

**Marking Scheme**  
**Class XII**  
**Capital Market Operations (793)**  
**(2018-19)**  
**Section- A**

**Part I**

**1. What are the two interdependent segments of securities market? 1**

**Ans.** Primary Market and Secondary Market

**2. Define Demutualization? 1**

**Ans. Demutualization:** NSE set up with a pure demutualised governance structure, having ownership, management and trading with three different sets of people.

**3. Define dematerialization? 1**

**Ans.** The Procedure of transfer of securities from physical form to electronic form is called dematerialization.

**4. How Net Worth of the member is calculated? 1**

**Ans.** The Net Worth of the member is calculated as summation of Capital and free reserves less non allowable assets.

**5. What is unwarrantable business of the member? 1**

**Ans. Unwarrantable business:** effects purchases or sales for its constituent's account or for any account in which it is directly or indirectly interested which purchases or sales are excessive in view of its constituent's or its own means and financial resources or in view of the market for such security.

**6. What is Unique Client Code? 1**

**Ans.** SEBI has made it mandatory for all trading members/brokers to use unique client codes for all clients

**7. What is VSAT System? 1**

**Ans.** A very small aperture terminal (VSAT) is a two-way ground station that transmits and receives data from satellites. NSE has a main computer which is connected through Very Small Aperture Terminal (VSAT) installed at NSE office.

**8. What pay in day mean? 1**

**Ans. Pay-in day** is the day when the trading members/brokers are required to make payment of funds or delivery of securities to the clearing corporation of the Exchange for all transactions traded by or through them in the respective settlement period.

**9. Describe Direct Payout to Investor? 1**

**Ans.** client receives the pay out of securities directly to their accounts on the pay-out day. The client receives payout to the extent of instructions received from the respective clearing members.

**10. What is short delivery? 1**

**Ans.** A short delivery/failed delivery takes place when a broker, a custodian or the clearing corporation delivers fewer securities than what were contracted for either to another broker, a custodian or the clearing corporation on Pay in Day .

**11. Give an example of a company objection? 1**

**Ans.** A company objection(s) arise when documents for securities transfer are returned due to signature mismatch or for any other reason.

**12. In which year SEBI Prohibition of Insider Trading Act was announced? 1**

**Ans.** The SEBI Prohibition of Insider Trading Act was announced in 1992.

## Part II

**13. Discuss the market segments and their products? 2**

**Ans. Wholesale Debt Market (WDM) Segment:** This segment at NSE commenced its operations in June 1994. It provides the trading platform for wide range of debt securities which includes State and Central Government securities, T-Bills, PSU Bonds, Corporate debentures, Commercial Papers, Certificate of Deposits etc.

**(ii) Capital Market (CM) Segment:** This segment at NSE commenced its operations in November 1994. It offers a fully automated screen based trading system, known as the National Exchange for Automated Trading (NEAT) system. Various types of securities e.g. equity shares, warrants, debentures etc. are traded on this system.

**14. Describe Arbitration? 2**

**Ans.** Arbitration, which is a quasi judicial process, is an alternate dispute resolution mechanism prescribed under the Arbitration and Conciliation Act, 1996. The Exchange bye-laws prescribe the provisions in respect of arbitration and the procedure therein has been prescribed in the regulations. The reference to arbitration should be filed within six months from the date when the dispute arose. The time taken by the ISC is excluded by the arbitrator, while considering the issue of limitation.

**15. Write about temporary sign off? 2**

**Ans. Temporary Sign Off:** Temporary sign off is a useful feature that allows the user to disallow the use of the trading software without actually logging off. During a temporary sign-off period, the application continues to receive all market updates in the background.. If three attempts are made to sign on with an incorrect password, the user is permanently logged off. In this case the user has to log on again.

