# Study Notes for
# NISM Series XVI: Commodity Derivatives Certification Examination

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## Examination Details

| | |
|---|---|
| Total Questions | 100 X 1 Marks |
| Total marks | 100 |
| Type | Multiple Choice |
| Pass Score | 60% = 60 marks |
| Duration | 2 Hours |
| Negative marks | -0.25 |

## Chapterwise Weightage

| Chapter no | Chapter name | Marks |
|---|---|---|
| 1 | Introduction to Commodity Markets | 10 |
| 2 | Commodity Indices | 5 |
| 3 | Commodity Futures | 15 |
| 4 | Commodity Options | 15 |
| 5 | Strategies using Commodity Futures & Commodity Options | 15 |
| 6 | Trading Mechanism | 10 |
| 7 | Clearing, Settlement and Risk Management | 15 |
| 8 | Legal and Regulatory Environment | 5 |
| 9 | Accounting and Taxation | 5 |
| 10 | Codes of Conduct and Investor Protection Measures | 5 |

# NISM-Series-XVI: Commodity Derivatives Certification Examination

## Chapter 1: Introduction to Commodity Markets

**History of Commodity Trading**: Commodity trading evolved from barter to spot and derivatives markets, with the introduction of money transforming value expression and trade mechanisms.

**Barter System**: Direct exchange of goods with matching needs (e.g., wheat for cattle) lacked divisibility, transport efficiency, and common valuation.

**Commodity Spot Markets**: Physical marketplaces where immediate delivery versus payment occurs, driven by supply and demand price discovery.

**Forward Contracts**: Private agreements to deliver commodities at a future date for a price fixed today, often subject to counterparty default risk.

**Emergence of Futures**: Exchange-traded, standardized contracts guaranteeing performance via the exchange's clearinghouse to mitigate default risk.

**Standardization of Contracts**: Futures specify quantity, quality, delivery date and location, enabling transferability before maturity.

**Speculators**: Traders without intent to take delivery who provide liquidity and accept price risk in hopes of profit.

**Hedgers**: Producers or consumers of commodities who transfer price risk to speculators via futures, stabilizing cash-flow planning.

**Osaka Rice Exchange (1730)**: World's first organized futures market where rice bills anticipating future delivery traded like early futures.

**Chicago Board of Trade (1848)**: Pioneered standardized grain futures contracts in the USA under uniform rules.

**London Metal Exchange (1877)**: Established the benchmark market for industrial metal futures in the UK.

**Global Exchange Growth**: Post-1990s liberalization and IT advances spurred rapid proliferation of commodity exchanges worldwide.

**Ancient Indian Trading**: References in Kautilya's Arthashastra (320 B.C.) to forward dealings in agricultural produce and metals.

**Bombay Cotton Trade Association (1875)**: India's first organized derivatives trading began with cotton forwards.

**Regulatory Controls (1919–1946)**: Acts like the Bombay Contract Control Act and Defence of India Act regulated speculative and forward trading.
**Forward Contracts Regulation Act (1952)**: Centralized regulation of commodity forwards until its repeal in 2015.

**SEBI Oversight (2015)**: Commodity derivatives came under SEBI regulation via SCRA, replacing FCRA.

**Electronic Spot Exchanges**: Platforms such as eNAM connect APMCs for transparent, nationwide agricultural spot trading.

**Soft Commodities**: Perishable agricultural products (e.g., wheat, coffee, sugar).

**Hard Commodities**: Mined or processed resources (e.g., crude oil, gold, silver).

**Physical Spot Market**: In-mandi trading involves licensed arhatiyas, mandi fees, and often inefficient price discovery.

**Electronic Spot Market**: Farmers set ask prices on digital platforms, improving transparency and farmer bargaining power.

**eNAM**: Pan-India portal linking APMCs, enabling unified auctions, real-time pricing, and prompt payments.

**Derivatives Definition**: Contracts whose value derives from underlying assets, settled at a future date, enabling risk management.

**OTC vs Exchange-Traded**: OTC derivatives are customizable bilateral deals; exchange-traded derivatives are standardized and centrally cleared.

**Risk Reduction**: Derivatives allow hedgers to lock in prices and reduce uncertainty with minimal upfront investment.

**Risk Transfer**: Price volatility shifts from hedgers to speculators, who assume the risk in exchange for potential profit.

**Price Discovery**: Futures markets aggregate information on expected future supply and demand, guiding production and consumption decisions.

**Transactional Efficiency**: Standardization and clearing reduce transaction costs, enhancing market liquidity and economic growth.

**Forwards**: Custom OTC contracts with credit risk, settled at maturity with actual delivery or cash settlement.

**Futures**: Exchange contracts with daily mark-to-market, margin requirements, and guaranteed settlement via a clearinghouse.

**Options**: Contracts granting the right, but not the obligation, to buy (call) or sell (put) at a predetermined price before expiry.

**Option Premium**: Non-refundable cost paid by the option buyer, reflecting the value of the right without obligation.

**Swaps**: Agreements to exchange cash flows (e.g., fixed-for-floating commodity swaps) without physical delivery, settled net in cash.

**Indian Commodity Exchanges**: MCX, NCDEX, NSE and BSE host futures (and increasingly options) on a range of commodities.

**Commodity Categories in India**: Bullion (gold, silver), Metals (aluminum, copper), Energy (crude oil, natural gas), Agriculture (wheat, maize, spices).

**Seasonal Contracts**: Agricultural contracts vary by crop cycle (e.g., kharif versus rabi crops) to match harvest and delivery periods.

**Hedgers in India**: Farmers, processors, exporters, importers and merchandisers manage price risk via commodity derivatives.

**Speculators/Investors**: Day traders, position traders and market makers seek profit through short-term or rollover strategies.

**Arbitrageurs**: Exploit price differentials between spot and futures or between contract months for riskless gains.

**Mutual Funds in CDM**: Permitted since 2019, with SEBI-mandated risk management controls and asset-exposure limits.

**Commodity vs Financial Assets**: Commodities are physical with grading, warehousing and delivery processes; financial assets are claims on issuers.

**Delivery Process**: Involves warehouse receipts, accredited storage, loading, transport and physical settlement steps.

**Quality Standards**: Contracts specify grades and certification procedures; financial derivatives lack physical grading requirements.

**Warehousing Role**: Accredited warehouses issue negotiable receipts, underpinning delivery and financing of stored commodities.

**WDRA**: Regulates warehouses under the Warehousing Development and Regulation Act, coordinating with SEBI for compliance.

**eNWR**: Electronic negotiable warehouse receipts facilitate title transfer, pledge financing and transparent secondary trading.

**Commodity Ecosystem Entities**: Include warehouse service providers, transporters, quality testers, brokers, exchanges, clearing corporations, banks, depositories, custodians, mutual funds and AIFs.

**Demand–Supply Balance**: Prices respond to shifts in opening stocks, domestic production, imports, consumption and exports.

**Seasonality Effects**: Harvest and sowing cycles cause predictable price troughs and peaks in agricultural commodities.

**News and Rumours**: Weather forecasts, crop reports, mine disruptions and trade-policy changes can trigger short-term price swings.

**Geopolitical Tensions**: Conflicts or sanctions affecting major producers (e.g., Middle East, Russia-Ukraine) influence energy and metal prices.

**Macroeconomic Conditions**: GDP growth, inflation, industrial output and consumer confidence shape demand for base and precious metals.

**Currency Movements**: Domestic currency fluctuations versus USD alter local prices of internationally traded commodities.

**Interest Rates**: Higher rates discourage inventory holding and commodity investment, lowering prices; lower rates have the opposite effect.

**Other Factors**: Weather extremes, government interventions (tariffs, release programs), pandemics and supply-chain disruptions also drive price volatility.

**Commodity Options & Index Futures**: Introduced in India since 2017–2020, expanding hedging and trading strategies via options on futures and commodity indices.

