall be calculated on the basis of the last half an hour weighted average price of such contract).
Un-expired illiquid futures contracts	Daily Settlement	Theoretical Price computed as per formula $F=S *ert$
Futures Contracts on Index or Individual Securities	Final Settlement	Closing price of the relevant underlying index / security in the Capital Market segment of NSE, on the last trading day of the futures contracts.
Options Contracts on Individual Securities	Interim Exercise Settlement	Closing price of such underlying security on the day of exercise of the options contract.
Options Contracts on Index and Individual Securities	Final Exercise Settlement	Closing price of such underlying security (or index) on the last trading day of the options contract.
USD INR Currency Derivatives	Daily Settlement	Closing price of the futures contracts for the trading day.
Final Settlement Price		The reference rate fixed by RBI.

The member can download these reports on second day of the Settlement end date.

- Statement of scrip-wise net deliveries to be made by the member.
- Statement of scrip-wise net deliveries to be received by the member.
- Balance Sheet showing the net receivable or net payable by the Member.

The Members has to deliver the Securities (otherwise known as Securities pay-in) to the Exchange as per the Statement of scrip-wise net deliveries downloaded by them.

Margin Payment

The initial and exposure margin is payable upfront by Clearing Members. Initial margins can be paid by members in the form of Cash, Bank Guarantee, Fixed Deposit Receipts and approved securities.

Settlement through the Depository Clearing System

The securities pay in takes place on the T+2 day after the trade date. Members have to de-liver the shares by 10.30 a.m. on the pay in date through their depository participant. The securities pay in takes place through both Depositories simultaneously.

The securities pay out takes place on the same date as the securities pay in date i.e. in the T+2 working days after the trade date. The securities pay-out is done simultaneously through both depositories and the process is usually completed by 1.30 p.m.

Corporate Actions to be adjusted

The corporate actions may be broadly classified under stock benefits and cash benefits.

The various stock benefits declared by the issuer of capital are:

- Bonus • Rights • Merger / De-merger • Amalgamation • Splits • Consolidations • Hive-off
- Warrants, and • Secured Premium Notes (SPNs) among others.

The cash benefit declared by the issuer of capital is cash dividend

Adjustment

Adjustments may entail modifications to positions and / or contract specifications as listed below, such that the basic premise of adjustment laid down above is satisfied: a) Strike Price b) Position c) Market Lot / Multiplier

Adjustment factor: Bonus - Ratio A:B	Adjustment factor : $(A+B)/B$
Stock Splits and Consolidations Ratio - A : B	Adjustment factor : A/B

Settlement Mechanism

In India, SEBI has given the stock exchanges the flexibility to offer:

- a) Cash settlement (settlement by payment of differences) for both stock options and stock futures; or
- b) Physical settlement (settlement by delivery of underlying stock) for both stock options and stock futures; or
- c) Cash settlement for stock options and physical settlement for stock futures; or
- d) Physical settlement for stock options and cash settlement for stock futures.

A Stock Exchange may introduce physical settlement in a phased manner. On introduction, however, physical settlement for all stock options and/or all stock futures, as the case may be, must be completed within six months.

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

Settlement of Custodial Participant (CP) Deals 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). A CP is required to register with clearing corporation through this clearing member, which allots them a unique CP code. The CP and the CM are required to enter into an agreement. All trades executed by such CP through any TM are required to have the CP code in the relevant field on the F&O trading system at the time of order entry.

Initial margin

Margins are computed by clearing corporation upto client level with the help of SPAN. Clearing corporation collects initial margin for all the open positions of a Clearing Member based on the margins computed. Margins are required to be paid up-front on gross basis at individual client level for client positions and on net basis for proprietary positions. A Clearing Member collects initial margin from TM whereas TM collects from his clients.

Premium Margin Along with Initial Margin, Premium Margin is also charged at client level. This margin is required to be paid by a buyer of an option till the premium settlement is complete.

Assignment Margin for Options on Securities It is required to be paid on assigned positions of Clearing Members towards final exercise settlement obligations for option contracts on individual securities, till such obligations are fulfilled. The margin is charged on the net exercise settlement value payable by a Clearing Member towards final exercise settlement.

Exposure Margins Clearing members are subject to exposure margins in addition to initial margins.

Client Margins Clearing corporation intimates all members of the margin liability of each of their client. Additionally members are also required to report details of margins collected from clients to clearing corporation, which holds in trust client margin monies to the extent reported by the member as having been collected from their respective clients.

