Study Notes for

NISM Series XIII: Common Derivatives Certification Examination

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Examination Details

Total Questions	150 X 1 Marks
Total marks	150
Type	Multiple Choice
Pass Score	60% = 90 marks
Duration	3 Hours
Negative marks	-0.25

NISM Series XIII: Common Derivatives Certification Examination

The examination aims to enable a better understanding of various derivatives products available in the three derivatives segments (i.e., Equity Derivatives, Currency Derivatives and Interest Rate Derivatives), regulations and risks associated with these products and the exchange mechanisms of clearing and settlement.

Equity Derivatives

Chapter 1: Basics of Derivatives

Derivatives: Financial contracts deriving value from an underlying asset like stocks or indices.

Types of Derivatives: Include forwards, futures, options, and swaps, each serving different risk management purposes.

Forwards: Customized contracts between two parties to buy/sell an asset at a future date at an agreed price.

Futures: Standardized forward contracts traded on exchanges with a clearing corporation as counterparty.

Options: Contracts giving the buyer the right, not obligation, to buy (call) or sell (put) an asset.

Swaps: Agreements to exchange cash flows based on a prearranged formula, often for interest or currency rates.

Derivatives Market History: Originated with commodity futures in the 19th century, evolving to financial derivatives.

Chicago Board of Trade (CBOT): Established in 1848, pioneered exchange-traded futures contracts in the US.

Indian Derivatives Market: Started with index futures in 2000, followed by options and stock futures.

L.C. Gupta Committee: Recommended regulatory framework for derivatives trading in India in 1998.

OTC Derivatives: Over-the-counter contracts negotiated privately, not traded on exchanges.

Exchange-Traded Derivatives: Standardized contracts traded on regulated exchanges with lower counterparty risk.

Counterparty Risk: Risk of default by one party in a derivative contract, higher in OTC markets.

Price Risk: Potential loss due to adverse price movements in the underlying asset.

Liquidity Risk: Inability to exit a derivative position due to insufficient market activity.

Legal/Regulatory Risk: Risk that derivative contracts may not be enforceable due to legal issues.

Operational Risk: Losses from inadequate systems or processes in derivatives trading.

Leverage: Derivatives allow high exposure with low capital, amplifying both gains and losses.

Hedging: Using derivatives to reduce price risk of an underlying asset.

Speculation: Taking directional bets on price movements using derivatives for potential profits.

Arbitrage: Exploiting price differences in markets for risk-free profits.

Indian Equity Derivatives: Include index and stock futures/options traded on NSE and BSE.

NSE: National Stock Exchange, a major platform for equity derivatives in India.

BSE: Bombay Stock Exchange, offers Sensex-based futures and options.

Clearing Corporation: Acts as a counterparty to all trades, ensuring settlement.

Margin System: Requires initial and maintenance margins to manage risk in derivatives.

Mark-to-Market (MTM): Daily settlement of gains/losses based on market price changes.

SEBI: Securities and Exchange Board of India, regulates derivatives markets.

Risk Disclosure Document: Mandatory for investors to understand derivatives risks before trading.

Futures Contracts: Standardized agreements to buy/sell an asset at a set price on a future date.

Options Contracts: Provide the right, not obligation, to buy/sell at a specified price.

Underlying Asset: The asset (e.g., stock, index) from which a derivative derives its value.

Spot Price: Current market price of the underlying asset.

Contract Size: Number of units of the underlying asset in a derivative contract.

Expiry Date: Date when a derivative contract matures or expires.

Premium: Price paid by the buyer of an option to the seller.

Strike Price: Pre-agreed price at which the underlying can be bought/sold in options.

Long Position: Buying a derivative contract expecting price appreciation.

Short Position: Selling a derivative contract expecting price depreciation.

Open Interest: Total number of outstanding derivative contracts not yet settled.

Volume: Number of contracts traded in a specific period.

Derivatives Use: Primarily for hedging, speculation, and arbitrage in financial markets.

Exchange Benefits: Provide liquidity, transparency, and reduced counterparty risk.

OTC Growth: Driven by advancements in information technology for customized contracts.

Risk Management: Derivatives help manage risks from volatile prices or rates.

Market Participants: Include hedgers, speculators, and arbitrageurs with distinct objectives.

Regulatory Framework: SEBI ensures fair and transparent derivatives trading.

Derivatives Evolution: From agricultural commodities to financial instruments globally.

Exchange-Traded Advantage: Standardized contracts reduce complexity and risk.

Investor Awareness: Understanding risks is crucial before entering derivatives trading.

Chapter 2: Understanding the Index

Index: A statistical measure of a group of stocks representing market performance.

Market Capitalization: Total value of a company's shares (shares outstanding × current price).

Free Float: Shares available for public trading, excluding promoter-held shares.

Equal-Weighted Index: All stocks in the index have the same weightage, regardless of size.

Market-Cap Weighted Index: Stocks weighted by market capitalization, reflecting larger firms' influence.

Nifty Index: Represents 50 large-cap stocks on the National Stock Exchange.

Sensex: Comprises 30 major stocks on the Bombay Stock Exchange.

Impact Cost: Cost of executing a trade due to price movement caused by the order.

Liquidity: Ability to execute large orders without significant price impact.

Index Committee: Specialized group deciding inclusion/exclusion of securities in an index.

Index Maintenance: Regular updates to ensure the index reflects market conditions.

Index Derivatives: Futures and options contracts based on indices like Nifty or Sensex.

Exchange-Traded Funds (ETFs): Tradeable funds mimicking index performance.

Basket Trading: Trading a portfolio of stocks in smaller denominations via ETFs.

Index Significance: Acts as a benchmark for market performance and portfolio comparison.

Free-Float Market Cap: Uses only tradeable shares for index weight calculation.

Index Calculation: Weighted average of constituent stocks' prices or market caps.

Independent Third Party: Indices computed by neutral entities to avoid bias.

Professional Maintenance: Ensures indices are updated and reliable.

Liquidity Importance: High liquidity reduces impact cost, aiding efficient trading.

Ideal Price: Average of the best bid and ask prices in the market.

Index Criteria: Stocks selected based on liquidity, market cap, and sector representation.

Tracking Error: Difference between an ETF's return and the index it tracks.

Index Futures: Contracts to buy/sell an index at a future date at a set price.

Index Options: Contracts giving the right to buy/sell an index at a specified price.

Market Behavior: Indices reflect overall market trends and sentiment.

Stock Selection: Based on predefined criteria like trading volume and market cap.

Index Rebalancing: Periodic adjustment of index constituents to maintain relevance.

Price Impact: Large orders can move prices, increasing transaction costs.

Index Funds: Mutual funds designed to replicate index performance.

Sectoral Indices: Focus on specific industries, e.g., Nifty Bank or Sensex IT.

Volatility: Indices measure market fluctuations, aiding risk assessment.

Transparency: Indices provide clear, accessible market performance data.

Benchmarking: Used to evaluate portfolio or fund manager performance.

ETF Advantages: Low-cost, tradeable securities tracking index movements.

Index Weightage: Determines influence of each stock on the index value.

Market Representation: Indices capture broad or sector-specific market trends.

Liquidity Measurement: Impact cost quantifies liquidity in stock markets.

Index Evolution: Indices adapt to changing market dynamics and corporate actions.

Stock Exclusion: Stocks may be removed if they fail eligibility criteria.

Index Eligibility: Stocks must meet liquidity and market cap thresholds.

Surrogate Index: Used when a primary index fails review but a similar index qualifies.

Index Futures Trading: Facilitates speculation and hedging on market movements.

Index Options Trading: Offers strategies for risk management and speculation.

Market Sentiment: Indices reflect investor confidence and economic trends.

Index Maintenance Costs: Fees associated with updating and managing indices.

Liquidity Risk: Poor liquidity increases trading costs and price volatility.

Index-Based Investing: Growing popularity due to low-cost, diversified exposure.

Corporate Actions: Adjustments in indices for events like dividends or splits.

Index Reliability: Ensured by professional management and transparent rules.

Impact Cost Formula: Measures the cost of executing a trade relative to ideal price.

Chapter 3: Introduction to Forwards and Futures

Forwards: Customized contracts to buy/sell an asset at a future date at an agreed price.

Futures: Standardized forward contracts traded on exchanges with guaranteed settlement.

Clearing Corporation: Acts as a counterparty, reducing default risk in futures.

Margin Requirements: Initial and maintenance margins ensure financial discipline.

Mark-to-Market (MTM): Daily settlement of gains/losses based on price changes.

Contract Specifications: Define underlying asset, size, expiry, and settlement terms.

Nifty Futures: Based on Nifty 50 index, expire on the last Thursday of the month.

Sensex Futures: Based on BSE Sensex, with unique contract specifications.

Lot Size: Number of units of the underlying asset in a futures contract.

Open Interest: Total outstanding futures contracts not yet settled.

Hedging: Using futures to offset price risk in the underlying asset.

Speculation: Taking futures positions to profit from price movements.

Arbitrage: Exploiting price differences between cash and futures markets.

Cash and Carry Arbitrage: Buying in cash market and selling futures when futures are overpriced.

Reverse Cash and Carry Arbitrage: Selling in cash market and buying futures when futures are underpriced.

Fair Futures Price: Spot price plus cost of carry minus inflows (e.g., dividends).

Cost of Carry: Interest cost of holding the underlying asset until futures expiry.

Convenience Yield: Benefit of holding the physical asset, affecting futures pricing.

Basis: Difference between spot price and futures price.

Contango: When futures price exceeds spot price, indicating carrying costs.

Backwardation: When futures price is below spot price, often due to convenience yield.

Leverage: Futures allow high exposure with low initial capital.

Payoff Chart: Graphical representation of profit/loss at futures expiry.

Long Futures: Buying futures expecting price appreciation.

Short Futures: Selling futures expecting price depreciation.

Price Discovery: Futures help predict future spot prices at contract expiry.

Risk Exposure: Futures carry symmetric risk (equal potential for gain/loss).

Beta: Measures a stock/portfolio's sensitivity to market movements.

Portfolio Beta: Weighted average of individual stock betas in a portfolio.

Systematic Risk: Market-wide risk affecting all securities, hedged via futures.

Unsystematic Risk: Stock-specific risk, not hedged by index futures.

Cross Hedge: Hedging an asset using futures of a related asset.

Naked Position: Single long or short futures position without offset.

Spread Position: Combining long and short futures to reduce risk.

Inter-Exchange Arbitrage: Exploiting price differences for the same contract across exchanges.

Contract Expiry: Futures settle on a specified date, e.g., last Thursday for Nifty.

Daily Settlement: MTM ensures daily risk management for futures positions.

Futures Pricing: Driven by spot price, interest rates, and expected inflows.

Hedgers: Use futures to protect against adverse price movements.

Speculators: Take directional bets for profit, accepting higher risk.

Arbitrageurs: Lock in risk-free profits by exploiting mispricing.

Trading Volume: Indicates market activity and liquidity in futures.

Futures Risks: Include price, liquidity, and operational risks.

Exchange Benefits: Standardized contracts and clearing reduce counterparty risk.

Seasonal Assets: Commodities with demand/supply patterns affect futures pricing.

Roll Over: Closing a near-month futures position and opening a far-month one.

Futures Payoff: Linear, with unlimited gain/loss potential.

Margin Calls: Additional funds required if MTM losses deplete margins.

Market Efficiency: Arbitrage aligns futures and cash market prices.

Index Futures: Used for hedging systematic risk of portfolios.

Chapter 4: Introduction to Options

Options: Contracts granting the right, not obligation, to buy (call) or sell (put) an asset.

Call Option: Gives the buyer the right to buy the underlying at a strike price.

Put Option: Gives the buyer the right to sell the underlying at a strike price.

Option Premium: Price paid by the buyer to the option seller.

Strike Price: Pre-agreed price for buying/selling the underlying in an option.