## Chapter 2: Commodity Indices

**Purpose of an Index:** An index measures the price or value movement of a basket of assets or commodities, scaled to a base value (commonly 100 or 1000) at inception.

**Inflation vs. Financial Indices:** Inflation indices (CPI, WPI) gauge economic price changes; financial indices (Nifty, Sensex) track market values of securities.

**Underlying Basket:** Financial indices are based on a fixed portfolio of securities; commodity indices in India use nearby futures prices rather than spot prices.

**Base Value:** All indices have a predetermined base value, facilitating comparison over time.

**Total vs. Excess Return Indices:** Total return indices include price changes and income (dividends, roll yield); excess return indices measure performance above a risk-free benchmark.

**Commodity Index Characteristics:** Indian commodity indices are total return indices built on futures prices, incorporating roll yield from contract rollover.

**Index Providers:** Global indices are maintained by MSCI, S&P Dow Jones, FTSE Russell, NASDAQ, and exchanges like MCX and NCDEX domestically.

**Major Global Commodity Indices:** Bloomberg Commodity Index (BCOM), S&P GSCI, Dow Jones–UBS Commodity Index, Rogers Commodity Index, Thomson Reuters/Core CRB Index, LME Index.

**LME Index Construction:** Weights based on 5-year average global production and liquidity; multisource expiry pricing to avoid single-expiry bias.

**SEBI Guidelines (June 18, 2019):** Mandates futures-price–based index construction; rebalancing rules; constituent eligibility; transparency requirements.

**Composite vs. Sectoral Indices:** Composite indices include diversified commodities; sectoral indices focus on specific segments (e.g., MCX BULLDEX for precious metals, NCDEX GUAREX for guar).

**Weight Stability:** Weights fixed for one calendar year; rebalancing only for annual review or extraordinary events (e.g., trading suspension).

**Eligibility Criteria:** Constituent futures must exist ≥12 months and trade ≥90% of days in that period.

**Liquidity Requirements:** Composite indices require ≥80% weight in contracts with ADTV ≥₹75 crore (agri) or ≥₹500 crore (non-agri); illiquid commodities capped at 15%.

**Price vs. Volume Indices:** Commodity indices are price-based (fixed weights); equity indices are volume-based (market-cap-weighted).

**Proxy for Inflation:** Movements in commodity indices can approximate inflation in respective sectors.

**Scoring for Weights:** Weights determined by production value and liquidity scores in a 25:75 ratio; production = 5-year average deliverable supply; liquidity = 12-month average volume.

**Weight Caps:** Composite constituents: min 1%, max 30%; sectoral indices have no SEBI-mandated cap (exchanges may set their own).

**Constituent Price Source:** Index value based on near-month futures traded prices; exclude spread trades for fairness.

**Rollover Mechanism:** Gradual rollover over 2–3 days: NCDEX uses 3-day 1/3 tranches; MCX uses 2-day 50:50 tranches to prevent price blips.

**Real-Time Calculation:** Indices computed continuously using live futures prices of constituents.

**Cash vs. Futures Link:** Futures prices derive from spot via spot polling or international benchmarks; transparency supports index accuracy.

**Example Indices:** NCDEX AGRIDEX (10 commodities, discontinued Feb 1, 2022); NCDEX GUAREX (guar seed & guar gum); MCX iCOMDEX Composite (11 commodities).

**Sectoral Weight Examples:** MCX iCOMDEX Bullion 2024: Gold ~59.43%, Silver ~40.57%; Base Metal: Aluminum 31%, Copper 40%, Lead 4%, Zinc 25%; Energy: Crude Oil 54%, Natural Gas 46%.

**Index Futures Basics:** Underlying = continuous series of index values; lot size initially ≥₹5 lakh; tick size typically ₹0.25.

**Trading Hours:** Match constituent futures; expiry day closes at 5:00 pm.

**Circuit Breakers:** Daily price limits at index and constituent levels; index DPL generally ≥ commodity DPL.

**Contract Tenor:** Up to 12 months; multiple tenors available (1, 2, 6, 12 months).

**Position Limits:** Client: max 5% of market open interest or 1,000 lots; Member: max 15% or 10,000 lots.

**Settlement Price (FSP):** Expiry FSP = VWAP of constituent futures between 4:00–5:00 pm; fallback on closing prices if no trades.

**Daily Mark-to-Market:** Daily cash settlement uses previous day's DSP vs. FSP difference on next trading morning.

**Risk Framework:** Must comply with CPMI–IOSCO PFMI; margins based on 99% VaR over MPOR ≥2 days.

**MPOR Definition:** Margin Period of Risk, the time horizon for which risk margins are calculated (e.g., 2 days for futures).

**Value-at-Risk (VaR):** Statistical measure of potential loss at a given confidence level; used for initial margin calculation.

**Hedging Applications:** Use index futures to hedge broad commodity exposure (e.g., metals basket vs. individual futures).

**Monsoon Proxy:** Agri indices can act as proxies for monsoon performance; long/short strategies based on anticipated yield.

**Arbitrage Opportunities:** Excess return via carry cost parity and roll yield; double interest effect from futures on futures.

**Roll-Yield Example:** Sell near-month at ₹16,000, buy next-month at ₹16,100; contango and carry cost difference drive returns.

**Institutional Investors:** Mutual funds, AIFs, PMS can access commodities via index derivatives, bypassing physical delivery issues.

**Commodity ETFs:** ETFs on commodity indices provide listed exposure; regulations now allow futures-based gold and silver ETFs.

**Diversification Benefit:** Basket structure cushions idiosyncratic shocks; sectoral correlations moderate index volatility.

**Index Options Design:** European style, cash-settled; three strikes minimum; expiry at 5:00 pm; automatic exercise for ITM.

**Options Position Limits:** Client: 10% of OI or 2,000 lots; Member: 30% or 20,000 lots.

**Option Margins:** Include SOMM, IM, concentration, ELM, pre-expiry margins; portfolio-level IM required.

**Regulatory Framework:** SEBI circular Mar 24, 2022 for commodity index options; compliance with CPMI–IOSCO.

**Liquidity Challenges:** Index derivatives have lower liquidity vs. individual contracts due to diversification and complexity.

**Volatility Dynamics:** Basket averaging reduces volatility; less attractive to intraday traders seeking high swings.

**Awareness Barrier:** Complexity in composition, weights, rebalancing hinders broader adoption among traders.

**Trading Strategies:** Spread trades, calendar spreads, directional bets can be executed on index futures and options.

**Future Developments:** Potential for more sectoral indices, enhanced methodology, and increased institutional productization.

## Chapter 3: Commodity Futures

**Introduction to Futures:**
Futures contracts are standardized, exchange-traded agreements to buy or sell assets at a future date for a predetermined price. They specify asset quantity, quality, delivery date, and permissible price fluctuations.

**Standardization of Commodity Futures:**
Commodity futures are uniform contracts defining delivery terms, quantity, quality, and price movement limits, enabling efficient trading and settlement.

**Differences Between Futures and Forwards:**

- **Trading Venue:** Futures on exchanges; forwards are OTC.
- **Standardization:** Futures are standardized; forwards are customizable.
- **Counterparty Risk:** Futures eliminate credit risk via clearinghouse; forwards retain it.
- **Margins:** Futures require margins; forwards typically do not.
- **Settlement:** Futures are settled daily; forwards at maturity.
- **Physical Delivery:** Few futures lead to delivery; forwards often do.
- **Anonymity:** Futures maintain anonymity; forwards are negotiated privately.
- **Liquidity:** Futures are more liquid than forwards.

**Cost-of-Carry Concept:**
Futures price = Spot price + cost of carry (storage, insurance, financing). It's the extra cost of holding a commodity until futures contract expiry.