Risk Management

Clearing corporation's on-line position monitoring system monitors a CM's open position on a real-time basis. It sets limit for each CM based on his effective deposits and simultaneously generates alert messages whenever a CM reaches 70 %, 80 %, 90 % and a disablement message at 100 % of the limit

Trading member position limits

Trading member position limits in equity index option contracts: The trading member position limits in equity index option contracts is higher of **Rs.500 crore or 15% of the total open interest** in the market in equity index option contracts

Client level position limits

The gross open position for each client, across all the derivative contracts on an underlying, should not exceed **1% of the free float** market capitalization (in terms of number of shares) or **5% of the open interest**

Market wide position limits

The market wide limit of open position (in terms of the number of underlying stock) on futures and option contracts on a particular underlying stock is 20% of the number of shares held by non-promoters in the relevant underlying security i.e. 20% of the free-float in terms of no. of shares of a company. This limit is applicable on all open positions in all futures and option

contracts on a particular underlying stock.
OI > 95% of MWPL - Scrip banned in f/o
OI <= 80% of MWPL – Scrip ban lifted

FII / MFs position limits

- a. Short positions in index derivatives (short futures, short calls and long puts) not exceeding (in notional value) the FIIs/MF’s holding of stocks.
- b. Long positions in index derivatives (long futures, long calls and short puts) not exceeding (in notional value) the FIIs/MF’s holding of cash, government securities, T-bills and similar instruments.

Penalties A penal charge will be levied on the amount in default as per the byelaws relating to failure to meet obligations by any Clearing Member

Type of Default	Penalty Charge per day	Chargeable to
Overnight settlement shortage of value more than Rs.5 lakhs	0.07%	Clearing Member
Security Deposit Shortage	0.07%	Clearing Member
Shortage of Capital Cushion	0.07%	Clearing Member

Instances of Disablement	Penalty to be levied
1st instance	0.07% per day
2nd to 5th instance of disablement	0.07% per day + Rs.5,000/- per instance from 2nd to 5th instance
6th to 10th instance of disablement	0.07% per day + Rs.20,000/- (for 2nd to 5th instance) + Rs.10000/- per instance from 6th to 10th instance
11th instance onwards	0.07% per day + Rs.70,000/- (for 2nd to 10th instance) + Rs.10,000/- per instance from 11th instance onwards. Additionally, the member will be referred to the Disciplinary Action Committee for suitable action

Market wide Position Limit violation At the end of each day during which the ban on fresh positions is in force for any security, when any member or client has increased his existing positions or has created a new position in that security the client/trading members will be subject to a penalty 1% of the value of increased position subject to a minimum of Rs.5000 and maximum of Rs.100000.

Chapter 8: Legal and Regulatory Environment

Securities Contracts (Regulation) Act, 1956

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.

Section 18A provides that notwithstanding anything contained in any other law for the time being in force, contracts in derivative shall be legal and valid if such contracts are:

- o Traded on a recognized stock exchange
- o Settled on the clearing house of the recognized stock exchange, in accordance with the rules and bye-laws of such stock exchanges.

Regulation in Trading

A 24 member committee under the chairmanship of Dr. L.C.Gupta was set by SEBI to develop the appropriate regulatory framework for derivatives trading in India

The derivatives exchange/segment should have a separate governing council and representation of trading/clearing members shall be limited to maximum of 40% of the total members of the governing council

The Exchange should have a minimum of 50 members

The minimum contract value shall not be less than Rs. 2 Lakhs

Eligibility criteria for membership on F&O segment		
Particulars (all values in Rs. Lakhs)	CM and F&O segment	CM, WDM and F&O
Networth ¹	100	200
Interest free security deposit (IFSD) ²	125	275
Collateral security deposit (CSD) ³	25	25
Annual subscription	1	2

The minimum networth for clearing members of the derivatives clearing corporation/house shall be Rs.300 Lakhs

Liquid assets Clearing member is required to provide liquid assets which adequately cover various margins and liquid networth requirements

The total liquid assets comprise of at least 50% of the cash component and the rest is non cash component.

1. Cash Component:

- Cash
- Bank fixed deposits (FDRs) issued by approved banks and deposited with approved custodians or Clearing Corporation.