**16. How market information is displayed on market watch?****2**

**Ans.** The online market information displayed in the market watch screen is for current best price orders available in the Regular Lot book. For each security the following information is displayed:

- a) The corporate action indicator “Ex/Cum”
- b) The total buy order quantity available at best buy price
- c) Best buy price
- d) Best sell price
- e) Total sell order quantity available at best sell price
- f) The last traded price
- g) The last trade price change indicator and
- h) The no delivery period indicator “ND”
- i) The Percentage change from previous day’s closing price’

**17. Describe outstanding order window?****2**

**Ans.** The purpose of Outstanding Orders is to enable the user to view the outstanding orders for a security. An outstanding order is an order that has been entered by the user, but which has not yet been completely traded or cancelled. The user is permitted to see his orders.

**Special Features of Outstanding Orders**

- a) The user can modify orders from the outstanding orders screen.
- b) The user can cancel orders from the outstanding orders screen.
- c) The user can view status of a particular order from the outstanding orders screen.

**18. Write the functions of clearing bank?****2****Ans. Functions of Clearing Banks**

The clearing banks are required to provide the following services as a single window to all clearing members of National Securities Clearing Corporation Ltd. as also to the clearing corporation:

- a) Branch network in cities that cover bulk of the trading cum clearing members
- b) High level automation including Real time gross settlement (RTGS) and electronic funds transfer (EFT) facilities

**19. Write EPS and PE ratio with examples?****2**

**Ans. Earnings per Share (EPS):** EPS measures the profit available to the equity shareholders on a per share basis, that is, the amount that they can get on every share held. It is calculated by dividing the profit available to the shareholders by number of outstanding shares. The profit available to the ordinary shareholders is net profit after taxes and preference dividend.

$$EPS = \text{Net profit after tax} / \text{number of ordinary shares outstanding}$$

**Price to Earnings Ratio:** The P/E ratio reflects the price currently being paid by the market for each rupee of currently reported EPS. It measures investors’ expectations and market appraisal of the performance of a firm. It is defined as:

$$\text{Price to Earnings Ratio} = \text{Market Price of share} / \text{EPS}$$

## Part III

20. Explain key indicator of securities market?

3

Ans.

**1. Market Capitalization Ratio**

The market capitalization ratio is defined as market capitalization of stocks divided by GDP. It is used as a measure of stock market size.

**2. Turnover**

Turnover for a share is computed by multiplying the traded quantity with the price at which the trade takes place. Similarly, to compute the turnover of the companies listed at the Exchange we aggregate the traded value of all the companies traded on the Exchange.

**3. Turnover Ratio**

The turnover ratio is defined as the total value of shares traded on a country's stock Exchange for a particular period divided by market capitalization at the end of the period. It is used as a measure of trading activity or liquidity in the stock markets.

$$\text{Turnover Ratio} = \frac{\text{Turnover at Exchange}}{\text{Market Capitalization at Exchange}}$$

21. Give detail of Index Based Market Wide Circuit Breaker?

3

Ans. Circuit Breakers

The Exchange has implemented index-based market-wide circuit breakers in compulsory rolling settlement with effect from July 02, 2001. In addition to the circuit breakers, price bands are also applicable on individual securities.

**Index-based Market-wide Circuit Breakers:** The index-based market-wide circuit breaker system applies at 3 stages of the index movement, either way viz. at 10%, 15% and 20%. These circuit breakers when triggered bring about a coordinated trading halt in all equity and equity derivative markets nationwide. The market-wide circuit breakers are triggered by movement of either the BSE Sensex or the CNX Nifty, whichever is breached earlier.

a) In case of a 10% movement of either of these indices, there would be a one-hour market halt if the movement takes place before 1:00 p.m. In case the movement takes place at or after 1:00 p.m. but before 2:30 p.m. there would be trading halt for ½ hour. In case movement takes place at or after 2:30 p.m. there will be no trading halt at the 10% level and market shall continue trading.

b) In case of a 15% movement of either index, there would be a two-hour halt if the movement takes place before 1 p.m. If the 15% trigger is reached on or after 1:00 p.m., but before 2:00 p.m., there shall be a one-hour halt. If the 15% trigger is reached on or after 2:00 p.m. the trading shall halt for remainder of the day.

c) In case of a 20% movement of the index, trading shall be halted for the remainder of the day.