**Cost-of-Carry Formula:**
**F = S + C**
Where:
F = Futures price
S = Spot price
C = Cost of carry

**Futures Price Premium:**
Futures often trade above spot due to cost-of-carry. This premium compensates for holding costs avoided by the futures buyer.

**Convergence:**
As expiry nears, cost-of-carry declines, narrowing the gap between futures and spot prices. On expiry, both prices converge.

**Contango Market:**
Occurs when futures price > spot price. Reflects expected price rise or currency depreciation.

**Backwardation Market:**
Occurs when futures price < spot price. Caused by supply gluts, economic slowdowns, or seasonality in commodities.

**Fair Value of Futures:**
A theoretical price incorporating spot price and cost-of-carry. Helps assess whether to trade futures or hold the physical asset.

**Fair Value When:**

- Spot–Futures < Carry Cost → Prefer futures
- Spot–Futures > Carry Cost → Prefer spot
- Spot–Futures = Carry Cost → Indifferent

**Annual Compounding Formula:**
**F = S × (1 + r)^n**
S = Spot price, r = annual interest rate, n = time in years

**Periodic Compounding Formula:**
**F = S × (1 + r/m)^(m × n)**
m = compounding frequency

**Continuous Compounding Formula:**
**F = S × e^(r × n)**
e = Euler's number (2.71828)

**Convenience Yield:**
Refers to the intangible benefits of holding a commodity (e.g., production continuity, reliability of supply). It reduces the futures price.

**Adjusted Futures Pricing with Convenience Yield:**
**F = S + C - Y**
Y = Convenience yield

**Application of Convenience Yield:**
Applies to perishable or seasonal commodities, where holding physical goods ensures production and profitability.

**Commodity Futures vs. Commodity Forwards:**

- Futures are exchange-traded, standardized, liquid, and margined.
- Forwards are private, customized, and exposed to counterparty risk.

**Advantages of Commodity Futures:**

- Better price discovery
- No credit risk
- Wider access
- Standardization and liquidity
- Transparent and cost-efficient platform

**Pay-off Profile of Futures Contracts:**
Profit or loss at contract expiry based on the difference between futures price and spot price.

**Linear Pay-off:**
Futures have a linear relationship between asset price and payoff—profit/loss changes proportionally with asset price.

**Long Position:**
Buy futures expecting prices to rise.
**Payoff Formula: Long Payoff = ST – F**
ST = Spot price at expiry, F = Futures buy price

**Short Position:**
Sell futures expecting prices to fall.
**Payoff Formula: Short Payoff = F – ST**
F = Futures sell price, ST = Spot price at expiry

**Short Position Obligations:**
Must deliver the commodity if held to expiry or pay default penalties.

**Opposing Payoffs:**
Profit/loss from long = Loss/profit from short on same contract.

**Tick Size:**
Minimum allowed price movement in the contract, varies by commodity and contract specifications.

**Tick Value Formula:**
**Tick Value = (Lot size / Quotation factor) × Tick size**

**Tick Size Importance:**
Used in assessing potential profit/loss per tick movement, critical for algo traders and speculators.

**Spot Price Polling:**
Exchanges poll spot prices across markets to determine benchmark prices for futures contracts.

**Final Settlement Price (FSP):**
Used to settle expiring futures, calculated as the simple average of spot prices on expiry day and two preceding days.

**Spot Polling Methodology:**
Involves collecting prices from empanelled participants, removing outliers, and using statistical algorithms to determine the median-based price.

**Use of Bootstrapping:**
Bootstrapping is used to eliminate extreme spot prices and arrive at a robust median spot price.

**Fallback for Missing Spot Data:**
In absence of spot data on expiry, fallback methods include alternate centers, extrapolation using trends, or using futures prices.

**Regulatory Oversight:**
SEBI mandates transparency in spot price polling, including method disclosure and participant details.

**Daily Spot Price Publishing:**
Exchanges publish spot prices daily to aid market participants in aligning futures trading decisions.

**Transparency in Spot Pricing:**
Improves price discovery and ensures alignment between spot and futures markets.

**FSP Backup Methods:**
If no spot data on expiry, exchanges may use older polled prices, alternate locations, or extrapolated data for FSP.

**Futures Contract Margining:**
Futures contracts are marked to market daily. Gains/losses are settled daily via margin accounts.

**Exchange as Counterparty:**
The clearinghouse acts as counterparty to all trades, reducing settlement risks.

**No Counterparty Default:**
Exchange guarantees settlement, eliminating individual default risk.

**Futures Used for Hedging and Speculation:**
Used by producers, processors, traders, and investors for price risk management and speculative gains.

**Hedging via Long Futures:**
Useful when future commodity needs are known and price rise is expected.

**Hedging via Short Futures:**
Useful when one holds inventory and anticipates a price drop.

**Margin Requirements:**
Calculated as a percentage of contract value, ensures sufficient capital in volatile markets.

**Pay-off Diagrams:**
Visual representations of gains/losses help traders understand risk/reward.

**Contango and Backwardation Influence Hedging:**
Hedging strategy depends on market structure—whether it's in contango or backwardation.

**Forward vs. Futures Risk Profile:**
Forwards carry higher credit risk; futures reduce this via centralized clearing.

**Commodity Derivatives Regulation:**
Exchanges and SEBI regulate trading, price discovery, and risk management mechanisms.

**Liquidity in Futures Markets:**
Higher participation and standardization ensure easier entry/exit and better price realization.

**High Tick Value Impact:**
Increases sensitivity to price changes—favored by high-frequency traders and speculators.

**Low Tick Value Benefit:**
More granular trading decisions—favored by hedgers and long-term traders.

**Key Formulas for Exam Calculations:**

1. **Futures Price (Cost-of-Carry):**
   **F = S + C**
2. **Fair Value (Annual Compounding):**
   **F = S × (1 + r)^n**
3. **Fair Value (Periodic Compounding):**
   **F = S × (1 + r/m)^(m × n)**
4. **Fair Value (Continuous Compounding):**
   **F = S × e^(r × n)**
5. **Futures Price with Convenience Yield:**
   **F = S + C - Y**
6. **Long Payoff:**
   **Payoff = ST – F**
7. **Short Payoff:**
   **Payoff = F – ST**
8. **Tick Value:**
   **Tick Value = (Lot size / Quotation factor) × Tick size**

## Chapter 4: Commodity Options

**Introduction to Options:**

1. **Options Contract:** Grants the buyer a right, not an obligation, to buy (call) or sell (put) a commodity or financial asset at a predetermined price on or before expiration.
2. **Types of Options:** Call options (right to buy), Put options (right to sell).
3. **Premium:** Non-refundable cost paid by the buyer to the seller for the rights under the option.
4. **Buyer vs Seller:** Buyer has rights with limited loss (premium paid); seller has obligations with potentially unlimited losses.
5. **Choices for Option Buyer:** Exercise, sell the option, or let it expire unexercised.

**Option Terminology:**

6. **American Option:** Can be exercised any time up to expiry.
7. **European Option:** Can be exercised only on expiry; used in India for commodity options.
8. **Strike Price:** Price at which the underlying may be bought or sold.
9. **Spot Price:** Current market price of the underlying asset.
10. **Lot Size:** Number of units of the underlying asset in an options contract.
11. **Expiration Day:** Last trading day of the contract.
12. **Intrinsic Value:** The in-the-money amount of the option (Call: Spot - Strike; Put: Strike - Spot).
13. **Time Value:** Premium minus intrinsic value.
14. **Open Interest:** Total outstanding contracts in the market.
15. **Moneyness:** Defines whether the option is ITM, ATM, CTM, or OTM.

**Moneyness Definitions:**

16. **ITM:** Call - Spot > Strike; Put - Spot < Strike.
17. **ATM:** Spot = Strike.
18. **OTM:** Call - Spot < Strike; Put - Spot > Strike.
19. **CTM:** Options close to ATM (1–3 ticks from ATM); relevant only for Options on Goods.