European Options: Exercisable only at expiry, used in Indian equity markets.

American Options: Exercisable anytime before expiry, not common in India.

In-the-Money (ITM): Call option where spot price > strike price; put where spot price < strike price.

At-the-Money (ATM): Option where spot price equals strike price, leading to zero cash flow.

Out-of-the-Money (OTM): Call where spot price < strike price; put where spot price > strike price.

Intrinsic Value: Difference between spot price and strike price for ITM options.

Time Value: Option premium minus intrinsic value, reflecting time to expiry.

Option Buyer: Pays premium for the right, faces limited loss (premium).

Option Seller: Receives premium, faces potentially unlimited loss.

Break-Even Point (BEP): Price at which option position results in zero profit/loss.

Payoff Chart: Graphs profit/loss for options at different underlying prices.

Long Call: Buying a call option, expecting price increase, with unlimited gain potential.

Short Call: Selling a call option, expecting price stability or decline, with unlimited loss risk.

Long Put: Buying a put option, expecting price decline, with limited loss (premium).

Short Put: Selling a put option, expecting price stability or rise, with limited gain (premium).

Leverage: Options provide high exposure with low premium investment.

Option Pricing: Influenced by underlying price, strike price, time, volatility, and interest rates.

Delta: Measures option price sensitivity to a change in underlying price.

Gamma: Measures change in delta with respect to underlying price change.

Theta: Measures option price sensitivity to time decay.

Vega: Measures option price sensitivity to volatility changes.

Rho: Measures option price sensitivity to interest rate changes.

Black-Scholes Model: Mathematical model for pricing European options.

Implied Volatility: Market's estimate of future volatility reflected in option prices.

Option Greeks: Delta, Gamma, Theta, Vega, Rho measure option price sensitivities.

Moneyness: Describes option's ITM, ATM, or OTM status based on spot price.

Time Decay: Option value decreases as expiry approaches, especially for OTM options.

Volatility Impact: Higher volatility increases option premiums, especially for OTM options.

Interest Rates: Affect call and put options differently based on funding costs.

Option Settlement: European options settle at expiry based on closing price.

Premium Payment: Buyer pays premium upfront; seller receives it as income.

Exercise Price: Same as strike price, where option can be exercised.

Option Risks: Buyers face limited loss; sellers face potentially unlimited loss.

Margin Requirements: Option sellers face daily MTM margin obligations.

Strike Price Intervals: Available at various levels for trading flexibility.

Weekly Options: Short-term options with weekly expiries, complementing monthly contracts.

Option Trading: Used for hedging, speculation, or arbitrage strategies.

Payoff Asymmetry: Options offer limited loss for buyers, unlimited for sellers.

Option Pricing Models: Include Black-Scholes and binomial models for valuation.

Volatility Smile: Implied volatility varies across strike prices, forming a curve.

Option Liquidity: Higher for ATM options, lower for deep OTM options.

Hedging with Options: Protects against adverse price movements with limited cost.

Speculation with Options: Leveraged bets on price movements with capped risk for buyers.

Arbitrage Opportunities: Exploited when option prices deviate from theoretical values.

Option Expiry: European options in India settle only on the expiration date.

Chapter 5: Strategies Using Equity Futures and Equity Options

Hedging: Using futures/options to reduce price risk of an underlying asset.

Speculation: Taking directional bets using futures/options for profit.

Arbitrage: Exploiting price misalignments for risk-free profits.

Long Futures: Buying futures to profit from expected price increases.

Short Futures: Selling futures to profit from expected price decreases.

Cash and Carry Arbitrage: Buying in cash market and selling futures when futures are overpriced.

Reverse Cash and Carry Arbitrage: Selling in cash market and buying futures when futures are underpriced.

Calendar Spread: Arbitrage between futures of different expiration months.

Bull Call Spread: Buying a lower-strike call and selling a higher-strike call for bullish outlook.

Bear Put Spread: Buying a higher-strike put and selling a lower-strike put for bearish outlook.

Bullish Vertical Spread: Using calls or puts to profit from moderate price increases.

Bearish Vertical Spread: Using calls or puts to profit from moderate price declines.

Straddle: Buying a call and put with the same strike for large price swings.

Strangle: Buying a call and put with different strikes for large price movements.

Covered Call: Holding stock and selling a call to earn premium with limited upside.

Protective Put: Holding stock and buying a put to limit downside risk.

Collar: Combining covered call and protective put for a balanced risk-reward.

Butterfly Spread: Combining long and short options for limited risk/reward in a range.

Delta Hedging: Adjusting option positions to neutralize price movement risk.

Put-Call Parity: Relationship between call and put prices for the same strike and expiry.

Open Interest: Number of outstanding contracts, indicating market activity.

Put-Call Ratio: Ratio of put to call volumes/open interest, signaling market sentiment.

Bullish Signal: High put-call ratio suggests sellers expect stable/rising prices.

Bearish Signal: Low put-call ratio indicates expectations of price declines.

Long Straddle: Buying call and put to profit from large price movements.

Short Straddle: Selling call and put, profiting from price stability.

Long Strangle: Buying OTM call and put for large price swings with lower cost.

Short Strangle: Selling OTM call and put, risking unlimited loss for premium.

Diagonal Spread: Combining options with different strikes and expiries.

Hedging Risk: Options limit downside while allowing upside potential.

Speculative Strategies: Options used for leveraged bets with defined risk for buyers.

Arbitrage Strategies: Exploit mispricing between futures, options, or cash markets.

Payoff Profiles: Vary by strategy, balancing risk and reward.

Time Value Decay: Impacts option strategies, especially near expiry.

Volatility Impact: High volatility benefits straddle/strangle buyers.

Margin Requirements: Higher for option sellers due to unlimited risk.

Break-Even Points: Specific price levels where strategies yield zero profit/loss.

Risk Management: Strategies like collars limit both upside and downside.

Market Sentiment: Open interest and put-call ratio guide trading decisions.

Strategy Selection: Depends on market outlook and risk appetite.

Limited Risk Strategies: Bull/bear spreads cap both profit and loss.

Unlimited Risk Strategies: Short straddles/strangles expose sellers to large losses.

Option Combinations: Complex strategies like butterflies balance risk/reward.

Futures Hedging: Used to lock in prices for future purchases/sales.

Portfolio Hedging: Futures reduce systematic risk based on portfolio beta.

Cross Hedging: Using related asset futures when direct futures are unavailable.

Trading Flexibility: Options offer diverse strategies for various market conditions.

Profit Potential: Strategies like straddles benefit from large price swings.

Loss Limitation: Protective puts cap losses while retaining upside.

Arbitrage Profit: Locked in through simultaneous trades across markets.

Strategy Costs: Premiums and margins affect strategy profitability.

Chapter 6: Trading Mechanism

Trading Members: Exchange members who trade on behalf of clients or themselves.

Clearing Members: Handle settlement and risk management for trades.

Market Timings: Derivatives trading from 9:15 AM to 3:30 PM on working days.

Order Types: Include day, limit, stop-loss, and immediate-or-cancel orders.

Price Conditions: Orders executed at specified price levels (e.g., limit orders).

Time Conditions: Orders valid for a specific period, like day or good-till-cancelled.

Order Matching: Based on price-time priority for fair execution.

Best Price Priority: Orders with the best price are matched first.

Circuit Breakers: Halts trading if prices move beyond set limits.

Price Bands: Limit daily price movements to control volatility.

Snap Quote: Displays real-time market data for quick decision-making.

Order Window: Interface for entering and managing trade orders.

System Message Window: Shows exchange updates and alerts.

Eligibility Criteria: Stocks must meet liquidity and market cap thresholds for derivatives.

Stock Selection: Based on trading volume and delivery value in cash market.

Re-introduction: Excluded stocks can re-enter derivatives if criteria are met.

Surrogate Index: Used when a primary index fails eligibility but a similar one qualifies.

Corporate Actions: Adjustments for bonuses, splits, dividends, or mergers.

Bonus Adjustment: Reduces strike prices proportionally to bonus ratio.

Dividend Adjustment: Lowers strike prices by dividend amount on ex-dividend date.

Merger/Demerger: Adjusts contract terms based on corporate restructuring.

Transaction Charges: Fees levied by exchanges on derivative trades.

Securities Transaction Tax (STT): Applied on futures/options based on trade value.

Algorithmic Trading: Automated trading for faster, emotion-free execution.

High-Frequency Trading: Rapid trades exploiting small price differences.

Investor Risk Reduction Access (IRRA): Platform to manage positions during technical glitches.

Trading Software: Facilitates efficient, transparent derivatives trading.

Order Books: Store unmatched orders in price-time priority.

Limit Order: Specifies maximum buy or minimum sell price.

Stop-Loss Order: Triggers trade when price hits a specified level.

Market Order: Executes at the best available market price.

Good-Till-Cancelled (GTC): Order remains active until cancelled or executed.

Immediate-or-Cancel (IOC): Order executes instantly or is cancelled.

Price-Time Priority: Ensures fair order matching based on price and entry time.

Circuit Filter: Limits price movements to prevent extreme volatility.

Stock Eligibility: Requires minimum trading volume and market cap.

Re-introduction Criteria: Excluded stocks must meet re-entry thresholds.

Surrogate Index Purpose: Maintains trading continuity for derivatives.

Adjustment Factor: Used for corporate actions like rights or bonuses.

Rights Adjustment: Adjusts contract terms based on rights issue benefits.

Merger Impact: May alter underlying asset or contract specifications.

STT on Options: Levied on settlement price for in-the-money options.

Brokerage Exclusion: Orders entered exclusive of brokerage fees.

Trading Terminal: Interface for executing and monitoring trades.

Market Data: Real-time quotes and volumes guide trading decisions.

Technical Glitches: IRRA platform mitigates risks during system failures.

Exchange Interoperability: Allows hedging across exchanges during outages.

Order Execution Speed: Algorithmic trading reduces execution time.

Liquidity Provision: Market makers quote bid/ask prices to enhance liquidity.

Trading Halts: Triggered by circuit breakers to stabilize markets.

Investor Protection: IRRA and exchange rules safeguard traders during disruptions.

Chapter 7: Introduction to Clearing and Settlement System

Clearing: Computing obligations of trading members for settlement.

Settlement: Actual transfer of funds/securities to complete trades.

Risk Management: Setting position limits based on margins.

Clearing Corporation: Acts as counterparty, ensuring trade settlement.

Initial Margin: Upfront deposit to cover potential losses.

Mark-to-Market (MTM): Daily settlement of gains/losses.

Daily Premium Settlement: For options, premium paid/received daily.

Final Settlement: Occurs at expiry for futures and options.

Futures Settlement: Cash-settled for indices, physical for stocks.

Options Settlement: European options settle at expiry based on closing price.

Value-at-Risk (VaR): Margining method to assess potential losses.

SPAN System: Calculates margins based on maximum likely loss over one day.

Exposure Margins: Additional margins to cover position risks.

Short Option Minimum Charge: Margin for deep OTM option risks.

Peak Margin: Ensures upfront margin collection for all trades.

Early Pay-In: Reduces delivery margins by early securities transfer.

Collateral Reporting: Tracks client collateral for transparency.

Position Limits: Caps on trading member positions to manage risk.

Default Handling: Closing out positions of defaulting members.

Investor Protection Fund: Compensates investors for member defaults.

Interoperability: Allows clearing across exchanges for efficiency.

Daily Settlement Price: Computed for futures if trading halts.

Final Exercise Settlement: For options, based on closing price at expiry.

Physical Delivery: For stock futures/options, involves share transfer.

Cash Settlement: For index derivatives, settled in cash.

Margin Collection: Clearing members collect margins from clients.

Intraday Monitoring: Position limits checked multiple times daily.

Default Penalties: Disciplinary actions for margin or settlement defaults.

Client Collateral: Must be segregated from broker's own funds.

Margin Parameters: Updated intraday for accurate risk assessment.