22. Explain corporate Hierarchy?

3

Ans. Trading System Users Hierarchy

The trading member has the facility of defining a hierarchy amongst its users of the NEAT system. The users of the trading system can logon as either of the user type. The significance of each type is explained below:

- I. **Corporate Manager:** The corporate manager is a term assigned to a user placed at the highest level in a trading firm. Such a user receives the end-of-day reports for all branches of the trading member. The facility to set branch order value limits and user

order value limits is available to the corporate manager. The corporate manager also has facility to set symbol wise user order quantity limit. He can view outstanding orders and trades of all users of the trading member and can also cancel/modify outstanding orders of all users of the trading member.

- II. **Branch Manager:** The branch manager is a term assigned to a user who is placed under the corporate manager. The branch manager receives end-of-day reports for all the dealers under that branch. He can set user order value limit for each of his branch. He can view outstanding orders and trades of all users of his branch and can also cancel/modify outstanding order of all users of his branch.
- III. **Dealer:** Dealers are users at the lowest level of the hierarchy. A dealer can view and perform order and trade related activities only for him and do not have access to information on other dealers under either the same branch or other branches.

**23. Explain Capital Gain Tax and its types under income tax act, 1996?(1 ½ + 1 ½) = 3**

**Ans. Capital Gains** (Section 45)

Any profits or gains arising from the transfer of a capital asset effected in the previous year should, save as otherwise provided in sections (54, 54B, 54D, 54E, 54EA, 54EB, 54F, 54G and 54H), be chargeable to income-tax under the head 'Capital gains', and should be deemed to be the income of the previous year in which the transfer took place.

#### **Types of Capital Gains**

- 1. Long term Capital Gain** means capital gain arising from the transfer of a long term capital asset more than 12 months in case of equity investments
- 2. Short term Capital Gain** means capital gain arising from the transfer of a short term capital asset less than one year in case equity .

Where the total income of an assessee includes any income, arising from the transfer of a long-term capital asset, which is chargeable under the head 'Capital gains', the tax payable by the assessee on the total income

**24. Please write a short note on Depositories Act 1\*3= 3**

**Ans.** A depository is required to enter into an agreement in the specified format with one or more participants as its agent. Any person, through a participant, may enter into an agreement, in such form as may be specified by the bye-laws, with any depository for availing its services.

A depository is deemed to be the registered owner for the purpose of effecting transfer of ownership of security on behalf of a beneficial owner. The depository as a registered owner does not have any voting rights or any other rights in respect of securities held by it. The beneficial owner is entitled to all the rights and benefits and is subjected to all the liabilities in respect of his securities held by a depository.

**25. Explain Indian Contract Act, 1872? 1\*3=3**

**Ans.** In the securities markets, the SCRA governs the contracts for or relating to the purchase or sale of securities. However, the provisions of the Indian Contract Act, 1872 also have a bearing on these securities' contracts as this is a general Act which governs the rights of parties in a contract and the effects thereof.

Following are some important terms/definitions used in the Indian Contract Act:

- (i) **Contract:** According to section 2(h) of the Indian Contract Act, 1872, a contract is an agreement enforceable by law. Therefore, there has to be an agreement to create a contract and secondly, it has to satisfy certain requirements mentioned in section 10 of the Act, i.e., the agreement has to be between parties competent to contract, with their free consent, for a lawful object and with lawful consideration, and it should not have been expressly declared as void agreement. **Standard Form Contracts:** With an enormous increase in commercial transactions, the concept of Standard Form Contracts has come into existence.
- (ii) **Agency Contract:** An agent is a person employed to do any act for another or to represent another in dealings with third persons, as per section 182 of the Indian Contract Act, 1872.
- (iii) **Sub-agent:** A sub-agent is a person employed by, and acting under the control of, the original agent in the business of the agency. Though the general rule is against delegation of authority by an agent or the appointment of a sub-agent, there could be such an appointment in exceptional situations recognized by law.