**Payoff Profiles:**

20. **Long Call/Put:** Right with limited risk (premium), unlimited upside.
21. **Short Call/Put:** Obligation with limited gain (premium), high potential loss.
22. **Payoff for Call Buyer:** Profit if Spot > Strike + Premium.
23. **Payoff for Put Buyer:** Profit if Spot < Strike - Premium.
24. **Break-even Point (Call):** Strike + Premium.
25. **Break-even Point (Put):** Strike - Premium.

**Option Pricing Determinants:**

26. **Price of Underlying:** Call value increases with spot price; Put value decreases.
27. **Strike Price Impact:** Higher strike lowers call value, increases put value.
28. **Volatility:** Increases both call and put premiums.
29. **Time to Expiry:** More time = higher premium due to more uncertainty.
30. **Interest Rates:** Higher interest = higher call, lower put premium.

**Options Pricing Models:**

31. **Black-Scholes Model:** Used for pricing Options on Goods.
32. **Black-76 Model:** Variation of BSM used for Options on Futures.

**Option Greeks:**

33. **Delta (Δ):** Sensitivity to price change of underlying. Positive for call buyers.
34. **Gamma (Γ):** Sensitivity of delta to price changes in the underlying.
35. **Theta (Θ):** Time decay; premium reduces as expiry approaches.
36. **Vega (ν):** Sensitivity to changes in volatility.
37. **Rho (ρ):** Sensitivity to interest rate changes.

**Put-Call Parity:**

38. **Put-Call Parity:** C - P = S - PV(K); helps determine correct pricing between puts and calls.
39. **ATM Options on Futures:** Call and Put prices are usually equal.

**Options on Futures:**

40. **Settlement:** Devolves into futures positions before futures delivery period.
41. **Exercise Mechanism:** ITM exercised automatically unless contrary instruction; OTM expires worthless.
42. **Strike-Based Assignment:** Strike price determines the type of position in futures post-exercise.

**Options on Goods:**

43. **Settlement:** Direct delivery of physical goods instead of futures conversion.
44. **CTM Range:** Includes ATM and 3 strikes above and below ATM (total 7).
45. **Exercise Rules:** ITM auto-exercised unless opted out; CTM/ATM requires explicit instruction.
46. **Premium Comparison:** Options on Goods may be costlier than Options on Futures due to higher volatility and delivery risk.

**Market Infrastructure:**

47. **Spot Price Polling:** Exchanges poll physical markets for price; impacts option pricing.
48. **Exercise Window:** Short window post-expiry day for exercise instructions via brokers.
49. **Negative Spot Prices:** Theoretical possibility; option prices remain non-negative.
50. **Arbitrage Opportunities:** May arise due to same expiry and settlement between Options on Goods and Futures.

**Important Formulae:**

**Intrinsic Value of Call Option:**

IV = max(0, Spot Price - Strike Price)

**Intrinsic Value of Put Option:**

IV = max(0, Strike Price - Spot Price)

**Option Premium:**

Premium = Intrinsic Value + Time Value

## Chapter 5: Strategies using Commodity Futures & Commodity Options

### Hedging (Price Risk Management Strategies)

1. **Hedging Definition:** Hedging involves taking a derivatives market position opposite to a physical market position to reduce price change risks.
2. **Purpose of Hedging:** Designed to mitigate or eliminate price risk from spot or derivative market positions.
3. **Types of Hedgers:** Commodity users (processors/consumers) and commodity producers.
4. **Two-Step Hedging Process:** Step 1: Take a futures position; Step 2: Square off or take delivery later.
5. **Principle of Hedging:** Spot and futures prices move in tandem, allowing losses in one market to offset gains in another.
6. **Offsetting Hedge:** Hedges price risk from existing physical market activities.
7. **Locking in Price:** Fixes a favorable purchase or sales price for future transactions.

### Hedging through Options

8. **Call Option Hedging:** Grants the right to buy at a strike price, protecting against price rises.
9. **Call Option Benefits:** Limits loss to premium paid, allows gains from price increases.
10. **Call Option Disadvantages:** Requires upfront premium; non-linear price movements need gamma hedging.
11. **Put Option Hedging:** Grants the right to sell at a strike price, protecting against price drops.
12. **MSP as Put Option:** Minimum Support Price acts as a put option, guaranteeing farmers a minimum selling price.

### Long and Short Hedge Strategies

13. **Long Hedge:** Buying futures to lock in a future purchase price, offsetting a natural short position.
14. **Short Hedge:** Selling futures to lock in a future sales price, offsetting a natural long position.
15. **Hedge Ratio Purpose:** Determines the number of futures contracts needed to hedge physical market exposure.
16. **Benefits of Hedging:** Reduces price risk, aids planning and cash flow management.
17. **Limitations of Hedging:** Basis risk persists, involves transaction costs and margin requirements.

### Speculation

18. **Speculation Definition:** Trading to profit from price fluctuations without using the underlying asset.
19. **Long Speculators:** Buy futures expecting price increases.
20. **Short Speculators:** Sell futures expecting price decreases.
21. **Options in Speculation:** Used for risk management and achieving trading objectives.

### Arbitrage

22. **Arbitrage Definition:** Simultaneous buying and selling in different markets to exploit price differences.

23. **Spot vs. Futures Arbitrage:** Profits from differences between fair and traded futures prices.
24. **Cash and Carry Arbitrage:** Buy spot and sell futures when futures are overpriced.
25. **Reverse Cash and Carry Arbitrage:** Sell spot and buy futures when futures are underpriced.

**Spread Trading**

26. **Spread Definition:** Price difference between two futures contracts.
27. **Buying a Spread:** Buy near-month and sell far-month when near-month is underpriced.
28. **Selling a Spread:** Sell near-month and buy far-month when near-month is overpriced.
29. **Inter-Commodity Spread:** Long in one commodity, short in a related commodity.
30. **Intra-Commodity Spread:** Long and short positions in different months of the same commodity.
31. **Bull Spread:** Expects the spread to narrow.
32. **Bear Spread:** Expects the spread to widen.
33. **Lower Margin Benefit:** Spread trading requires less margin due to reduced risk.

**Basis**

34. **Basis Definition:** Basis is the spot price minus the futures price.
35. **Basis Risk:** Risk that spot and futures prices move differently.
36. **Contango Market:** Futures price exceeds spot price (negative basis).
37. **Backwardation Market:** Spot price exceeds futures price (positive basis).
38. **Strengthening Basis:** Basis becomes more positive or less negative.
39. **Weakening Basis:** Basis becomes less positive or more negative.
40. **Hedger Impact:** Long hedgers benefit from貯 from weakening basis; short hedgers from strengthening basis.

**Option Trading Strategies**

41. **Covered Short Call:** Long underlying asset and short call to enhance returns in a stagnant market.
42. **Covered Short Put:** Short put with funds to buy the commodity if exercised.
43. **Vertical Spreads:** Bull and bear spreads using options with different strikes, same expiry.
44. **Horizontal Spreads:** Options with same strike, different expiries to profit from volatility changes.
45. **Diagonal Spreads:** Options with different strikes and expiries for market view and volatility.
46. **Long Straddle:** Buy call and put with same strike and expiry for high volatility.
47. **Short Straddle:** Sell call and put with same strike and expiry for low volatility.
48. **Long Strangle:** Buy call and put with different strikes for high volatility.
49. **Short Strangle:** Sell call and put with different strikes for low volatility.

**Uses of Index Futures**

50. **Index Futures Uses:** Hedging, speculation, and arbitrage using market sentiment or monsoon proxies.