Settlement Schedule: T+1 for cash-settled derivatives.

Delivery Instructions: Required for physical settlement of stock derivatives.

Risk Mitigation: Clearing corporations enforce robust risk controls.

Margin Adjustments: Based on market volatility and position size.

Clearing Members: Facilitate settlement for trading members.

Client Obligations: Must maintain sufficient funds/securities for settlement.

Default Management: Clearing corporations handle member defaults.

Investor Compensation: Funded by Investor Protection Fund.

Cyber Security: Frameworks to prevent and mitigate cyber-attacks.

Settlement Guarantee: Clearing corporations ensure trade completion.

Margin Transparency: Clients can view collateral via web portals.

Position Snapshots: Minimum four daily checks for position limits.

Default Closure: Positions of defaulting members closed out.

Fund Objectives: Investor Protection Fund supports education and research.

Cyber Resilience: Systems designed to recover from cyber incidents.

Margin Exemptions: Early pay-in securities exempt from delivery margins.

Client Reporting: Disaggregated collateral data reported to clearing members.

Settlement Risk: Mitigated by robust margining and clearing systems.

Intraday Margin Updates: Ensure real-time risk management.

Default Consequences: Binding actions on defaulting members.

Clearing Efficiency: Interoperability simplifies settlement across exchanges.

Chapter 8: Legal and Regulatory Environment

Securities Definition: Includes shares, bonds, derivatives, and government securities.

SEBI: Regulates derivatives markets to ensure transparency and fairness.

Securities Contracts (Regulation) Act: Governs securities and derivatives trading.

L.C. Gupta Committee: Developed regulatory framework for derivatives in India.

Trading Regulations: Ensure compliance with SEBI and exchange rules.

Clearing Corporation: Acts as legal counterparty for all derivative trades.

Position Monitoring: Tracks derivatives and cash segment positions.

Daily Settlement Prices: Determined by clearing corporations for fairness.

Client Margins: Must be segregated from brokers' dues.

Approved Users: Only certified users can operate derivatives terminals.

Default Procedures: SEBI outlines actions for trading/clearing member defaults.

Stock Exchange Outages: Handled via extended trading hours or alternative venues.

Broker Inspections: Ensure compliance with SEBI regulations.

Membership Types: Include capital market and futures/options segments.

Net Worth Requirements: Minimum capital for derivatives trading members.

Non-Allowable Securities: Unlisted securities not accepted as collateral.

Default Consequences: Default in one segment treated as default across all.

Trading Hours Extension: Applied during outages to ensure market access.

Regulatory Compliance: Mandatory for all market intermediaries.

Investor Protection: SEBI ensures safeguards against unfair practices.

Margin Appropriation: Prohibited for brokers' dues using client margins.

Certification Program: Required for derivatives terminal operators.

Exchange Bye-Laws: Govern trading member eligibility and operations.

SEBI Circulars: Provide detailed guidelines for market operations.

Default Actions: Include position closure and disciplinary measures.

Market Integrity: Maintained through strict regulatory oversight.

Broker Records: Inspected to ensure accurate books and compliance.

Membership Benefits: Allow trading and settlement in multiple segments.

Regulatory Framework: Ensures fair, transparent derivatives trading.

Client Fund Protection: Segregation prevents misuse by brokers.

Outage Management: Standardized procedures for exchange disruptions.

Trading Terminal Access: Restricted to certified professionals.

Default Penalties: Enforced by exchanges and clearing corporations.

Market Oversight: SEBI monitors compliance and market stability.

Broker Obligations: Include maintaining accurate records and margins.

Regulatory Updates: SEBI issues circulars to adapt to market changes.

Investor Safeguards: Protect against broker defaults and misconduct.

Membership Criteria: Include financial and operational standards.

Default Handling: Ensures market stability during member failures.

Exchange Coordination: Manages outages and trading continuity.

Client Margin Rules: Ensure upfront collection for risk management.

Regulatory Inspections: Verify compliance with SEBI standards.

Market Access: Provided through registered intermediaries.

Default Suspension: Defaulting members face trading restrictions.

SEBI Guidelines: Cover trading, clearing, and settlement processes.

Broker Certification: Ensures competence in derivatives trading.

Market Transparency: Enhanced by regulatory oversight and reporting.

Client Protection: SEBI enforces rules to safeguard investor interests.

Trading Continuity: Ensured during outages via alternative venues.

Regulatory Evolution: Adapts to changing market dynamics.

Investor Confidence: Bolstered by strict regulatory frameworks.

Chapter 9: Accounting and Taxation

Accounting for Derivatives: Governed by specific standards for futures and options.

Initial Margin: Recorded as an asset when paid for futures contracts.

Mark-to-Market (MTM): Daily gains/losses recognized in profit/loss account.

Daily Premium Settlement: Options premium recorded as income/expense daily.

Final Settlement: Recognized at expiry based on settlement price.

Open Interest Accounting: Valued at MTM on balance sheet date.

Option Premium: Buyer records as expense; seller as income.

Exercise Settlement: Buyer credits shares, seller delivers shares for options.

Taxation: Derivatives gains/losses treated as business income.

Speculative Income: Losses set off only against speculative gains.

Non-Speculative Income: Futures gains/losses treated as non-speculative.

Tax Audit: Mandatory if turnover exceeds Rs. 10 crore.

Securities Transaction Tax (STT): Levied on derivatives trades based on value.

Turnover Calculation: For tax, includes premium and settlement differences.

Option Exercise: STT on settlement price for in-the-money options.

Client Margin: Recorded separately from broker's own funds.

Profit/Loss Recognition: MTM gains/losses credited/debited to P&L account.

Option Buyer: Loss limited to premium paid, recorded as expense.

Option Seller: Premium received as income, potential loss provisioned.

Balance Sheet: Open positions valued at MTM or premium.

Tax Rates: Derivatives gains taxed at business income rates.

Speculative Loss: Carried forward for set-off against future speculative gains.

STT Liability: Trading member aggregates client STT obligations.

Accounting Entries: Specific for margins, premiums, and settlements.

Provision for Loss: Made for options where premium exceeds market value.

Tax Audit Exemption: If digital transactions exceed 95% and turnover is below threshold.

Futures Accounting: MTM gains/losses settled daily.

Option Settlement: Cash or physical delivery based on contract type.

Collateral Reporting: Discloses client margins and securities.

Taxable Turnover: Includes absolute sum of trade differences.

Accounting Standards: Ensure accurate derivative transaction recording.

MTM Margin Account: Tracks daily settlement obligations.

Final Settlement Price: Basis for recognizing exercise gains/losses.

Tax Deductions: Not allowed for expenses in derivatives turnover tax.

Option Writer: Provisions for potential losses on short positions.

Client Funds: Segregated to prevent misuse by brokers.

Balance Sheet Disclosure: Includes open positions and margin details.

Tax Compliance: Mandatory reporting for derivatives trading.

Physical Delivery: Accounting for share transfers in stock options.

Premium Income: Recognized by option sellers in P&L account.

Loss Provisioning: For options based on market premium at balance sheet date.

Taxable Income: Derivatives gains/losses under business income head.

STT on Futures: Levied on trade price for both buyers and sellers.

Accounting Transparency: Ensures clear recording of derivative transactions.

Margin Payments: Recorded as assets or liabilities based on position.

Settlement Obligations: Cleared on T+1 for cash-settled contracts.

Tax Audit Criteria: Based on turnover and digital transaction percentage.

Option Exercise Accounting: Reflects share delivery or cash settlement.

Broker Reporting: Includes client-wise collateral and margin details.

Taxable Event: Recognized at trade execution or option exercise.

Accounting for Margins: Tracks initial and MTM margins separately.

Chapter 10: Sales Practices and Investors Protection Services

Investor Education: Critical for understanding derivatives risks.

Risk Disclosure Document: Explains mechanics and risks of derivatives trading.

Anti-Money Laundering (AML): Procedures to prevent illicit financial activities.

Know Your Client (KYC): Mandatory client identification and verification.

Client Due Diligence: Assesses client risk profile for compliance.

Unsuitable Recommendations: Prohibited to protect investor interests.

Cold Calling: Restricted to avoid inappropriate client contact.

Client Account Monitoring: Investors should review statements regularly.

Investor Grievance Redressal: Mechanisms to resolve disputes with intermediaries.

SCORES Portal: SEBI's platform for escalating unresolved complaints.

Option Risks: Buyers face limited loss; sellers face unlimited loss.

Time Decay Risk: Option value declines as expiry approaches.

Leverage Risk: High exposure with low capital amplifies losses.

Client Identification: Prevents accounts in fictitious or banned names.

KYC Documents: Include Aadhar, passport, or bank statements for verification.

Suspicious Transactions: Reported without informing the client.

Investor Do's: Deal only with SEBI-registered intermediaries.

Investor Don'ts: Avoid unregistered brokers or cash payments.

Complaint Types: Include non-delivery, pricing errors, or compliance issues.

Grievance Process: Starts with intermediary, escalates to SCORES if unresolved.

Client Protection: SEBI ensures safeguards against unfair practices.

Sales Practices: Prohibit exploiting client inexperience or vulnerability.

Account Statements: Investors must monitor for abnormal changes.

Annual Reviews: Recommended with investment advisers for planning.

Complex Derivatives: Options require extra investor safeguards.

Transaction Costs: Disclosed in risk disclosure documents.

AML Compliance: Intermediaries must adopt written procedures.

Client Classification: Determines risk level for due diligence.

e-KYC Process: Online submission of identity and address proofs.

Complaint Resolution: Exchanges handle valid investor grievances.

Market Participant: Investors must approach for initial complaint resolution.

Frivolous Complaints: Vague or anonymous complaints not entertained.

Investor Awareness: Promotes informed decision-making in derivatives.

Regulatory Compliance: Intermediaries must follow SEBI guidelines.

Client Identity Verification: Ensures no banned or criminal clients.

Suspension of Transactions: Allowed only in exceptional cases.

Risk Disclosure: Detailed explanation of derivative risks mandatory.

Sales Agent Conduct: Must avoid manipulative or coercive practices.

Investor Safeguards: Protect against losses from intermediary defaults.

Complaint Examples: Include non-receipt of statements or transfer issues.

SEBI Guidelines: Cover client onboarding and transaction monitoring.

Client Records: Maintained for transparency and compliance.

Investor Rights: Include access to clear risk disclosures.

Broker Responsibilities: Ensure fair treatment and accurate reporting.

Grievance Escalation: Via SCORES for unresolved issues.

KYC Policy: Spells out client identification procedures.

Client Contact: Must provide contact details on request.

Regulatory Oversight: SEBI monitors sales practices for fairness.

Investor Protection Services: Include grievance redressal and education.

Transaction Monitoring: Ensures compliance with AML regulations.

Important formulae

Cost of Carry Model (Simple Form)

Fair Price of Futures Contract = Spot Price + Cost of Carry – Inflows

(Where inflows may be dividends, interest, or convenience yield)

Futures Value with Annualized Return

F = S * (1 + r – d) ^ (T/365)

Futures Value (Continuous Compounding)

F = S * e^((r – q)T)

Black-Scholes Call Option Price

$C = S \cdot N(d_1) - Xe^{(-rt)} \cdot N(d_2)$

Where:

$d_1 = [\ln(S/X) + (r + v^2/2)t] / (v\sqrt{t})$

$d_2 = d_1 - v\sqrt{t}$

Variables: *S = Stock Price*, *X = Strike Price*, *r = risk-free rate*, *v = volatility*, *t = time to expiry*

Black-Scholes Put Option Price

$P = Xe^{(-rt)} \cdot N(-d_2) - S \cdot N(-d_1)$

Same d_1 and d_2 as above.