**26. What are the popular tools to understand the financial statements? Give brief of each?**

3

**Ans.** Accounting is a system of collecting, summarizing, analyzing and reporting in monetary terms, financial status of an organization. The end product of the financial accounting is the financial statements consisting of **Balance Sheet and Profit & Loss Account.**(1)

As the name suggests, balance sheet provides information about financial position of a firm at a particular point of time. On the other hand, Profit & Loss Account of a firm portrays as a flow statement, the results of operations over a specified period of time (usually accounting year, April-March). The Balance Sheet contains information pertaining to firm's assets, liabilities and shareholders' equity whereas Profit & Loss Account summarizes the revenue items, the expense items and the difference between the two (net income) for an accounting period.(1)  
The popular tools are (1)

- a) **Comparative Financial Statements,**
- b) **Common sized Statements, and**
- c) **Ratio Analysis**

### Section- B

**27. Explain the procedure of surrender of Trading Memberships?**

1\*5=5

**Ans.** NSE provides a scheme for enabling the trading member to surrender their membership to the Exchange. Details of the norms and procedures related to the surrender of membership to the Exchange are prescribed as below:

- a) A trading member desirous of surrendering its membership of the Exchange is required to send its request in writing in the prescribed format.
- b) Before submission of an application for surrender of membership, the trading member is required to comply with all the pre-requisites for application of surrender in the prescribed format. The following aspects should be covered in the application for surrender of membership from a trading member,

- (i) Who has been suspended/ disciplinary action taken by the Exchange /SEBI

(ii) In respect of whom any investigation/ action consequent to a default has been initiated by the Exchange /SEBI,

The Exchange has absolute discretion in dealing with such applications and if it decides to process/accept the surrender application of such trading member, it may impose additional terms and conditions as it may deem fit.

c) No trading member, who has surrendered its trading membership, their partners (in case of partnership firm) and/ or dominant shareholders (in case of corporates) is eligible to be re-admitted to the trading membership of the Exchange in any form for a period of one year from the date of cessation of trading membership (i.e. from the date of approval of surrender).

d) The application of surrender of trading membership is subject to fulfillment of certain conditions, such as submission of original SEBI registration certificate(s) on all segments on which the trading member is registered; submission of sub-broker registration certificate(s) of all the sub-brokers associated with the trading member for onward transmission to the SEBI for cancellation etc.

e) The trading member should request the Exchange through their surrender application to dismantle and recover all the leased line(s)/ VSAT(s) and other equipments given to them at their dealing offices.

**28. Write the admission procedure of new memberships?**

**1\*5=5**

**Ans. 1.** Applicants are required to submit application form, in the prescribed format along with other relevant documents to the Exchange. The application for new membership is then forwarded to Membership Recommendation Committee. The Membership Recommendation Committee (MRC) consists of seven persons from various disciplines. The MRC conducts interviews of the applicants for trading membership. In case of corporate, the dominant shareholder and designated directors; in case of individuals, the individual himself and in case of partnership firms – two designated partners have to appear for the interview. The purpose of the interview is to acquire information about their capability & commitment to carry on stock broking activities, financial standing and integrity.

2. . The MRC recommends the names for admission of trading members to the Membership Approval Committee (Sub-committee of board of directors)/Board of directors of the Exchange. The Board of Directors after taking into consideration the recommendations of the MRC either approves or rejects the applications.

3. On getting approval from the Board, an admission on a provisional basis is provided to the applicant subject to certain conditions like registration with SEBI, submission of relevant fees/ deposits and documents. The documents of the member are then forwarded to SEBI for registration.

4. After satisfying itself as to compliance with respect to all the prescribed norms, SEBI grants a Registration Certificate in the name of the applicant.

5. The dealers on CM segment are required to clear the Capital Market (Dealers) Module of NCFM; dealers on Futures & Options Segment are required to clear the Derivatives Market (Dealers) Module or equivalent examination of NCFM .

**29. Explain NEAT?**

**1\*5 =**

**5**

**Ans. NEAT Screen**

The trader workstation screen of the trading member is divided into the following windows:

(i) **Title bar:** It displays trading system name i.e. NEAT, the trading member name the user id, user type, the date and the current time.

(ii) **Ticker Window:** The ticker window displays securities capital market segments. The ticker selection facility is confined to the securities of capital market segment only. The first ticker window, by default, displays all the derivatives contracts traded in the Futures and Options segment.