**Important Formulae**

1. **Hedge Ratio:** Hedge Ratio = ρ × (σ_s / σ_f)
2. **Number of Contracts:** Number of Contracts = (Physical Exposure × Hedge Ratio) / Lot Size
3. **Basis:** Basis = Spot Price - Futures Price
4. **Fair Futures Price:** Fair Futures Price = Spot Price + Cost of Carry
5. **Cost of Carry:** Cost of Carry = Storage Costs + Insurance + Financing Costs
6. **Option Premium:** Option Premium = Intrinsic Value + Time Value
7. **Call Option Buyer Payoff:** Payoff = Max(0, Spot Price - Strike Price) - Premium
8. **Put Option Buyer Payoff:** Payoff = Max(0, Strike Price - Spot Price) - Premium
9. **Call Option Seller Payoff:** Payoff = Premium - Max(0, Spot Price - Strike Price)
10. **Put Option Seller Payoff:** Payoff = Premium - Max(0, Strike Price - Spot Price)

## Chapter 6: Trading Mechanism

### Membership on Exchanges Having Commodity Derivatives Segment:

- Exchange membership is governed by SEBI Stock Brokers Regulation, prescribing recognition procedures, member types, net worth criteria, and fees.
- Clearing Corporations, separate from exchanges, guarantee trade settlements under SEBI's Stock Exchange and Clearing Corporation Regulations, 2012.
- Commodity exchanges assess membership eligibility based on corporate structure, capital adequacy, track record, education, experience, infrastructure, and manpower.
- **Trading Member (TM):** Can trade on their own account or for clients, with clearing handled by a clearing member.
- **Self Clearing Member (SCM) / Trading cum Clearing Member (TCM):** Executes and clears trades for themselves and clients, aiding risk management.
- **Professional Clearing Member (PCM):** Clears and settles trades for other members (TMs/TCMs) without trading rights, typically banks or custodians.
- Most members operate as TCMs across multiple exchanges; institutional trades often clear through PCMs.
- **Authorized Persons (APs):** Facilitate transactions under SEBI certification, replacing sub-brokers since April 2019, and cannot act independently.

### Trading System in the Exchanges:

- Exchanges use a Screen-Based Trading System (SBTS) for automated, online trading with price-time priority matching.
- SBTS sorts orders by best price first, then time priority; higher buy prices or lower sell prices increase execution chances.
- Algorithmic Trading uses computer algorithms to automate order parameters (timing, price, quantity) under SEBI guidelines, with risk controls required.
- High Frequency Trading (HFT), a subset of algo trading, uses high-speed networks but excludes Immediate or Cancel and Market orders for algo traders.
- Trading hours vary: agricultural commodities (9 AM–5 PM or 9 PM), non-agricultural (9 AM–11:30/11:55 PM), with flexibility within SEBI limits.
- **Trading Parameters:** Include base price (set on first trading day), open/high/low/last traded prices, circuit filters (Daily Price Limits), and settlement prices (DSP and FSP).
- Delivery options are compulsory delivery or cash settlement, with specific logic defined in contract specifications.
- **Investor Risk Reduction Access (IRRA):** A platform to square off positions or cancel orders during trading disruptions, excluding algo/institutional clients.
- **Technical Glitch Framework:** Brokers must report glitches within 1 hour, submit a Preliminary Incident Report (T+1 day), and Root Cause Analysis (RCA) within 14 days.

### Selection Criteria of Commodities for Trading on Derivatives Exchanges:

- SEBI approval is required to introduce or withdraw commodity futures trading or modify untraded contract schedules.
- Commodities are selected based on demand, supply dynamics, price volatility, inventory, liquidity, homogeneity, storability, and minimal government control.
- Suitable commodities need large marketable surplus, volatile prices (for hedging), freedom from regulation, standardizable quality, and storability.
- Options on commodity futures require underlying futures to have average daily turnover of INR 100 crore (agri) or INR 1000 crore (others) over 12 months.

**Contract Specifications for Commodity Derivatives Contracts:**

- Key elements include contract start/expiry dates, trading unit, lot size, price quote, tick size, margins, delivery centers, and quality specifications.
- Tick size is the minimum price movement, impacting contract value (Value Change = Tick Size × Lot Size).
- Modifications are categorized: non-material (e.g., tick size), material (e.g., expiry date), or requiring SEBI approval (e.g., settlement rate), with 10-day notice.

**Order Types and Conditions:**

- **Price-Related Orders:** Limit (specific price), Market (current price), Stop Loss (limits loss when triggered).
- **Time-Related Orders:** Day (executes same day or expires), Good-Till-Date (GTD, expires on set date), Good-Till-Cancelled (GTC, active until executed/cancelled), Immediate or Cancel (IOC, executes instantly or cancels).
- Order modifications retain time priority if only quantity changes; other changes (e.g., price) reset priority.

**Tracking Commodity Futures and Options Prices:**

- Market watch windows provide real-time data: buy/sell prices, last traded price (LTP), volume, open interest, high/low, and percentage change.
- Exchanges disseminate open, high, low, and last traded prices continuously during trading sessions.

**Trading Costs to Participants in Commodity Derivatives:**

- Costs include user charges (brokerage, exchange fees), statutory charges (CTT, GST, stamp duty, SEBI fees), and indirect costs (bid-ask spread).
- Commodity Transaction Tax (CTT) applies at 0.01% on futures sales, 0.05% on option premiums, and varies for exercised options.
- Bid-ask spread, larger in illiquid contracts, impacts execution costs for market orders.

**Participants in Commodity Derivatives:**

- **Farmers' Producing Organizations (FPOs):** Hedge harvest sales via futures or put options.
- **Processors:** Hedge input costs (e.g., raw materials like oil, metals).
- **Foreign Portfolio Investors (FPIs):** Trade cash-settled non-agricultural commodity derivatives.
- **Margin Traders:** Use strategies like crush or crack margins.
- **Arbitrageurs and Traders:** Exploit price differences or speculate on price/volatility.
- **Institutional Players:** Include Category III AIFs, PMS (with client consent), and mutual funds (limited to hybrid/multi-asset funds, Gold ETFs).
- Mutual funds face restrictions: no net short positions, no options trading, and physical commodity limits (except Gold/Silver ETFs).

**Disclosures by Exchanges:**

- Exchanges disclose index values, spot prices, Final Settlement Prices (FSP), contract specs, participation data, deliveries, and open interest.
- Data includes top participants' open interest, physical stocks, delivery intentions, premium/discounts, and historical price/volatility trends.
- Participation splits (retail, proprietary, algo, institutional, hedgers) indicate market liquidity and dynamics.

**Additional Key Points:**

- Initial margins are based on Value at Risk (VaR), typically 4% with 1% Extreme Loss Margin (ELM), adjustable for volatility.
- Additional/special margins may be levied to maintain market integrity during volatility.
- Open position limits are set for brokers (10x client limits) and clients per SEBI norms.
- Delivery processes involve tender periods, staggered delivery (minimum 3 days), and penalties for defaults using FSP.

**Important Formulae for Exam Calculations:**

1. **Contract Value Calculation:** Contract Value = Lot Size × Price per Unit
2. **Impact of Tick Change:** Value Change = Tick Size × Lot Size
3. **Bid-Ask Spread:** Spread = Ask Price - Bid Price
4. **Percentage Bid-Ask Spread:** Spread Percentage = (Spread / Mid Price) × 100
5. **Commodity Transaction Tax (CTT):** CTT = Tax Rate × Traded Value
6. **Total Trading Cost:** Total Trading Cost = Brokerage + CTT + Exchange Fees + Stamp Duty + GST + SEBI Charges
7. **Open Interest:** Total number of outstanding contracts
8. **Percentage Change:** Percentage Change = (Current Price - Previous Close) / Previous Close × 100
9. **Net Change:** Net Change = Current Price - Previous Close

## Chapter 7: Clearing, Settlement and Risk Management

**Role of Clearing Corporation:**
Clearing Corporation guarantees the settlement of all trades on the exchange by acting as a central counterparty through novation.