Rho (Option Greek)

Rho = Change in Option Premium / Change in Cost of Funding

Theta (Option Greek)

Theta = Change in Option Premium / Change in Time to Expiry

Vega (Option Greek)

Vega = Change in Option Premium / Change in Volatility

Long Futures Payoff

Payoff = Spot Price at Expiry – Futures Price

E.g., Buy at 100, sell at 150 → Payoff = 50

Short Futures Payoff

Payoff = Futures Price – Spot Price at Expiry

E.g., Sell at 100, buy at 60 → Payoff = 40

Currency Derivatives

Chapter 1: Introduction to Currency Markets

Evolution of Foreign Exchange Markets: Currency markets evolved from barter systems to metal coins, gold standards, Bretton Woods system, and finally to fiat currencies and floating exchange rates.

Barter System Limitations: Non-divisibility, transportation costs, and valuation difficulties led to the invention of money as a common medium of exchange.

Gold Standard: Countries valued currencies against gold, with central banks holding gold reserves. E.g., if 1 unit of gold = INR 10,000 and USD 500, then 1 USD = INR 20.

Bretton Woods System: From 1944-1971, all currencies pegged to USD, and USD pegged to gold. Created IMF and World Bank; collapsed in 1973.

Fiat Money: Currency not backed by physical commodity but by government order; e.g., USD and INR today.

Clean Float vs Managed Float: Clean float is purely market-determined; managed float (dirty float) includes central bank interventions.

Major Currencies: USD, EUR, JPY, GBP, CHF, AUD, CAD.

Most Traded Currency Pairs: EUR/USD, USD/JPY, GBP/USD, AUD/USD, USD/CAD, USD/CNY, USD/CHF.

Minor and Exotic Pairs: Minor pairs don't involve USD; exotics combine major currency with developing country's currency.

US Dollar Role: Dominant as investment, reserve, transaction, invoice, intervention, and vehicle currency, simplifying global trade.

Vehicle Currency Benefit: Reduces number of exchange rates needed; e.g., 10 currencies need 45 pairs, but using USD as vehicle needs only 9.

Euro: Official currency of 20 EU countries; second most traded globally.

Japanese Yen: Third most traded; used for carry trades; highly liquid.

Pound Sterling: Fourth most traded; known as 'cable'; significant reserve currency.

Swiss Franc: Safe-haven currency; often appreciates during global uncertainty.

Indian Rupee: Managed float; RBI intervenes to reduce volatility, not to fix rates.

International Currency Markets: Include banks, corporations, central banks, hedge funds, investors; daily turnover ~USD 7.5 trillion.

OTC Market vs Exchange: Most forex is OTC; derivatives also traded on exchanges like NSE, BSE, MSEI in India.

Currency Pair Quotation: First currency is base currency, second is quotation currency; price reflects value of base currency in terms of quotation currency.

Direct and Indirect Quotes: Direct quote: foreign currency as base; indirect quote: domestic currency as base.

Two-Way Quotes: Bid price (buy) and ask/offer price (sell); spread indicates liquidity. E.g., USDINR quoted as 75.0550/75.0600.

Appreciation and Depreciation: Base currency appreciates when it buys more of the quotation currency.

Market Timing in India: Forex market active 9 am–5 pm IST; spot date roll over at midnight.

Net Overnight Open Position Limit (NOOPL): Limits set by RBI to manage exchange rate risk; generally ≤25% of total capital.

Card Rates: Banks publish daily rates for retail; adjusted intra-day during volatility.

FX-Retail Platform: Introduced by CCIL in 2019 to ensure transparency for retail customers.

FBIL Reference Rates: Published daily at 13:30 IST for USD/INR, GBP/INR, EUR/INR, JPY/INR; based on actual transactions.

Settlement and Value Dates: Spot transactions settle in two business days; cash (same day); tom (next day); forward contracts settle after spot date.

Forward Contracts: Fix exchange rate today for transaction in the future; used for hedging.

Cross Rates: Derived when direct rates aren't available; e.g., EURINR = EURUSD × USDINR.

Exchange Rate Arithmetic: Use multiplication/division of underlying rates to compute cross rates; keep track of bid/offer sides.

Price Discovery: Driven by global events, demand-supply, economic indicators, and interbank market activity.

Economic Factors Impact: Include inflation, GDP growth, trade deficit, crude oil prices, global risk appetite, etc.

GDP Impact: Higher-than-expected GDP growth usually strengthens currency.

Industrial Production (IIP): Measures industrial sector output; higher IIP may strengthen currency.

Consumer Price Index (CPI): Indicates inflation; effect depends on central bank response.

Real Interest Rate: Higher real rates attract foreign inflows, supporting currency strength.

Trade and Current Account Deficit: Widening deficits generally weaken domestic currency.

Non-Farm Payrolls (NFP): Key US employment data; higher numbers strengthen USD.

Retail Sales Data: Indicates consumer demand; higher-than-expected strengthens currency.

Central Bank Actions: Interest rate changes, interventions, and policy statements impact currency values.

Spot vs Forward Market: Spot for immediate settlement; forwards used for hedging future needs.

Indian Market Peculiarity: Managed float with active RBI intervention; NDF market also influences price discovery.

Impact of Global Events: Domestic currency moves in response to global geopolitical, economic data, and risk appetite.

Interbank vs Merchant Market: Interbank: banks trade large volumes; merchant: corporates and retail customers.

Market Makers: Banks quoting two-way prices; provide liquidity and stability.

FBIL Forward Premia: Daily benchmark forward rates published by FBIL for hedging purposes.

Settlement Process: Physical delivery in OTC; net settlement in futures.

OTC vs Exchange Volume: OTC still dominant globally; exchange volumes rising.

Use of Technology: Real-time trading platforms enhance transparency and price discovery.

Managed Float Rationale: To reduce volatility, maintain competitiveness, and avoid speculative attacks.

Role of RBI: Stabilize INR, manage reserves, set exposure limits for banks.

Demand-Supply Mismatch: Significant short-term driver; e.g., large FDI inflows can strengthen INR temporarily.

Important Formulae:

Cross Rate:EUR/INR = EUR/USD × USD/INR

Vehicle Currency Rate Calculation:n(n−1)/2 (number of currency pairs without vehicle currency)

Real Interest Rate: Real Interest Rate = Nominal Interest Rate − Inflation Rate

Forward Rate (simplified): Forward = Spot × (1 + domestic interest rate) / (1 + foreign interest rate)

Spread: Spread = Ask Price − Bid Price

Chapter 2 : Foreign Exchange Derivatives

Meaning of Derivatives: Derivatives are financial instruments whose value is derived from an underlying asset.

Underlying Asset: The underlying is independent; the derivative depends on it and cannot exist without it.

Accounting Standards Criteria: Value linked to underlying, settlement on a future date, no full cash outlay on trade date; net settlement (FAS 133).

Leverage: Derivatives allow buying/selling underlying assets without full upfront payment.

Classification: Derivatives cover interest rate, credit, equity, forex, and commodity asset classes.

Generic Products: Forwards, futures, swaps, and options in each asset class.

Historical Emergence: Initially used for commodity price hedging; financial derivatives became prominent post-1970.

Market Growth: By the 1990s, financial derivatives accounted for two-thirds of total derivative transactions.

Risk Management Approaches: Speculation (taking risk), hedging (locking in return), insurance (eliminating negative return with options), and diversification (reducing risk per unit return).

Hedging Risk Exposure: Contracts offset losses in underlying assets.

Price Discovery: Derivative prices help determine expected future spot prices.

Market Efficiency: Derivatives help align underlying asset and derivative prices, preventing arbitrage.

Access to New Markets: Derivatives enable access to assets/markets otherwise unavailable.

Price Stability: Central banks use derivatives to stabilize currency.

Speculation: Allows traders to take calculated risks for potential profit.

Risk Shifting: Moves speculative trades from unregulated to regulated markets, enhancing financial stability.

Types of Risks: Counterparty, price, leverage, liquidity, legal/regulatory, and operational risks.

Derivative Products in Forex: Forwards, futures, options, and swaps.

Foreign Exchange Forward: OTC contract to exchange currencies at an agreed rate on a future date.

Futures: Standardized exchange-traded forward contracts with margins and clearing corporation guarantee.

Options: Right but not obligation to buy/sell underlying at agreed price before or on a date.

Call and Put Options: Call gives right to buy; put gives right to sell.

Swaps: Agreements to exchange cash flows or returns based on underlying assets.

Interest Rate Swap: Exchange of fixed to floating or floating to floating interest payments.

Foreign Exchange Swap: Exchange of currencies on one date and reverse exchange on a future date.

Currency Swap: Exchange of interest payments and principal in different currencies over time.

Market Segments: OTC derivatives (customized, private contracts) and exchange-traded derivatives (standardized, transparent).

Clearing Corporation: Acts as central counterparty to guarantee trades and manage settlement.

Novation: Clearing corporation becomes the buyer to every seller and seller to every buyer.

Margining and Mark-to-Market: Processes to manage risk and protect clearing corporations.

Standardization: Exchange contracts have pre-defined lot size and settlement date.

Customization: OTC contracts can match specific needs of counterparties.

Hedgers: Use derivatives to manage currency risk from exchange rate movements.

Speculators: Trade based on expected price movements; benefit from leverage and low transaction costs.

Arbitrageurs: Exploit price differences across markets to make risk-free profit.

Legal Framework: Governed by FEMA, RBI, SEBI, IRDAI, PFRDA, etc.

Exchange-Traded Advantages: Transparency, elimination of counterparty risk, low cost, and price discovery.

Exchange-Traded Limitations: Standardization may lead to imperfect hedge; operational issues from daily margining.

Market Evolution: OTC and exchange markets increasingly overlap; OTC uses electronic trading and clearing.

Growth Drivers: Increased volatility, market integration, technology, advanced risk tools, product innovation.

Currency Derivatives Importance: Significant share in global derivatives market by notional amount.

Market Statistics: Forex contracts worth USD 120,250 billion outstanding (June 2023, BIS).

Participants in India: Both residents and non-residents can enter forex derivatives under regulations.

Purpose in India: Hedge against unexpected exchange rate movements impacting trade and investment.

Currency Futures Introduction: Promote price discovery, hedging, risk management, and economic stability.

Cross-Currency Products: Introduced to hedge exposures in currencies other than INR.

Financial Crisis 2008: Highlighted systemic risk from OTC markets; led to push for exchange-traded derivatives.

OTC Clearing in India: CCIL provides trade guarantee for USD-INR forwards and swaps.

Standard and Exotic Products: Vanilla are standardized; exotic are customized.

Credit Default Swaps (CDS): Protect against credit events like defaults.

Innovation Impact: Better risk-return combinations, lower transaction costs, higher returns.

Hedging Tools in India: Forwards, futures, swaps, and options widely used.

Derivatives and Economic Growth: By reducing risk, derivatives encourage trade, investment, and output growth.

Important Formulae:

Futures Price (Interest Rate Parity): $F = S \times [(1 + r_d) / (1 + r_f)]^T$

Black-Scholes Call Option Price:
$C = S \times N(d1) - K \times e^{(-rT)} \times N(d2)$
$d1 = [\ln(S/K) + (r + \sigma^2/2)T] / (\sigma\sqrt{T})$
$d2 = d1 - \sigma\sqrt{T}$

Swap Payment (Fixed): Payment = Notional × Fixed Rate × (Days/360)

Option Payoff (Call): Max(S - K, 0)

Option Payoff (Put): Max(K - S, 0)

Forward Rate Agreement (FRA): Payoff = Notional × (Reference Rate - FRA Rate) × (Days/360)

Currency Swap Initial Exchange: Notional × Spot Rate

MTM Gain/Loss: (Current Price - Previous Price) × Contract Size

Hedging Ratio: Hedge Ratio = Value of Hedge / Exposure

Chapter 3: Exchange Traded Currency Futures

Meaning of Currency Futures:
Currency futures are standardized contracts traded on an exchange to buy/sell one currency against another at a specified future date and price.

Rationale for Currency Futures in India:
To enhance transparency, reduce counterparty risk, and provide hedging tools for corporates and investors.