(ii) **Tool Bar:** The toolbar has functional buttons which can be used with the mouse for quick access to various functions such as Buy Order Entry, Sell Order Entry, Market By Price (MBP), Previous Trades (PT), Outstanding Order (OO), Activity Log (AL), Order Status (OS), Market Watch (MW), Snap Quote (SQ), Market Movement (MM), Market Inquiry (MI), Auction Inquiry (AI), Order Modification (OM), Order Cancellation (OCXL), Security List, Net Position, Online Backup, Supplementary Menu, Index Inquiry, Index Broadcast and Help. All these functions are also accessible through the keyboard.

(iii) **Market Watch Window:** The 'Market Watch' window is the main area of focus for a trading member. This screen allows continuous monitoring of the securities that are of specific interest to the user. It displays trading information for the selected securities.

(iv) **Inquiry Window:** This screen enables the user to view information such as Market by Order (MBO), Market by Price (MBP), Previous Trades (PT), Outstanding Orders (OO), Activity Log (AL), Order Status (OS), Market Movement (MM), Market Inquiry (MI), Net Position, Online Backup, Index Inquiry, Indices Broadcast, Most Active Securities and so on. Relevant information for the selected security can be viewed.

(v) **Message Window:** This enables the user to view messages broadcast by the exchange such as corporate actions, any market news, auctions related information etc. and other messages like order confirmation, order modification, order cancellation, orders which have resulted in quantity freezes/price freezes and the exchange action on them, trade confirmation, trade cancellation/modification requests and exchange action on them, name and time when the user logs in/logs off from the system, messages specific to the trading member, etc. These messages appear as and when the event takes place in a chronological order.

**30. Explain Trade workstation of the Member (Market Watch window)?** **1\*5=5**

**Ans. Market Watch**

The Market Watch window is the third window from the top of the screen that is always visible to the user. The Market Watch is the focal area for users. The purpose of Market Watch is to setup and view trading details of securities that are of interest to users. For each security in the Market Watch, market information is dynamically updated.

Following are the key features of Market Watch Screen:

**(i) Market Information Displayed:** The one line market information displayed in the market watch screen is for current best price orders available in the Regular Lot book. For each security the following information is displayed:

- a) The corporate action indicator "Ex/Cum"
- b) The total buy order quantity available at best buy price
- c) Best buy price
- d) Best sell price
- e) Total sell order quantity available at best sell price



- f) The last traded price
- g) The last trade price change indicator and
- h) The no delivery period indicator "ND"
- i) The Percentage change from previous day's closing price'

**(ii) Information Update:** In the Market Watch screen, changes in the best price and quantities are highlighted on a dynamic basis (in all pages of Market Watch). For example, if the best price changes as a result of a new order in the market, the new details are immediately displayed. If the last traded price is higher than the previous last traded price then the indicator '+' appears or if the last traded price is lower than the previous last traded price then the indicator '-' appears. If there is no change in the last traded price, no indicator is displayed.

**(iv) Market Watch Download:** A user has to set up securities after the first download of the software. After setting up the market watch, it is suggested that the user should log out normally. This will help the user to save the freshly set up market watch securities in a file. If at any given time, when the user has freshly set up a few securities and encounters an abnormal exit, the newly set up securities are not saved and the user may have to repeat the process of setting up securities. The Market Watch setup is carried over to subsequent days, thus averting the need to set up the Market Watch on daily basis.

**(iv) Setting up Securities:** One of the best features of this software is that the user has the facility to set up 500 securities in the market watch. The user can view up to 30 securities in one page of the market watch screen.