**Clearing Corporation Functions:**
Collects margins, settles funds and deliveries, and manages counterparty risk.

**Clearing and Settlement Defined:**
Clearing is the process of updating and reconciling trade obligations; settlement involves transferring ownership and funds.

**Settlement Mechanism:**
Settlements are made on a delivery-versus-payment basis: netting at client level, grossing at member level.

**Automated Clearing Process:**
Exchanges and clearing corporations operate automated systems involving real-time data exchange and scheduled obligations.

**Daily Reporting Post-Trade:**
Clearing members download transaction files daily containing margins, net obligations, and pay-in/pay-out instructions.

**Pre-Trading Actions:**
Includes uploading member margin limits, bank obligation files, and verifying margins.

**Intra-Trading Controls:**
Monitoring of funds, margin utilization, and managing member requests in real-time.

**Post-Trading Tasks:**
Include trade processing, report generation, and issuing pay-in/payout instructions.

**Account Requirements:**
Members must maintain both Settlement and Client accounts with clearing banks.

**Types of Commodity Contracts:**
Includes commodity futures, index futures, options on futures, and options on goods.

**Example of Margin Blocking:**
At trade execution, a 5% margin is blocked based on the contract value by the clearing corporation.

**Mark-to-Market (MTM):**
Daily MTM gains/losses are settled on T+1 basis, based on price differences between trade and closing price.

**Delivery Period:**
Begins in the expiry month; involves physical or cash settlement based on the contract type.

**Delivery Options:**
Three types—compulsory delivery, both options to deliver, and cash settlement.

**Compulsory Delivery:**
Both parties must settle via physical delivery on contract expiry (e.g., Gold).

**Both Options to Deliver:**
Delivery happens only if both parties agree; otherwise, cash settlement is executed.

**Entities Involved in Clearing:**
Clearing Corporation, Clearing Members, Clearing Banks, Custodians/Repositories, Warehouses.

**Clearing Members' Role:**
Settle trades, maintain settlement accounts, and collect margins.

**Clearing Bank's Role:**
Facilitate fund transfers between members and the clearing corporation.

**Warehouses' Role:**
Approved warehouses manage delivery of physical commodities as per exchange contracts.

**Warehouse Accreditation:**
Must comply with SEBI norms and be WDRA-registered.

**Electronic Warehouse Receipts (e-NWRs):**
Issued and tracked via electronic registry systems for clear title transfer and storage records.

**Premium/Discount for Quality:**
Buyers pay a premium for higher quality or receive a discount for lower quality as per contract specs.

**Castor Seed Discount Example:**
1% drop in oil content leads to 2% price discount.

**Gold Premium Formula:**
Price = Contract Price × (Delivered Purity / Contract Purity)

**Delivery Default Penalties:**
Agri: 4% + replacement cost; Non-Agri: 3% + replacement cost.

**Buyer Default Penalty:**
Applicable from May 2021; capped at collected delivery margin.

**Staggered Delivery:**
SEBI mandates 3-day staggered delivery before expiry for compulsory delivery contracts.

**Risk Types:**
Includes counterparty risk, principal risk, legal risk, systemic risk, operational risk, and surveillance risks.

**Counterparty Risk:**
Clearing Corporation ensures financial settlement to mitigate risk from trade default.

**Principal Risk Mitigation:**
Handled by novation through the clearing corporation.

**Market Surveillance:**
Includes online and offline mechanisms to detect manipulation and ensure integrity.

**Position Limits:**
Set at client and member levels to prevent market manipulation through excessive open positions.

**Open Position Computation:**
Higher of buy/sell positions at client level; grossed at member level.

**Risk Containment Tools:**
Capital adequacy, margins, surveillance systems, SGF, circuit filters, and IPF.

**Capital Adequacy:**
Only free net worth is considered; used as cushion against member losses.

**On-Line Monitoring:**
Exposure vs. margins tracked real-time; alerts raised at threshold levels.

**Off-Line Surveillance:**
Inspections and audits ensure member compliance with exchange norms.

**Margin Requirements Types:**
SPAN, Initial, MTM, Extreme Loss, Special, Concentration, Delivery Period Margins.

**SPAN Margining:**
Scenario-based risk model calculating worst-case loss across 16 scenarios.

**Initial Margin:**
Based on Value-at-Risk (VaR) model; must be maintained throughout position lifecycle.

**Extreme Loss Margin (ELM):**
1% of gross open position, covering risks beyond initial margin.

**Mark-to-Market Margin (MTM):**
Calculated daily based on closing price vs. trade price.

**Special/Additional Margins:**
Imposed during high volatility to curb speculation or manage concentration.

**Tender/Delivery Period Margin:**
Levied during final days before expiry; minimum 3% + 5-day 99% VaR or 20%, whichever is higher.

**Lean Period Margin:**
Extra margins levied during periods of agricultural uncertainty.

**Settlement Guarantee Fund (SGF):**
Acts as an insurance pool to ensure settlement in case of member default.

**Investor Protection Fund (IPF):**
Used for investor education and client claims in case of broker default.

**Client Account Settlement:**
Running accounts must be settled monthly or quarterly as per client mandate.

**Options on Futures - Devolvement Margin:**
Collected in last 3 days before expiry to manage transition from options to futures.

**Alternate Risk Framework (ARMF):**
Activated in cases of negative pricing or severe volatility.

**Important Formulae:**

**Castor Seed Discount Calculation:**
Discounted Price = Contract Price × (1 - Discount Rate)

**Gold Premium Calculation:**
Adjusted Price = Contract Price × (Delivered Purity / Contract Purity)

**Mark-to-Market (MTM) Margin:**
MTM = Contract Size × (Closing Price - Trade Price)

**Initial Margin Requirement:**
Initial Margin = Contract Value × Margin Percentage

**Delivery Period Margin:**

DPM = Max[3% + 5-Day 99% VaR, 20%] of Contract Value

## Chapter 8: Legal and Regulatory Environment

### Regulatory Structure of Commodities Market:

The main objective of commodity market regulation is to maintain and promote fairness, efficiency, transparency, and growth of commodity markets, protect stakeholders' interests, reduce systemic risks, and ensure financial stability.

The regulatory framework for commodity markets in India is three-tiered: Government of India, SEBI, and Exchanges.

The Central Government formulates broad policies regarding the recognition of commodity exchanges and the list of permitted commodities for derivative trading.

Securities (including derivatives) are under the Union List in the Constitution, while spot market trade in commodities, especially agriculture, is under the State List.

SEBI is the regulator for commodity derivatives markets, with objectives to protect investors and promote market development.

After the repeal of the Forward Contracts (Regulation) Act, 1952 (FCRA) in 2015, SECC Regulations and SEBI (Stock Brokers) Regulations, 1992 apply to commodity derivatives exchanges and their trading members.

SEBI has a Market Regulation Department (formerly CDMRD) for supervising commodity derivatives exchanges.

All recognized associations under FCRA became recognized stock exchanges under SCRA in 2015.

SEBI issues guidance through notifications and circulars, including master circulars for commodity derivatives markets.

Exchanges were integrated with securities markets, allowing trading of commodity derivatives and other securities on a single exchange from October 1, 2018.

### Securities Contracts (Regulation) Act, 1956:

SCRA provides for the regulation of securities trading and stock exchanges, preventing undesirable transactions.

Key provisions include granting recognition to stock exchanges, corporatization and demutualization, and powers to call for returns, make or amend bye-laws, supersede governing bodies, suspend business, and prohibit undesirable speculation.

Stock exchanges must comply with SEBI's conditions for recognition and can set their own listing requirements conforming to rules.

Stock exchanges can make bye-laws with SEBI's approval for their operations.

The term "securities" under SCRA includes shares, derivatives, units of collective investment schemes, security receipts, mutual fund units, certificates from special purpose entities, government securities, and other declared instruments.