Futures vs. Forward Contracts:
Futures are standardized, exchange-traded, and settled via clearing corporations, while forwards are OTC, customizable, and subject to counterparty risk.

Interest Rate Parity:
Ensures no arbitrage opportunity by linking spot and futures prices with domestic and foreign interest rates.

Futures Contract Features:
Exchange decides contract terms except price; includes expiry date, lot size, margins, and centralized trading.

Introduction in India:
NSE launched USD-INR futures in 2008; later EUR-INR, GBP-INR, JPY-INR; from 2018, cross-currency futures (EUR-USD, GBP-USD, USD-JPY).

Underlying Asset:
The exchange rate between currency pairs, e.g., USD-INR.

Spot Price:
Current market price of the currency pair.

Futures Price:
Current price of the futures contract, converges with spot price on expiry.

Quotation:
For USDINR, INR per USD; for JPYINR, INR per 100 JPY.

Contract Cycle:
Weekly, monthly, and quarterly; near, mid, and far-month contracts; can extend up to a year.

Expiry Date:
Two working days before last business day of expiry month at 12:30 PM.

Tick Size:
Minimum price movement, e.g., INR 0.0025 for USDINR futures.

Lot Size:
For USDINR, 1000 USD; for JPYINR, 100,000 JPY.

Contract Value:
Futures price × lot size.

Trading Hours:
9:00 a.m. to 5:00 p.m. for INR contracts; up to 7:30 p.m. for cross currency; expiry day ends at 12:30 p.m.

Base Price:
Theoretical price initially; later, previous day's daily settlement price.

Price Band:
Operating range ±3% or ±5% of base price; relaxed in steps.

Mark to Market (MTM):
Daily settlement of gains/losses based on daily settlement price.

Daily Settlement Price (DSP):
Weighted average price in last 30 minutes of trading.

Final Settlement Price (FSP):
Derived from spot market rates on expiry.

Final Settlement:
Currently cash-settled in INR; no physical delivery.

Open Interest:
Total outstanding contracts; equals number of long and short positions.

Positions:
Long (buy), short (sell), and open positions tracked until settled.

Payoff Charts:
Graph showing profit/loss vs. underlying price at expiry.

Long Futures Payoff:
Profit if price increases; loss if price decreases; linear.

Short Futures Payoff:
Profit if price decreases; loss if price increases; linear.

Contract Specifications (INR Contracts):
E.g., USDINR lot size = 1000 USD; tick size = INR 0.0025.

Contract Specifications (Cross Currency):
E.g., EURUSD lot size = 1000 EUR; tick size = USD 0.0001.

Settlement Cycle:
Daily MTM: T+1; final settlement: T+2.

Contract Value Calculation:
E.g., USDINR: trade price × 1000.

Advantages of Futures:
Eliminate counterparty risk, high liquidity, price transparency, standardized, accessible to all.

Limitations of Futures:
May not perfectly hedge, standardized lot sizes, need for mark-to-market margins.

Advantages of Forwards:
Customizable, perfect hedge, delivery-based settlement.

Limitations of Forwards:
Counterparty risk, low liquidity, less transparency.

Interest Rate Parity Formula:
F/S = (1+RINR) / (1+RUSD); ensures no arbitrage.

Premium & Discount:
Currency with higher interest rate trades at forward discount; lower interest rate at forward premium.

Theoretical Futures Price:
F = S × e^(r - rf) × t.

Example:
Spot USDINR = 83; INR rate = 7%; USD rate = 5%; 6-month futures price ≈ 83.8097.

Concept of Cross Currency Futures:
Contracts like EURUSD, GBPUSD, USDJPY; traded in INR.

Settlement Method:
Cash settled.

Trading Cycle:
11 weekly + 12 monthly (INR contracts); 12 monthly (cross currency).

Expiry:
Weekly: Friday; monthly: two working days before month-end.

Lot Sizes Differ:
E.g., JPYINR = 100,000 JPY; USDJPY = 1000 USD.

Impact of Interest Rates:
Higher USD rate lowers USDINR forward price; higher INR rate increases it.

Futures Market Regulation:
By SEBI and RBI; clearing corporation guarantees settlement.

Price Discovery:
By open trading; not by negotiation.

Final Settlement Price Cross Currency:
Derived using FBIL reference rates.

Cash Settlement:
No delivery; only profit/loss paid.

Mark to Market Margins:
Collected daily; reduces risk of large losses.

Open/Close Position:
Opening = increase exposure; closing = reduce exposure.

Chapter 4: Exchange Traded Currency Options

Options as Financial Instruments: Options allow unlimited profit potential while capping losses to the premium paid. The buyer gains a right, but not an obligation, to buy (call) or sell (put) the underlying asset at a specified price.

Call and Put Options: A call option gives the buyer the right to buy; a put option gives the right to sell.

Strike Price: The fixed price at which the underlying can be bought or sold.

Expiration Date: The date when the option contract ceases to exist.

Time to Maturity: Difference between the trade date and expiration date.

Option Buyer and Seller: Buyer pays premium and has rights; seller receives premium and bears the obligation.

Option Premium: The price paid by the buyer to acquire the option.

Underlying Asset: The asset being bought or sold (e.g., currency).

Exercise of Options: To exercise is to put into effect the right to buy/sell.

Difference from Futures: Futures oblige both parties; options obligate only the seller, while the buyer has a right but no obligation.

Styles of Options:

- **European Options:** Exercised only on expiration date.
- **American Options:** Can be exercised any time before or on expiration.

Moneyness of Options:

- **In the Money (ITM):** Exercise leads to positive cash flow.
- **Out of the Money (OTM):** Exercise leads to negative cash flow.
- **At the Money (ATM):** Spot price equals strike price; zero cash flow.

Intrinsic Value: Amount by which the option is ITM (call: S−X; put: X−S).

Time Value: Difference between option premium and intrinsic value; higher when longer time to expiry.

Determinants of Option Premium: Spot price, strike price, volatility, time to expiry, interest rates.

Impact of Spot Price: Increase raises call premium, lowers put premium.

Impact of Strike Price: Higher strike price lowers call premium, raises put premium.

Volatility: Higher volatility increases both call and put premiums.

Time to Expiry: Longer time increases premiums due to higher uncertainty.

Interest Rates: Increase raises call premium, lowers put premium.

Option Greeks:

- **Delta:** Sensitivity of premium to price change of underlying.
- **Gamma:** Rate of change of delta.
- **Theta:** Sensitivity to time decay.
- **Vega:** Sensitivity to volatility.
- **Rho:** Sensitivity to interest rate changes.

Put-Call Parity: Relationship between European call and put prices:
C + PV(X) = P + S

Option Pricing Models:

- **Binomial Model:** Uses price trees; suitable for European & American options.
- **Black-Scholes Model:** Calculates theoretical price; quick but assumes continuous hedging.

Black-Scholes Formula (for European options):
C = SN(d1) – Xe^(-rt)N(d2)

Black (1976) Model: Uses forward prices instead of spot; suited for futures options.

Implied Volatility (IV): Market's forecast of volatility; derived from option prices.

Payoff Diagrams:

- **Long Call:** Limited loss (premium), unlimited profit.
- **Short Call:** Limited gain (premium), unlimited loss.
- **Long Put:** Limited loss (premium), profit if price drops.
- **Short Put:** Limited gain (premium), loss if price falls sharply.

Break-Even Point:

- Call: Strike price + premium.
- Put: Strike price − premium.

Square-Off: Option positions can be closed before expiry to realize gain/loss.

Contract Specifications (INR pairs):

- Underlying: USDINR, EURINR, GBPINR, JPYINR.
- Lot size: 1000 USD/Euro/Pound; 100,000 Yen.
- Quotation: INR.
- Style: European.
- Expiry: Two working days before month-end; Fridays for weekly options.

Contract Specifications (Cross currency):

- Underlying: EURUSD, GBPUSD, USDJPY.
- Lot size: 1000 of quote currency.
- Quotation: USD or JPY.
- Expiry: Two working days before month-end.

Trading Hours: INR pairs: 9:00 a.m.–5:00 p.m.; cross currency: 9:00 a.m.–7:30 p.m.

Settlement: Cash settled based on FBIL reference rate.

Advantages of Exchange-Traded Options: Standardization, price transparency, counterparty risk elimination, liquidity.

OTC vs Exchange-Traded: OTC is customized; exchange-traded is standardized. OTC has lower liquidity; exchange-traded offers better transparency and clearing guarantees.

Option Strategies: Use combinations to manage risk/reward .

Implied Volatility Role: Higher IV increases option premiums; reflects market expectations.

Effect of Dividends: Lowers call premium, raises put premium; adjustments made in Black-Scholes.

Risk Profiles: Options offer asymmetric payoffs; futures are symmetric.

Clearing Corporation: Guarantees settlement; lowers counterparty risk.

Final Settlement: T+2 basis after expiry.

Underlying in Options: Must be well-defined and liquid for fair price discovery.

Role of SEBI & RBI: Regulate currency derivatives for fair and orderly markets.

Exchanges in India: Provide platforms for trading standardized currency options.

Option Expiry: Weekly or monthly; specific schedule per contract.

Operational Guidelines: Strike intervals, no. of strikes, and price bands set by exchanges.

Cash Settlement: No physical delivery; profit/loss settled in cash.

Effect of Time Decay: Time value declines over life; disadvantage to option buyers.

Effect of Volatility Change: Higher volatility increases premiums; benefits option holders.

Market Participants: Hedgers, speculators, arbitrageurs.

Price Discovery: Based on demand/supply; not fixed by SEBI or RBI.

Lot Size: Defined per contract for standardization.

Margin Requirements: Applicable to sellers to cover potential losses.

Liquidity: High in standardized contracts; lower in OTC.

Price Bands: Based on delta and volatility; adjusted daily.

Use in Hedging: Protects against adverse currency moves.

Cash vs Physical Settlement: Exchange-traded are cash settled; OTC may be delivery-based.

Important Formulae:

Delta = Change in option premium / Change in price of underlying
Gamma = Change in delta / Change in price of underlying
Theta = Change in option premium / Change in time to expiry
Vega = Change in option premium / Change in volatility
Rho = Change in option premium / Change in interest rate

Put-Call Parity: $C + PV(X) = P + S$

Black-Scholes Call Price:
$C = SN(d1) – Xe^{(-rt)}N(d2)$

$d1 = [\ln(S/X) + (r+\sigma^2/2)t] / (\sigma\sqrt{t})$
$d2 = d1 – \sigma\sqrt{t}$

Black-Scholes Put Price:
$P = Xe^{(-rt)}N(-d2) – SN(-d1)$

Break-Even for Call: Strike price + premium
Break-Even for Put: Strike price – premium

Chapter 5: Strategies Using Exchange Traded Currency Derivatives

Market Participants:
Hedgers, speculators and arbitragers are the main participants in ETCD markets.

Hedgers:
Hedgers protect themselves from price movements in foreign currency by using ETCD to reduce currency risk.

Exposure Sources:
Hedgers' exposure comes from import/export, foreign investments or other FX-linked activities.

Objective of Hedging:
Hedgers aim to reduce future cash flow volatility by locking currency rates.

Example of Hedging:
An exporter shipping to Europe sells EURINR futures or buys EURINR put options to protect against EUR depreciation.

Speculators:
Speculators take on FX price risk without real exposure, aiming to profit from price movement.

Speculators' Role:
They provide liquidity and act as counterparties to hedgers.

Example of Speculation:
A trader may buy EURINR futures if expecting EUR to appreciate against INR.

Arbitragers:
Arbitragers exploit price differences between spot and derivative markets for risk-free profit.

Arbitrage Process:
They lock in profit by executing opposite transactions in different markets.

Example of Arbitrage:
Buying in cash market and selling futures if futures trade at a premium.

Risks for Arbitragers:
Execution delay, illiquidity and settlement mismatches can create naked positions.