**(vi) Corporate Actions Indication:** An indicator for corporate actions for a security is another feature in market watch. The indicators are as follows:

- 'XD' - ex-dividend
- 'XB' - ex-bonus
- 'XI' - ex-interest
- 'XR' - ex-rights
- 'CD' - cum-dividend
- 'CR' - cum-rights
- 'CB' - cum-bonus
- 'CI' - cum-interest
- 'C\*' - in case of more than one of CD, CR, CB, CI
- 'X\*' - in case of more than one of XD, XR, XB, XI

**31. Explain different phases of the Regular Market?**

**1\*5=5**

**Ans. Market Phases**

The trading system is normally made available for trading on all days except Saturdays, Sundays and other holidays. Holidays are declared by the Exchange from time to time. A trading day typically consists of a number of discrete stages as below:

1. **Opening:** The trading member can carry out the following activities after login to the NEAT system and before the market opens for trading:
  - a) Set up Market Watch (the securities which the user would like to view on the screen)
  - b) View Inquiry screens
2. **Pre-open:** The pre-open session is for duration of 15 minutes i.e. from 9:00 am to 9:15 am. The pre-open session is comprised of Order collection period and order matching period. The order collection period of 8\* minutes shall be provided for order entry,

modification and cancellation. (\* - System driven random closure between 7<sup>th</sup> and 8<sup>th</sup> minute).

3. **Normal Market Open Phase:** The open period indicates the commencement of trading activity. To signify the start of trading, a message is sent to all the trader workstations. Trading in all the instruments is allowed unless they are specifically prohibited by the Exchange. The activities that are allowed at this stage are Inquiry, Order Entry, Order Modification, Order Cancellation (including quick order cancellation), Order Matching and Trade Cancellation.
4. **Market Close:** When the market closes, trading in all instruments for that market comes to an end. A message to this effect is sent to all trading members. No further orders are accepted, but the user is permitted to perform activities like inquiries and trade cancellation.**Post-Close Market:** This closing session is available only in Normal Market Segment. Its timings are from 3.40 PM to 4.00 PM. Only market price orders are allowed. Special Terms, Stop Loss and Disclosed Quantity Orders, Index Orders are not allowed.
5. **SURCON:** Surveillance and Control (SURCON) is that period after market close during which, the users have inquiry access only. After the end of SURCON period, the system processes the data for making the system available for the next trading day. When the system starts processing data, the interactive connection with the NEAT system is lost and the message to that effect is displayed at the trader workstation.

### 32. Explain the Risk in Settlements of Day to Day Trading?

1\*5=5

#### Ans. Risks in Settlement

The following two kinds of risks are inherent in a settlement system:

**(i) Counterparty Risk:** This arises if parties do not discharge their obligations fully when due or at any time thereafter. This has two components, namely replacement cost risk prior to settlement and principal risk during settlement.

a) The **replacement cost risk** arises from the failure of one of the parties to transaction. While the non-defaulting party tries to replace the original transaction at current prices, he loses the profit that has accrued on the transaction between the date of original transaction and date of replacement transaction. The seller/ buyer of the security lose this **unrealized** profit if the current price is below/ above the transaction price. Both parties encounter this risk as prices are uncertain. It has been reduced by reducing time gap between transaction and settlement and by legally binding netting systems.

b) The **principal risk** arises if a party discharges his obligations but the counterparty defaults. The seller/buyer of the security suffers this risk when he delivers/ makes payment, but does not receive payment/delivery. This risk can be eliminated by delivery vs. payment mechanism which ensures delivery only against payment. This has been reduced by having a central counterparty (NSCCL) which becomes the buyer to every seller and the seller to every buyer. A variant of counterparty risk is liquidity risk which arises if one of the parties to transaction does not settle on the settlement date, but later. The seller/buyer who does not receive payment/delivery when due, may have to borrow funds/securities to *complete his* payment/delivery obligations. Another variant is the third party risk which arises if the parties to trade are permitted or required to use the services of a third party which fails to perform. For example, the failure of a clearing bank which helps in payment can disrupt settlement. This risk is reduced by allowing parties to have accounts with multiple banks. Similarly, the users of custodial services face risk if the concerned custodian becomes insolvent, acts negligently, etc.

**(ii) System Risk:** This comprises of operational, legal and systemic risks. The operational risk arises from possible operational failures such as errors, fraud, outages etc. The legal risk arises if the laws or regulations do not support enforcement of settlement obligations or are uncertain. Systemic risk arises when failure of one of the parties to discharge his obligations leads to failure by other parties. The domino effect of successive failures can cause a failure of the settlement system. These risks have been contained by enforcement of an elaborate margining and capital adequacy standards to secure market integrity, settlement guarantee funds to provide Counter-party guarantee, legal backing for settlement activities and business continuity plan, etc.