Derivatives are defined as securities derived from debt instruments, shares, loans, risk instruments, contracts for differences, or contracts deriving value from underlying securities or commodities.

Contracts in derivatives are legal and valid if traded on a recognized stock exchange and settled through its clearing house.

Electronic Gold Receipts (EGR) were included in the definition of securities in 2021, with SEBI (Vault Managers) Regulations, 2021, and a framework for trading EGR on exchange platforms.

**Securities and Exchange Board of India Act, 1992:**

SEBI Act established SEBI with powers to protect investors, promote securities market development, and regulate the securities market.

SEBI's jurisdiction covers corporates in capital issuance and securities transfer, intermediaries, and persons associated with the securities market.

SEBI can regulate stock exchanges, register and regulate stock brokers, promote self-regulatory organizations, prohibit fraudulent practices, and conduct inspections, inquiries, and audits.

SEBI can impose penalties and initiate adjudication proceedings against defaulting intermediaries.

**Other Regulatory Norms to Encourage Commodity Derivatives:**

SEBI allowed Mutual Funds and Portfolio Management Services (PMS) to participate in commodity markets with restrictions and procedures.

Eligible foreign entities can hedge their Indian commodities exposures in commodity derivatives markets.

Listed companies must disclose commodity risk management policies, exposures, and hedging extents under SEBI's Listing Obligations and Disclosure Regulations.

RBI directed banks to advise borrower clients to hedge commodity exposures if lending against commodities as collateral.

The repeal of FCRA in 2015 led to the application of SECC Regulations and SEBI (Stock Brokers) Regulations to commodity derivatives exchanges.

SEBI's Master Circular dated August 4, 2023, compiles various circulars for commodity derivatives markets.

Integration of broking activities in equity and commodity derivatives markets under a single entity was allowed in September 2017.

Trading of commodity derivatives and other securities on a single exchange was permitted from October 1, 2018, after amending SECC Regulations.

SCRA governs the trading of securities in India and defines "securities" broadly.

The definition of securities includes options in goods, introduced recently.

Section 18A of SCRA validates derivative contracts if traded on recognized stock exchanges and settled through their clearing houses.

NSDL and CDSL act as depositories for managing vaults and issuing EGR of various denominations.

SEBI can perform functions and exercise powers under SCRA as delegated by the Central Government.

SEBI has the power to call for information, undertake inspections, and conduct inquiries and audits of stock exchanges, mutual funds, and other market participants.

SEBI can prohibit fraudulent and unfair trade practices in the securities market.

SEBI can register and regulate the working of stock brokers and other intermediaries.

SEBI's circulars in May 2019 allowed Mutual Funds and PMS to participate in commodity derivatives markets.

Eligible foreign entities can hedge their Indian commodities exposures in commodity derivatives markets.

Listed companies must provide details about commodity risk management, exposures, and hedging under SEBI's Listing Obligations and Disclosure Regulations.

RBI issued directives to banks to advise borrowers to hedge commodity exposures when lending against commodities as collateral.

The regulatory framework aims to ensure fair, efficient, and transparent commodity markets.

SEBI plays a crucial role in regulating and developing the commodity derivatives market.

The integration of commodity and securities markets enhances market efficiency and accessibility.

The inclusion of EGR as securities promotes gold trading in a dematerialized form.

The regulatory norms encourage hedging and risk management in commodity markets.

The three-tiered regulatory structure ensures a comprehensive oversight of commodity markets.

The repeal of FCRA and the application of SCRA and SEBI regulations streamlined the regulatory framework.

The regulatory environment supports the growth and development of commodity derivatives markets in India.

## Chapter 9: Accounting and Taxation

**Important Points for Exam Preparation:**

**Accounting Aspects:** The ICAI's 2021 guidance governs the accounting of commodity derivatives (futures and options).

**Hedge Accounting:** Used to minimize risks from price changes of assets, liabilities, and cash flows using derivative instruments.

**Hedge Types:** Three hedge types exist – Fair Value Hedge, Cash Flow Hedge, and Net Investment Hedge.

**Hedged Item and Instrument:** The hedge involves a hedged item (carrying the risk) and a hedging instrument (offsetting the risk).

**Use of Derivatives:** Forward contracts, futures, and options serve as hedging instruments for commodity market participants.

**Requirement for Hedge Accounting:** Hedge accounting is permitted only if exposures are for risk management purposes.

**Fair Value Definition:** The price received for an asset or paid to transfer a liability in a transaction between informed, willing parties.

**Fair Value Hedge Accounting:** Recognizes gain/loss of hedging instrument and adjusts the carrying value of the hedged item in the income statement.

**Inventory Valuation:** Inventories under hedge accounting may be valued on a fair value basis, separate from AS 2 (lower of cost or NRV).

**Cash Flow Hedge:** Used when there's variability in future cash flows due to market risks; the effect is recognized in equity first.

**Foreign Currency Hedge:** May be treated as either a cash flow hedge or fair value hedge depending on risk exposure.

**Hedge Effectiveness:** Hedge must be highly effective; testing is done prospectively and retrospectively.

**Prospective Testing:** Performed at hedge inception and each reporting date; expects nearly full offset of changes in values.

**Retrospective Testing:** Measures actual hedge performance over the reporting period using tests like regression and dollar offset.

**ICAI Guidance Applicability:** Applies to all types of derivatives – FX contracts, equity, commodity derivatives whether for hedging or not.

**Fair Value in Derivatives:** Fair value equals exit price, adjusted for collateral available.

**Balance Sheet Recognition:** All derivative contracts must be recognized at fair value on the balance sheet.

**Classification of Derivatives:** Based on trading intent and maturity – as current or non-current assets/liabilities.

**Non-separable Derivatives:** Instruments like interest rate swaps with periodic cash flows are classified based on dominant cash flow timing.

**Cash Flow Hedge Example:** Futures contract to hedge a forecast sale—gain/loss recorded in cash flow hedge reserve till sales happen.

**Fair Value Hedge Example:** Changes in inventory value and MTM on futures are both recorded in the income statement.

**Inventory Hedge Adjustment:** Adjustments are recorded separately from inventory valuation under AS 2.

**Cash Flow Reclassification:** MTM adjustments in hedge reserve are transferred to profit/loss during actual sales recognition.

**Disclosures:** Entities must disclose nature of risks, hedge instruments, hedge types, effectiveness, and forecasted transactions.

**Hedge Reserve Disclosures:** Reconciliation of opening/closing balances and segregation of realized vs unrealized components.

**Options Accounting – Buying:** Premium paid is recognized as a financial asset; MTM gains/losses are accounted separately.

**Call Option Exercise:** Premium added to asset cost if exercised.

**Put Option Exercise:** Premium reduced from sales proceeds when exercised.

**Lapsed Option:** Premium is charged to profit and loss if option lapses unexercised.

**Options Accounting – Selling:** Premium income is immediately recognized; MTM treated separately from underlying.

**Contingent Liability:** Arises on writing options due to potential obligations to deliver or purchase goods.

**Option Exercise – Call:** Sale is booked via normal sale accounting.

**Option Exercise – Put:** Purchase is booked as per regular purchase accounting.

**Commodity Transaction Tax (CTT):** Applicable on derivatives involving non-agricultural commodities traded on recognized exchanges.