Hedging Parameters:
To hedge, decide on: derivative contract, hedge type (long/short) and contract month.

Contract Selection:
Choose the contract based on currency pair exposure (e.g., USDINR or EURINR).

Type of Hedge:
Long hedge for paying foreign currency; short hedge for receiving foreign currency.

Hedging Timing:
Select contract month so expiry is just after expected receipt or payment date.

Hedging Example - Export:
Exporter receiving EUR sells EURINR futures or buys EURINR put options.

Hedging Example - Import:
Importer paying USD buys USDINR futures or USDINR call options.

Combined Hedge Impact:
Effective rate = impact of spot price change plus futures payoff.

Partial Hedge Example:
An importer hedging half exposure adjusts payoff calculation accordingly.

Other Hedging Purposes:
Hedging applies to education payments, foreign loans, travel, medical, or investing abroad.

Hedging Gold Investments:
Investors may short USDINR futures to offset USDINR risk in gold ETFs.

Foreign Investments:
Investors can hedge offshore equity returns using currency derivatives.

Residual Risk Hedge:
Companies with both imports and exports can hedge net FX exposure.

Multiple Transactions:
For EURUSD exposure, use EURINR and USDINR futures if direct EURUSD contract is illiquid.

Education Payments Example:
Future FX risk for education fees can be hedged using futures matching payment timing.

Option Strategies:
Option spreads combine calls/puts with different strikes and/or maturities for tailored payoff.

Vertical Spread:
Same expiry, different strikes — can be bullish or bearish using calls or puts.

Horizontal Spread:
Same strike, different expiry dates — time value strategy.

Diagonal Spread:
Different strikes and expiry — combines vertical and horizontal.

Long Straddle:
Buy call and put at same strike to profit from high volatility.

Short Straddle:
Sell call and put at same strike to profit from low volatility.

Long Strangle:
Buy OTM call and put with different strikes to profit from sharp moves.

Short Strangle:
Sell OTM call and put — profit if prices stay within range.

Butterfly Spread:
Combines bull and bear spreads — neutral strategy with limited profit/loss.

Hedging with Puts:
Protects against currency depreciation for exporters.

Contingent Cash Flow:
Options suit cases where cash flow is uncertain (e.g., bids, agriculture).

Bear Put Spread:
Buy higher strike put, sell lower strike put to hedge with lower premium.

Hedging with Calls:
Protects importers from currency appreciation risk.

Bull Call Spread:
Buy ATM/ITM call, sell OTM call to lower premium cost.

Speculators' Use:
Speculators take directional positions using futures or options.

Cross Rate Speculation:
Speculators can combine currency pairs using cross rate relationships.

Premium Arbitrage:
Arbitragers exploit price differences between forwards and futures.

Triangular Arbitrage:
Exploit misaligned cross rates between three currencies.

Calendar Spread:
Trade same contract with different expiry to profit from spread movement.

Calendar Spread Drivers:
Interest rate differentials, liquidity and monetary policy affect spread movement.

Spread Order Facility:
Spread orders help manage execution risk when trading calendar spreads.

Regulations:
Hedging and trading must comply with FEMA, RBI and SEBI guidelines.

ETCD Limitations:
Standardised contracts may not perfectly match exposures — basis risk remains.

Contract Size Issue:
Standard lot sizes can cause over/under-hedging.

Cash Settlement Risk:
Timing mismatches between ETCD and actual transactions can create small losses.

Long-Term Hedging:
Long-dated exposures are difficult to hedge as ETCD tenors are shorter.

Important Formulae:

Effective Hedge Price:
Effective Price = Spot Rate ± Hedge Payoff

Calendar Spread Profit:
Spread Gain = (New Spread – Initial Spread) × Lot Size

Chapter 6: Trading Mechanism in Exchange Traded Currency Derivatives

Entities in the Trading System: Stock Exchanges, Clearing Corporations, Trading Members, Authorized Persons, Clearing Members, and Investors are the key entities enabling Exchange Traded Currency Derivatives.

Stock Exchanges: Provide a nationwide trading platform for various securities, set rules and regulations, ensure investor protection, and monitor compliance.

Clearing Corporations: Handle clearing, settlement, and risk management, providing settlement guarantees for trades executed on the Exchange.

Trading Member: Acts as an intermediary between the investor and the Exchange; must be registered and certified to access the trading system.

Authorized Person: Appointed by a trading member to provide clients access to the trading platform as an agent.

Clearing Members: Facilitate clearing and settlement; include Professional Clearing Members, Trading Cum Clearing Members, and Self Clearing Members.

Investor / Client: Trades through a trading member, must have a unique client code (UCC) linked to PAN, and can place orders through various channels like internet or phone.

Exchange Trading System: Fully automated, screen-based, order-driven system ensuring transparency and nationwide access.

Features of Exchange Trading System: Real-time order and price information, anonymous order matching on price-time priority, connected to clearing, surveillance, and data systems.

Trader Workstation (TWS): Terminal for trading members to access the Exchange system using unique IDs; displays own trades and market data.

Order Placement: Orders accepted by brokers undergo risk checks and are placed through multiple channels including DMA, ALGO, and STWT.

Order Routing: Orders are entered, verified, time-stamped, and routed to the Exchange where matching happens based on market depth.

Internet / Phone Orders: Clients can place orders via dedicated numbers or websites; brokers must verify client identity using secure methods.

Order Book: Shows unmatched buy/sell orders with price levels and quantities; enhances market transparency.

Spread Order Book: Allows execution of calendar spreads to trade the price difference between contracts of different maturities.

Calendar Spread: Simultaneous buy/sell of same contracts with different expiry dates to manage risk and margin requirements.

Order Matching Rule: Continuous price-time priority; best buy price is the highest bid and best sell price is the lowest ask; active orders match passive orders.

Passive and Active Orders: Unmatched orders are passive; new incoming orders that match existing ones are active.

Order Management: Covers entry, modification, cancellation, and matching of orders with defined price, time, and quantity conditions.

Price Condition Orders: Include Market Orders (buy/sell at best price), Limit Orders (buy/sell at specified price), and Stop Orders (activated by trigger price).

Market Order: Executes at the best available price; can be without protection or with protection to limit execution range.

Limit Order: Specifies desired price; executes only if market reaches that price or better.

Stop Order: Becomes active only when the market hits a specified trigger price.

Time Conditions: DAY (valid for the day), IOC (Immediate or Cancel), GTC (Good Till Cancelled), GTD (Good Till Date), and COL (Cancel on Logout).

Quantity Conditions: Disclosed Quantity, Minimum Fill, and All or None define how much of the order is shown or must be filled.

Proprietary Trading: Trading members can trade on their own account; requires Exchange approval for multiple proprietary terminals.

Order Modification: Allowed for unexecuted or partially executed orders; some changes may affect order priority.

Trade Execution: Matching of orders results in trades; confirmed by the Exchange with details like time and quantity.

Trade Modification: Limited to fields like client code; strict timelines and conditions apply.

Trade Annulment: Possible within 30 minutes of execution under specific conditions; may incur fees.

Risk Management: Brokers perform risk checks like order limits, client exposure, and margin requirements before sending orders to the Exchange.

Types of Risks: Operational (process failures), Market (price fluctuations), and Credit (client defaults).

Pre-Order Checks: Include price range, quantity freeze, value limits, UCC/PAN verification.

Pre-Trade Checks: Include trade execution range, self-trade prevention, market price protection, and emergency kill switches.

IRRA Platform: Allows investors to close positions/cancel orders during broker system disruptions; for retail investors only.

Technical Glitch Reporting: Brokers must report incidents to Exchanges and SEBI promptly and submit root cause analyses.

Business Continuity: For interoperable segments, correlated contracts can be traded on alternative exchanges to hedge positions.

Surveillance: Exchanges monitor positions, prices, and volumes in real-time to prevent market abuse.

Price Limit Circuit Filter: Currency futures and options have operating ranges (+/- 3% or 5% of base price); dynamic relaxation applies if trends break limits.

Currency Futures Price Band: No daily limits, but operating ranges exist to prevent erroneous orders.

Currency Options Price Band: Based on delta and underlying price; minimum ranges apply.

Trading Costs: Include statutory levies (GST, stamp duty), regulatory charges (SEBI fees, transaction fees), and brokerage fees.

Brokerage Cap: Max brokerage for futures is 2.5% of contract value; for options, 2.5% of premium or Rs.100 per lot, whichever is higher.

Commission Models: May include slab-wise, scrip-wise, or volume-based schemes; vary by broker type.

SEBI Turnover Fees: Rs.10 per crore for currency derivatives; annual fees apply for clearing members.

Stamp Duty: Uniform across India; collected by Exchanges and remitted to States based on buyer's domicile.

Important Formulae

Cross Rate: EUR/INR = EUR/USD × USD/INR

Spread Contract Execution:

First Leg = Reference Price

Second Leg = Reference Price ± Price Difference (Spread)

Chapter 7: Clearing, Settlement and Risk Management in Exchange

Clearing Corporation's Role: The Clearing Corporation registered with SEBI handles clearing and settlement of trades in Exchange-Traded Currency Derivatives (ETCD).

Legal Counterparty: It acts as a legal counterparty through novation, guaranteeing settlement.

Clearing Mechanism: Involves determining open positions and obligations of clearing members.

Netting: Multilateral netting is done to arrive at net settlement obligations.

Settlement Phases: Pay-In (members bring in funds/securities) and Pay-Out (members receive funds/securities).

Daily Settlement: Daily mark-to-market settlement is done on T+1; final settlement on T+2.

Clearing Corporation Functions: Clearing, settlement, margin collection, risk management.

Entities in Clearing: Clearing Corporation, Clearing Members, Clearing Banks, Depositories, Depository Participants.

Clearing Members Types: Professional Clearing Member (PCM), Trading Cum Clearing Member (TCM), Trading Cum Self-Clearing Member (SCM).

PCM Role: PCMs only clear and settle, no trading rights.

TCM Role: Can trade and clear their own and others' trades.

SCM Role: Can trade and clear only their own trades.

Clearing Banks: Handle funds transfer for pay-in/pay-out as per instructions from Clearing Corporation.

Depository Role: Maintains securities in electronic form and facilitates pledges for margin.

Interoperability: Enables clearing members to choose their preferred Clearing Corporation for multi-exchange trades.

Peer-to-Peer Links: Required between Clearing Corporations for interoperability.

Benefits of Interoperability: Better capital use, lower costs, reduced complexity.

Risk Management for Interoperability: Collateral must cover inter-CC exposures.

Margin Exchange: Margins and financial resources are shared bilaterally.

Open Position Computation: TMs declare 'Pro/Cli' positions which are summed up to arrive at CM's total position.

Proprietary vs Client Positions: Netting applies at individual client level but not across clients.

Settlement of Admitted Deals: Clearing members are liable for trades they undertake to settle.

Custodial Participants: Require unique codes; trades must be confirmed by clearing members.

Settlement Obligations: Computed via mark-to-market, premium settlement, exercise settlement.

Daily Mark-to-Market: Futures contracts marked to market daily at settlement price.

Final Settlement: Futures and options contracts settled at final settlement price.

Premium Settlement: Option premiums settled daily in cash.

Position Limits: Regulated to avoid excessive open positions.

Client Level Limits: E.g., USDINR – Higher of 6% OI or USD 20 million for retail clients.

Member Level Limits: Higher for banks and institutions; e.g., USDINR – Higher of 15% OI or USD 100 million.

Single INR Limit: Consolidated limit for all FCY-INR pairs.

Monitoring Limits: Exchanges monitor and share position limits daily.

Violation Actions: Members exceeding limits face restrictions and penalties.

Risk Management Framework: Includes margins, liquid assets, pre-trade controls, real-time monitoring.

Initial Margin: Computed upfront for all open positions.

SPAN System: Used to calculate initial margin using VaR approach.