### 33. Explain All Daily Margin Payments?

2 ½ + 1 ½ + 1 = 5

**Ans.** Daily margins payable by the trading members in the Cash market consists of the following:

- (i) Value at Risk (VaR) margin**
- (ii) Mark to Market Margin**
- (iii) Extreme Loss Margin**

The margins are computed at client level. A member entering an order, needs to enter the client code. Based on this information, margin is computed at the client level, which will be payable by the trading members on upfront basis. Let us see in details what is meant by these margins.

#### **Value at Risk Margin**

VaR is a single number, which encapsulates whole information about the risk in a portfolio. It measures potential loss from an unlikely adverse event in a normal market environment. It involves using historical data on market prices and rates, the current portfolio positions, and models (e.g., option models, bond models) for pricing those positions. These inputs are then combined in different ways, depending on the method, to derive an estimate of a particular percentile of the loss distribution, typically the 99<sup>th</sup> percentile loss.

#### **Computation of VaR Margin**

VaR Margin is a margin intended to cover the largest loss that can be encountered on 99% of the days (99% Value at Risk). For liquid securities, the margin covers one-day losses while for illiquid securities; it covers three-day losses so as to allow the clearing corporation to liquidate the position over three days. This leads to a scaling factor of square root of three for illiquid securities. For liquid securities, the VaR margins are based only on the volatility of the security while for other securities, the volatility of the market index is also used in the computation:

**Some Definitions:** Computation of the VaR margin requires the following definitions:

- a) Security sigma:** It means the volatility of the security computed as at the end of the previous trading day. The computation uses the exponentially weighted moving average method applied to daily returns in the same manner as in the derivatives market.
- b) Security VaR:** It means the higher of 7.5% or 3.5 security sigmas.
- c) Index sigma:** It means the daily volatility of the market index (CNX Nifty or BSE Sensex) computed as at the end of the previous trading day. The computation uses the exponentially weighted moving average method applied to daily returns in the same manner as in the derivatives market.
- d) Index VaR:** It means the higher of 5% or 3 index sigmas. The higher of the Sensex VaR or Nifty VaR would be used for this purpose.

Liquidity Categorization	One-Day VaR	Scaling factor for illiquidity	VaR Margin
Liquid Securities (Group I)	Security VaR	1.00	Security VaR
Less Liquid Securities (Group II)	Higher of Security VaR and three times Index VaR	1.73 (square root of 3.00)	Higher of 1.73 times Security VaR and 5.20 times
Illiquid Securities (Group III)	Five times Index VaR	1.73 (square root of 3.00)	8.66 times Index VaR

### Collection of VaR Margin

The VaR margin is collected on an upfront basis by adjusting against the total liquid assets of the member at the time of trade. The VaR margin is collected on the gross open position of the member. The gross open position for this purpose would mean the gross of all net positions across all the clients of a member including its proprietary position. For this purpose, there would be no netting of positions across different settlements.

### MARK-TO-MARKET MARGIN

Mark to market loss is calculated by marking each transaction in security to the closing price of the security at the end of trading. In case the net outstanding position in any security is nil, the difference between the buy and sell values is considered as notional loss for the purpose of calculating the mark to market margin payable.

The mark to market margin (MTM) is collected from the member before the start of the trading of the next day. The MTM margin is collected/adjusted from/against the cash/cash equivalent component of the liquid net worth deposited with the Exchange. The MTM margin is collected on the gross open position of the member. The gross open position means the gross of all net positions across all the clients of a member including its proprietary position.

Trade Segment (TFT segment) each trade is marked to market based on the closing price of that security. The MTM margin so collected is released on completion of pay-in of the settlement.

### EXTREME LOSS MARGIN

The Extreme Loss Margin for any security is higher of:

- 5%, or
  - 1.5 times the standard deviation of daily logarithmic returns of the security price in the last six months. This computation is done at the end of each month by taking the price data on a rolling basis for the past six months and the resulting value is applicable for the next month.
-