**CTT Applicability:** Levied on sellers for futures/options, and on buyers when options are exercised.

**CTT Rates:**

Futures: 0.01% on seller

Options sale: 0.05% on seller

Option exercise (delivery): 0.0001% on purchaser

Non-delivery: 0.125% on purchaser

**CTT Exemptions:** Applies only to non-agricultural and processed commodities.

**CTT Determination:** Calculated daily per contract per client code, based on contract notes issued.

**Stamp Duty Post-July 2020:** Centralized levy through exchanges, remitted to the buyer's registered state.

**Stamp Duty Rate:** Uniformly 0.002% (i.e., Rs. 2 per Rs. 1 lakh transaction).

**SEBI Turnover Fees:** Rs. 15 per crore (0.00015%) for most contracts; Rs. 1 per crore for agricultural commodities.

**SEBI Subsidy on Agri Trades:** Fee forgone is deposited into a fund to promote farmer/FPO participation.

**Fund Usage:** SEBI-mandated fund supports brokerage, warehousing, and participation costs for farmers/FPOs.

**GST Applicability:** GST levied on delivery of goods, brokerage, and exchange trading services.

**GST Collection:** Levied at the time of delivery billing; CGST and SGST collected per state of delivery.

**GST Limitation:** Does not subsume Mandi Cess and Custom Duty.

**Buyer GSTN Requirement:** Buyer must have GSTN for the state of delivery to claim credit.

**Brokerage GST:** Brokers charge GST on their services in addition to other statutory levies.

**Exchange Service GST:** Exchanges charge GST on trading and clearing services provided.

**Tax Compliance Importance:** Understanding treatment of taxes and accounting disclosures is critical for accurate financial reporting.

**Important Formulae:**

1. **Fair Value Hedge Effectiveness Range:**
   80% ≤ Actual Results ≤ 125% (used in retrospective testing)
2. **Prospective Effectiveness Expectation:**
   Expected Hedge Effectiveness ≈ 100% Offset
3. **CTT Calculation:**
   CTT = Transaction Value × Applicable Rate (e.g., 0.01%, 0.05%, etc.)
4. **Stamp Duty Calculation:**
   Stamp Duty = Transaction Value × 0.002%
5. **SEBI Turnover Fee Calculation:**
   Fee = Turnover × 0.00015% (or 0.00001% for agri)
6. **MTM Valuation (for Derivatives):**
   MTM = Fair Value – Initial Value
7. **GST on Brokerage:**
   GST = Brokerage Amount × Applicable GST Rate
8. **Inventory Hedge Adjustment:**
   Inventory (AS 2) + Hedge Adjustment (Fair Value Change)
9. **Option Exercise Cost (Call):**
   Total Cost = Asset Price + Option Premium

## Chapter 10: Code of Conduct and Investor Protection Measures

### SEBI's Code of Conduct for Brokers

1. **Integrity**: Brokers must maintain high standards of integrity, promptitude, and fairness in all business conduct.
2. **Due Skill and Care**: Brokers shall exercise due skill, care, and diligence in their operations.
3. **No Manipulation**: Brokers must not engage in manipulative, fraudulent, or deceptive transactions or spread rumors to distort markets.
4. **No Malpractices**: Brokers shall not create false markets or act detrimentally to investors' interests.
5. **Compliance**: Brokers must comply with all statutory requirements from SEBI, the government, and stock exchanges.
6. **Order Execution**: Brokers must execute client orders at the best price and not refuse small investors based on volume.
7. **Prompt Communication**: Brokers must inform clients promptly about order execution or non-execution and ensure timely payments/deliveries.
8. **Collateral Segregation**: SEBI norms (July 2021) mandate segregation and monitoring of client collaterals to prevent misuse.
9. **Contract Notes**: Brokers must issue contract notes promptly, including Electronic Contract Notes (ECN) with client consent.
10. **Confidentiality**: Brokers must not misuse or disclose confidential client information.
11. **Business and Commission**: Brokers must not encourage trades solely for commission or provide false advice.
12. **Defaulting Clients**: Brokers must not transact with clients who have failed commitments elsewhere.
13. **Fairness**: Brokers must disclose whether acting as principal or agent and avoid conflicts of interest.
14. **Investment Advice**: Brokers must provide suitable advice based on client financial situations.
15. **Public Media Advice**: Brokers must disclose personal/family interests when giving advice in public media.
16. **Competence**: Brokers must have trained staff to provide competent services.

### Dealing with Other Brokers

17. **Cooperation**: Brokers must cooperate with other brokers in comparing transactions and replacing bad deliveries.
18. **Client Interests**: Brokers must protect clients' rights to dividends, bonus shares, etc., in dealings with other brokers.
19. **Settlement Obligations**: Brokers must comply with transaction settlement obligations with other brokers.
20. **Advertising**: Brokers must not advertise publicly unless permitted by the stock exchange.
21. **No Inducement**: Brokers must not use unfair means to attract clients from other brokers.
22. **Accurate Returns**: Brokers must not submit false or misleading returns to SEBI or exchanges.

### Risk Disclosure to Client and KYC

23. **Risk Disclosure Document**: Clients must sign this document, acknowledging risks like price fluctuations, liquidity, and counterparty risk.
24. **KYC Norms**: Brokers must verify client identity, address, and conduct in-person verification (IPV).
25. **AML Framework**: SEBI's October 2019 circular mandates policies for anti-money laundering (AML) and risk categorization (Low, Medium, High).
26. **Enhanced Due Diligence**: Required for non-face-to-face clients, multiple accounts, or unusual activity.
27. **Technology in KYC**: SEBI encourages video-based ID, digital signatures, and e-authentication (April 2020 guidelines).
28. **KYC Registration Agencies (KRAs)**: Entities like CDSL Ventures facilitate e-KYC authentication.
29. **UCC and PAN**: Mandatory for all clients; brokers must verify and upload PAN details to exchanges.

**Risks Faced by Investors in Commodities Markets**

30. **Commodity Price Risk**: Arises from price fluctuations affecting producers, consumers, and exporters.
31. **Foreign Exchange Risk**: Exporters face risks due to USD-priced commodities and currency movements.
32. **Liquidity Risk**: Some commodity markets lack liquidity, complicating position unwinding.
33. **Knowledge Requirement**: Derivatives trading requires specific expertise.

**Investors Grievance Redressal Mechanism**

34. **Investors Grievance Division (IGD)**: Clients can approach exchanges for issues like non-delivery of documents or unauthorized trades.
35. **Complaint Types**: Include margin disputes, delays in funds, and servicing issues.
36. **Filing Guidelines**: Complaints must be written, signed, and not frivolous; no fees are charged.

**SEBI Complaints Redress System (SCORES)**

37. **Online Platform**: SCORES allows online complaint lodging and tracking with a unique registration number.
38. **Resolution Timeline**: Entities must resolve complaints within 21 days.

**Online Dispute Resolution (ODR) Portal**

39. **Purpose**: Resolves disputes via conciliation and arbitration for service, trade, or compliance issues.
40. **Process**: Complaint filing → conciliation (21 days) → arbitration if unresolved.

**Rights and Obligations of Members and Clients**

41. **Members' Duties**: Include integrity, compliance, no manipulation, and maintaining voice recordings.
42. **Members' Rights**: Can request KYC documents, levy margins, and hold commodities for receivables.

43. **Clients' Obligations**: Pay margins, fulfill delivery, and provide accurate KYC details.
44. **Clients' Rights**: Access grievance mechanisms and receive contract notes/statements.

**Additional Do's and Don'ts for Clients in Commodity Derivatives**

45. **Do's**: Trade via registered members, understand rules, review broker communications.
46. **Don'ts**: Don't share login credentials, engage in illegal trading, or act on rumors.

**Key Regulatory Updates**

47. **PMLA Amendment (2019)**: Aadhaar is voluntary; other OVDs (e.g., passport) are acceptable.
48. **Liquidity Enhancement**: SEBI's 2018 scheme improves market liquidity via market-making.
49. **Suspicious Transaction Reporting (STR)**: Brokers must report reversal trades or profit transfers to FIU without informing clients.
50. **Arbitration Awards**: Must be complied with within 15 days unless challenged under the Arbitration Act.

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**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 MEMORISE the questions & answers. It's not the right to way to prepare for any NISM exam. Good understanding of Concepts is essential.

**July 2025**

*All the Best* ☺

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