Price Scan Range: Varies by currency pair, e.g., USDINR – 1.5%.

Volatility Scan Range: Fixed at 25% of annualized EWMA volatility.

Extreme Loss Margin (ELM): Additional margin to cover unexpected losses.

Calendar Spread Charges: Lower margins for offsetting positions in different expiry months.

Liquid Net Worth: Liquid assets minus margins payable must meet minimum requirements.

Risk Reduction Mode: Triggered when 90% of collateral is utilized; restricts trading.

Core Settlement Guarantee Fund: Covers obligations in case of default by a clearing member.

Fund Contributors: CCs, Exchanges, and clearing members contribute to the Core SGF.

Default Waterfall: Defines order of using member funds, insurance, SGF in case of default.

Client Collateral Protection: Mandatory margin pledging system via depositories.

No Title Transfer: Collateral must be pledged, not transferred.

Segregation: Client-level reporting of collateral and margins.

Margin Payment: Collected upfront, adjusted real-time against liquid assets.

Settlement of Client Funds: Brokers must return unused client funds on a periodic basis.

Cyber Security Framework: Brokers and DPs must maintain robust cyber security to protect data integrity.

Key Formulas

Futures Price (Interest Rate Parity): $F = S \times [(1 + rd) / (1 + rf)]^T$

Black-Scholes Call Option: $C = S \times N(d1) - K \times e^{(-rT)} \times N(d2)$

d1 in Black-Scholes: $d1 = [\ln(S/K) + (r + \sigma^2/2)T] / (\sigma\sqrt{T})$

d2 in Black-Scholes: $d2 = d1 - \sigma\sqrt{T}$

Chapter 8: Regulatory Framework for Exchange Traded Currency Derivatives

Role of RBI and SEBI:
Exchange Traded Currency Derivatives (ETCD) are jointly regulated by the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI).

Operational Rules:
Exchanges and Clearing Corporations set operational rules within statutory guidelines provided by RBI and SEBI.

FEMA 1999:
RBI derives regulatory powers from the Foreign Exchange Management Act, 1999 to govern foreign exchange and derivatives.

Reserve Bank of India Act, 1934:
Authorizes RBI to manage foreign exchange and derivatives transactions.

Securities Contract (Regulation) Act, 1956:
SEBI regulates all exchange-traded contracts under this Act.

Bye-laws:
Operational rules for trading, clearing, settlement, and risk management are framed under Exchange bye-laws.

Primary Regulatory Role:
RBI oversees all activities in the forex market, while SEBI focuses on exchange-traded derivatives.

Definition of Securities:
Includes shares, stocks, bonds, debentures, derivatives, units of collective investment schemes, government securities, electronic gold receipts, and other instruments declared by the Government.

Definition of Derivatives:
Securities derived from debt, shares, loans, commodities, or contracts based on price indices.

Legality of Derivatives:
Section 18A of the SC(R)A ensures exchange-traded derivative contracts are legal if traded and settled on recognized exchanges.

RBI-SEBI Standing Technical Committee:
Formed to coordinate regulatory roles for currency and interest rate futures.

Committee Recommendations:
Recommended norms for product design, risk management, surveillance, and membership criteria.

Initial Product:
USD-INR currency futures were recommended as the first product.

Risk Management Measures:
Margining, mark-to-market, surveillance, and position limits are part of the regulatory framework.

Separate Segment:
Currency futures must be traded on a separate segment with separate membership, trading platform, and clearing corporation.

Net Worth Criteria for Exchange:
Exchange must have a minimum net worth of Rs. 100 crores.

Net Worth for Members:
Trading members need Rs. 1 crore net worth; clearing members require Rs. 10 crores.

Foreign Exchange Management Act (FEMA):
Replaced FERA to facilitate external payments and orderly forex market development.

Scope of FEMA:
Covers holding, realization, repatriation, and dealings in foreign exchange and securities.

Applicability:
Applies to all branches, offices, and agencies owned or controlled by persons resident in India, even if located abroad.

Authorised Persons:
RBI regulates authorised dealers, issues directions, and inspects books.

SEBI Act, 1992:
Establishes SEBI to protect investors, develop and regulate the securities market.

SEBI's Powers:
Regulates stock exchanges, brokers, self-regulatory organizations, and prohibits fraudulent practices.

SEBI's Role in ETCD:
SEBI issues guidelines for trading, clearing, settlement, surveillance, and investor protection.

Approval of Exchange:
Exchanges must get SEBI's approval to set up a currency derivatives segment.

Separate Membership:
Membership in the currency derivatives segment is distinct from other segments.

Banks as Members:
Banks can become ETCD members if they meet RBI and SEBI's eligibility norms.

Certification Requirements:
Approved users and sales personnel must hold relevant certifications.

Contract Specifications:
SEBI sets rules on trading hours, contract size, cycle, price bands, and expiry.

Position Limits:
Limits for trading members, institutional and non-institutional clients are defined.

Surveillance Systems:
Guidelines for surveillance to ensure market integrity.

Clearing Corporations' Role:
Must get SEBI approval for clearing and settlement of currency derivatives.

Full Novation:
Clearing corporations interpose themselves between both legs of each trade.

Interoperability:
Permitted between clearing corporations for currency derivatives.

Risk Management:
Includes margining, settlement cycles, and separate Core Settlement Guarantee Funds.

Currency Futures Directions, 2008:
RBI's guidelines on currency futures' eligibility, contract features, participants, and risk management.

Currency Options Directions, 2010:
RBI's rules for exchange-traded currency options.

Foreign Exchange Management Regulations, 2000:
Define hedging, derivative contracts, and remittance norms.

Master Directions:
Cover risk management, interbank dealings, and participation guidelines.

FEDAI:
A self-regulatory body that supports banks in forex dealings and coordinates with RBI.

Participation Rules:
All investors, residents, and non-residents may participate in ETCD within regulatory limits.

AD Category I Banks:
Eligible to be trading and clearing members if they meet net worth, CRAR, and NPA norms.

Position Limits for Banks:
Synthetic USD-INR positions must stay within exchange-defined limits.

Residents:
May take ETCD positions up to USD 100 million without proving underlying exposure.

FPIs:
Allowed similar limits as residents, with daily reporting to custodians.

NBFCs:
May participate for hedging underlying forex exposure if size norms are met.

Primary Dealers:
Allowed as clients or members, only for proprietary trading.

RBI Intervention:
RBI may intervene in ETCD to manage excessive market volatility.

Membership Criteria:
Separate membership norms apply for stock brokers, clearing members, and trading members.

Base Minimum Capital:
Ranges from Rs. 10 lakhs to Rs. 50 lakhs based on activity type.

Eligibility for Entities:
Individuals, partnerships, LLPs, companies, and banks must meet specific educational, experience, and structural criteria.

Authorized Person:
Acts as an agent of the stock broker to provide trading access; must meet SEBI norms.

Key Formulae

Option Delta Hedge:
$\Delta = \partial \text{Option Price} / \partial \text{Underlying Price}$

Position Limit Check:
Position Limit = Min (Exchange Prescribed %, Absolute USD Limit)

Margin Requirement:

Initial Margin = Contract Size × Price × Margin %

Chapter 9 : Accounting and Taxation

Accounting Guideline and Disclosure Requirements: Similar to other exchange-traded derivatives, accounting, valuation, and capital requirements for exchange-traded currency derivatives must comply with applicable accounting standards and valuation methods prescribed by ICAI or other relevant regulators.

ICAI Guidance Notes (Revised 2021): Banking, NBFCs, housing finance companies, and insurance entities must follow regulator-prescribed accounting treatment for derivative contracts. If no specific treatment exists, ICAI's guidance applies.

Recognition of Derivatives: All derivative contracts must be recognised on the balance sheet and measured at fair value.

Fair Value Measurement: Fair value means the 'exit price' — the amount paid to transfer a liability or received to transfer an asset, factoring in credit risk and collateral.

No Hedge Accounting: If hedge accounting is not used, derivatives must be measured at fair value with changes recognised in profit and loss.

Using Hedge Accounting: Entities may apply hedge accounting if they can identify risk management objectives, hedged risks, measurement methods, and document all aspects at inception and ongoing.

Partial Hedge Accounting: Entities can apply hedge accounting for some contracts and fair value accounting for others.

Disclosure Requirements: Entities must disclose accounting policies, risk management objectives, hedging activities, fair value measurement methods, and the impact on profit/loss and equity.

Types of Hedge Accounting: There are three recognised types: fair value hedge, cash flow hedge, and net investment hedge.

Fair Value Hedge: Used to hedge risk of fair value change in assets, liabilities, or unrecognised firm commitments.

Cash Flow Hedge: Used to hedge risk of variability in cash flows from existing assets/liabilities or forecast transactions. Effective hedge gains/losses are recognised in equity.

Net Investment Hedge: Used by investors to hedge net assets in foreign operations. Foreign exchange gains/losses are recognised in equity; ineffective portions are recognised in profit/loss.

Presentation in Financial Statements: Derivative assets/liabilities are presented as current/non-current based on purpose — trading derivatives are current; hedges follow the classification of the hedged item.

No Netting Off: Netting of assets and liabilities is not permitted except for basis adjustments under cash flow hedges.

Hedge Effectiveness: Entities must assess hedge effectiveness and ineffectiveness. Methods may include critical terms match, dollar offset, or regression analysis.

Accounting Standard (AS) 30: Defines financial instruments, including derivatives, as contracts whose value changes with specified variables, requires minimal initial investment, and settles at a future date.

Applicability of AS 30: Exchange-traded derivatives meet AS 30 conditions.

Taxation of Exchange Traded Currency Derivatives: Profits or losses from trading in exchange-traded derivatives are taxable under 'Profits and Gains from Business or Profession'.

Speculative vs. Non-Speculative: Derivative transactions are non-speculative if carried out on a recognised stock exchange for hedging.

Business Income Treatment: Gains/losses from exchange-traded currency derivatives are treated as normal business income and taxed at applicable rates.

FPI Treatment: Securities held by Foreign Portfolio Investors (FPIs) are always treated as capital assets. Gains from derivatives are taxed as capital gains.

Short-Term Capital Gains: If FPI-held derivatives are held under 12 months, gains/losses are short-term capital gains/losses.

Turnover Computation: Turnover for exchange-traded derivatives includes total favourable and unfavourable differences, premiums received on options sales, and differences on reverse trades.

Importance of Turnover: Turnover determines tax audit applicability and eligibility for presumptive taxation under Section 44AD.

Presumptive Taxation: Under Section 44AD, taxpayers with turnover up to ₹2 crores (₹3 crores if 95% receipts are digital) can declare profits at 6% of turnover.

Tax Audit Limit: Tax audit is mandatory if turnover exceeds ₹2 crores (or ₹3 crores with 95% digital receipts).

Advance Tax: Taxpayers under presumptive taxation can pay 100% advance tax by 15th March.

Set-off and Carry Forward: Business losses from exchange-traded derivatives can be set off against any business income but not against salary income.

Carry Forward Period: Unabsorbed business losses can be carried forward for up to 8 assessment years.

Due Date Requirement: Losses can only be carried forward if the return is filed on or before the due date.

Speculative Transaction Exclusion: Section 43(5) excludes eligible derivatives from the definition of speculative transactions if traded on a recognised stock exchange.

Tax Deductibility: Administrative expenses related to derivatives trading are deductible.

Disclosure of Foreign Assets: Entities must disclose all foreign exchange assets, liabilities, and contingent liabilities, both hedged and unhedged.

Hedge Documentation: Entities must document risk management objectives, hedged risks, and hedge effectiveness at inception and each reporting period.

Effectiveness Measurement: Ineffective portions of hedges must be recognised in profit and loss immediately.

Derivative Classification: Trading derivatives are classified as current; hedges follow the classification of the hedged item or settlement dates.

No Partial Settlements: Derivatives with periodic/multiple settlements should not be split into current/non-current parts.