- Bank Guarantees (BGs) in favour of clearing corporation from approved banks in the specified format.
- Units of money market mutual fund and Gilt funds where applicable haircut is 10%.
- Government Securities and T-Bills

2. Non Cash Component:

- Liquid (Group I) Equity Shares as per Capital Market Segment which are in demat form, as specified by clearing corporation from time to time deposited with approved custodians.
- Mutual fund units other than those listed under cash component decided by clearing corporation from time to time deposited with approved custodians.

Cross Margin Salient features of the cross margining available are as under:

1. Cross margining is available across Cash and Derivatives segment
2. Cross margining is available to all categories of market participants

Main objectives of Trade Guarantee Fund (TGF):

- To guarantee settlement of bonafide transactions of the members of the exchange.

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).

Chapter 9: Accounting and Taxation

When forward contract is for hedging

- The premium or discount (difference between the value at spot rate and forward rate) should be amortized over the life of contract.
- Exchange difference (difference between the value of settlement date/ reporting date and value at previous reporting date/ inception of the contract) 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 rate as per contract/ previous year end valuation rate and the forward rate available at the yearend (reporting date) 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.

Taxation of Profit/Loss on 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 under the Income -tax Act. This is in view of section 43(5) of the Income-tax Act which defined speculative transaction as a transaction in which a contract for purchase or sale of any commodity, including stocks and shares, is periodically or ultimately settled otherwise than by the actual delivery or transfer of the commodity or scrips. However, such transactions entered into by hedgers and stock exchange

members in course of jobbing or arbitrage activity were specifically excluded from the purview of definition of speculative transaction.

Securities Transaction Tax (STT) Trading member has to pay securities transaction tax on the transaction executed on the exchange shall be as under:

STT rates

1. Sale of an futures/ option in securities 0.017 per cent
2. Sale of an option in securities, where option is exercised - 0.125 per cent (Paid by Purchaser)

Chapter 10: Sales Practices and Investors Protection Services

Churning “Churning” refers to when securities professionals making unnecessary and excessive trades in customer accounts for the sole purpose of generating commissions. Investors should be careful to review their monthly account statements and investigate any abnormally high trading activity.

Customer Due Diligence

The customer due diligence (“CDD”) measures comprises the following:

- Obtaining sufficient information in order to identify persons who beneficially own or control securities account

Verify the customer’s identity using reliable, independent source documents, data or information

Conduct ongoing due diligence and scrutiny, i.e. perform ongoing scrutiny of the transactions and account throughout the course of the business relationship to ensure that the transactions being conducted are consistent with the registered intermediary’s knowledge of the customer, its business and risk profile, taking into account, where necessary, the customer’s source of funds

Clients of special categories (CSC)

Such clients include the following:

- Non resident clients.
- High networth clients.
- Trust, Charities, NGOs and organizations receiving donations.
- Companies having close family shareholdings or beneficial ownership.
- Politically exposed persons (PEP) of foreign origin.
- Companies offering foreign exchange offerings.
- Clients in high risk countries
- Non face to face clients.
- Clients with dubious reputation as per public information available.etc.

Investors Grievance Mechanism

All exchanges have a dedicated department to handle grievances of investors against the Trading Members and Issuers. These include the Investor Service Committees (ISC) consisting of Exchange officials and independent experts whose nomination is approved by Securities and Exchange Board of India. SEBI also monitors exchange performance related to investor grievance redressal

Arbitration

Arbitration is a quasi judicial process of settlement of disputes between Trading Members, Investors, Sub-brokers & Clearing Members and between Investors and Issuers (Listed Companies).

On receipt of the appeal, the Exchange appoints an Appellate Bench consisting of five arbitrators who re-hear the case and then give the decision. The judgment of the Bench is by a 'majority' and is binding on both the parties

SEBI Complaints Redress System (SCORES) [<http://scores.gov.in>] SEBI has launched a centralized web based complaints redress system (SCORES). This would enable investors to lodge and follow up their complaints and track the status of redressal of such complaints from anywhere. This would also enable the market intermediaries and listed companies to receive the complaints from investors against them, redress such complaints and report redressal

IMPORTANT NOTE :

1. Attend **ALL** Questions
2. For the questions you don't know the right answer – Try to eliminate the wrong answers and take a guess on the remaining answers.
3. **DO NOT MUG UP** the question & answers. It's not the right way to prepare for any NISM exam. Good understanding of Concepts is essential.
4. Remember to attend NISM CPE session before the end of 3 years from the date of exam.

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