Gross Reporting: Derivative assets and liabilities must be reported gross (no netting), except under cash flow hedge adjustments.

Foreign Exchange Translation: Net investment hedges protect investors from currency translation risk on foreign operations.

Equity Recognition: Effective gains/losses from net investment hedges are recognised directly in equity.

Profit/Loss on Disposal: Gains/losses are recognised in profit/loss upon disposal of the foreign operation.

Risk Management Disclosure: Entities must explain how they manage risks and why they use derivatives for hedging.

Chapter 10: Code of Conduct and Investor Protection Measures

Code of Conduct for Brokers:

1. Brokers must maintain integrity, promptitude, and fairness in all business conduct.
2. They must act with due skill, care, and diligence.

3. Brokers must avoid manipulative, fraudulent, or deceptive transactions.
4. They must not create a false market or harm investor interests.
5. Compliance with statutory requirements is mandatory.

Duty towards Investors:

6. Brokers must faithfully execute client orders at the best market price.
7. They must not refuse small investors due to low business volume.
8. Prompt information on execution or non-execution of orders must be provided.
9. Prompt payment for securities sold and delivery of purchased securities is mandatory.
10. Contract notes must be issued without delay in the prescribed format.
11. Brokers must maintain client confidentiality.
12. They must not induce transactions just for brokerage.
13. Brokers must not furnish false/misleading quotations or advice.
14. They must not deal with clients who defaulted elsewhere.
15. Brokers must disclose if acting as principal or agent.
16. They must avoid conflicts of interest and not prioritize their gain over clients' interests.
17. Recommendations must be suitable for clients' financial situations.
18. Investment advice in public media must disclose personal and family interests.
19. Brokers must employ adequately trained staff to serve clients competently.

Duty towards Other Brokers:

20. Brokers must cooperate in comparing unmatched transactions.
21. Bad delivery documents must not be knowingly delivered.
22. Full cooperation is required to protect clients' rights to dividends, bonuses, etc.
23. Transactions must be settled promptly with other brokers.
24. Advertising without exchange permission is prohibited.
25. Unfair means to induce clients from other brokers is forbidden.
26. False statements in returns to SEBI or the exchange must be avoided.

Investor Grievance Mechanism:

27. Investors should first approach the intermediary or company for grievance redressal.
28. If unsatisfied, they can approach the stock exchange or SEBI.
29. Stock exchanges and SEBI handle grievances independently.

Online Dispute Resolution (ODR):

30. SEBI mandates a common ODR portal for disputes in the securities market.
31. The portal uses online conciliation and arbitration.
32. Disputes with brokers, depositories, registrars, advisors, etc., are covered.
33. Both retail and institutional clients may use ODR or independent institutions.
34. MIIs must empanel approved ODR institutions and follow SEBI guidelines.
35. MIIs operate a shared ODR portal integrated with SEBI's SCORES.
36. Market participants must enroll and cooperate with the portal.

Dispute Resolution Process:

37. Investors must first try direct resolution; if unsatisfied, they escalate to ODR.
38. Market participants can also initiate ODR after a 15-day notice to investors.
39. The ODR portal allows document uploads and status tracking.
40. A round-robin system allocates disputes to ODR institutions.

Conciliation Process:

41. A neutral conciliator tries to resolve disputes within 21 days.
42. If conciliation fails, online arbitration may follow.
43. For market participants to initiate arbitration, they must deposit the claim amount.

Arbitration:

44. Arbitration must conclude with an award within 30 days.
45. Disputes above ₹30 lakh require a three-member tribunal.
46. Awards must be complied with within 15 days unless legally challenged.
47. Challenges must be backed by a full deposit of the award amount.

Investor Protection Fund (IPF):

48. Exchanges must maintain an IPF to compensate legitimate non-speculative claims.
49. Funding comes from listing fees, penalties, transaction charges, and interest earned.
50. IPF payouts are subject to per-investor compensation limits and strict guidelines.

Interest Rate Derivatives

Chapter 1: Introduction to Interest Rate, Interest Rate Instruments and Fixed Income Market

1. **Interest Rate Concept**: Interest rate is the charge for borrowing assets, expressed as a percentage of the principal.
2. **Debt vs. Loan**: Debt securities are tradable, unlike loans, allowing risk transfer through pricing.
3. **Factors Influencing Interest Rates**: Demand and supply of money, fiscal deficit, inflation, global interest rates, and central bank policies.
4. **Nominal vs. Real Interest Rate**: Nominal rate is the stated rate; real rate adjusts for inflation.
5. **Effective Interest Rate**: Accounts for compounding, differing from the nominal rate.
6. **Fixed Income Securities**: Pay fixed interest periodically and return principal at maturity.
7. **Bond Components**: Include issue price, face value, coupon, coupon frequency, and maturity date.
8. **Government Bonds**: Issued by governments, considered low-risk, often called sovereign or gilt-edged bonds.
9. **Municipal Bonds**: Issued by local authorities for infrastructure projects.
10. **Corporate Bonds**: Issued by companies, carry higher risk, and offer higher yields than government bonds.
11. **Securitized Debt**: Converts illiquid loans into tradable securities via a Special Purpose Vehicle (SPV).
12. **Bond Maturity Classifications**: Overnight, ultra-short-term, short-term (1-5 years), medium-term (5-12 years), long-term (>12 years).
13. **Staggered Maturities**: Bonds with varying maturity dates to manage issuer's cash flow.
14. **Plain Vanilla Bonds**: Fixed coupon, redeemed at face value, simplest bond type.
15. **Zero-Coupon Bonds (ZCBs)**: Issued at a discount, redeemed at face value, no periodic interest.
16. **Floating Rate Bonds (FRBs)**: Coupons linked to benchmark rates, reset periodically.
17. **Caps and Floors**: Limits on FRB coupon rates to protect issuers (caps) or investors (floors).
18. **Inverse Floater**: Coupon inversely related to benchmark rate, decreases as rates rise.
19. **Inflation Indexed Bonds**: Face value or coupons adjusted for inflation (e.g., WPI, CPI).
20. **Step Up/Down Bonds**: Coupons increase (step-up) or decrease (step-down) over time.
21. **Deferred Coupon Bonds**: No interest initially, high interest later, suitable for long gestation projects.
22. **Deep Discount Bonds**: ZCBs issued at a significant discount, typically for long-term projects.
23. **Embedded Options**: Call (issuer redeems early) or put (investor redeems early) options affect bond pricing.
24. **Straight Bonds**: Fixed coupon, no embedded options, also called plain vanilla bonds.
25. **Callable Bonds**: Issuer can redeem before maturity, often at a premium when rates fall.
26. **Puttable Bonds**: Investor can redeem early, often at a discount when rates rise.
27. **Secured Debt**: Backed by collateral, paid first in liquidation, higher recovery rate.
28. **Unsecured Debt**: No specific collateral, paid after secured debt in liquidation.
29. **Subordinated Debt**: Riskier, paid before equity in liquidation, used for bank Tier II capital.
30. **Credit Enhanced Bonds**: Improve creditworthiness via collateral, insurance, or guarantees.
31. **Perpetual Bonds**: No maturity, pay coupons indefinitely, issuer may have call options.
32. **Annuities**: Provide regular payments, non-tradable, used in loans.
33. **AT1 Bonds**: Perpetual, non-convertible, used for bank Tier 1 capital under Basel III.
34. **AT2 Bonds**: Subordinated, minimum 5-year term, used for bank Tier 2 capital.
35. **Convertible Bonds**: Can be converted to equity at a pre-fixed price.
36. **REITs and InvITs**: Trusts investing in real estate or infrastructure, distributing dividends.
37. **Green Bonds**: Fund climate and environmental projects, linked to issuer's balance sheet.
38. **Tax-Free Bonds**: Interest exempt under Section 10 of the Income Tax Act, 1961.
39. **Tax-Saving Bonds**: Offer tax benefits with a lock-in period, interest taxable.

40. **Asset Linked Bonds**: Returns depend on underlying asset performance.
41. **Risk-Free Interest Rate**: Typically associated with government bonds in local currency.
42. **Term Structure of Interest Rates**: Relationship between interest rates and maturities.
43. **Accrued Interest**: Interest earned but not yet paid, calculated up to settlement date.
44. **Spot Rate**: Yield on a zero-coupon bond for a specific maturity.
45. **Holding Period Return**: Total return from holding a security over a period.
46. **Coupon Rate**: Annual interest payment as a percentage of face value.
47. **Current Yield**: Annual coupon divided by current bond price.
48. **Yield-To-Maturity (YTM)**: Total return if bond is held to maturity, factoring all cash flows.
49. **Bond Valuation**: Present value of future cash flows discounted at market yield.
50. **Debt Market Role**: Facilitates capital raising for issuers and investment opportunities for investors.

Important Formulas:

1. Effective Interest Rate: [(1 + annual interest rate / n)^n – 1]
2. Real Interest Rate (Approximation): r = R - i
3. Real Interest Rate (Exact): (1 + r) × (1 + i) = (1 + R)

Chapter 2: Interest Rate Derivatives

1. **Derivatives Definition**: Financial contracts deriving value from underlying assets like interest rates.
2. **Economic Role**: Facilitate risk management, price discovery, and market efficiency.
3. **Interest Rate Derivatives**: Contracts based on interest rates or interest rate instruments.
4. **Derivative Products**: Include futures, options, swaps, and forward rate agreements (FRAs).
5. **Growth Drivers**: Increased volatility, regulatory reforms, and demand for hedging tools.
6. **Market Participants**: Hedgers, speculators, and arbitrageurs in the derivatives market.
7. **Hedgers**: Use derivatives to mitigate interest rate risk exposure.
8. **Speculators**: Take positions to profit from expected price movements.
9. **Arbitrageurs**: Exploit price discrepancies for risk-free profits.
10. **Underlying Assets**: Include government bonds, treasury bills, and interest rate benchmarks.
11. **OTC Derivatives**: Bilateral contracts, customizable but less transparent.
12. **Exchange-Traded Derivatives**: Standardized, traded on exchanges, highly transparent.
13. **OTC vs. Exchange-Traded**: OTC offers flexibility; exchange-traded ensures liquidity and standardization.
14. **Interest Rate Futures**: Contracts to buy/sell interest rate instruments at a future date.
15. **Interest Rate Options**: Rights to buy/sell interest rate instruments at a specified price.
16. **Forward Rate Agreements (FRAs)**: OTC contracts locking in future interest rates.
17. **Interest Rate Swaps**: Agreements to exchange fixed for floating interest payments.
18. **Market Liquidity**: Exchange-traded derivatives enhance market liquidity.
19. **Price Discovery**: Derivatives help establish fair market prices.
20. **Risk Transfer**: Derivatives allow shifting of interest rate risk to willing parties.
21. **Regulatory Oversight**: SEBI and RBI regulate interest rate derivatives in India.
22. **Market Growth**: Driven by globalization and financial market integration.
23. **Hedging Strategies**: Used to protect against adverse interest rate movements.
24. **Speculative Strategies**: Aim to profit from predicted rate changes.
25. **Arbitrage Opportunities**: Arise from mispricing between markets.
26. **Exchange Role**: Facilitates trades by matching buyers and sellers.
27. **Clearing Corporation Role**: Acts as a central counterparty to guarantee trades.
28. **Novation**: Clearing corporation becomes the counterparty to both buyer and seller.
29. **Transparency**: Exchange-traded derivatives offer higher transparency than OTC.
30. **Standardization**: Exchange-traded contracts have fixed terms, unlike OTC.
31. **Margin Requirements**: Ensure financial integrity in exchange-traded derivatives.
32. **Market Participants' Roles**: Vary based on risk appetite and objectives.
33. **Interest Rate Sensitivity**: Derivatives are highly sensitive to rate changes.
34. **Liquidity Risk**: OTC derivatives may face lower liquidity than exchange-traded.
35. **Counterparty Risk**: Higher in OTC due to lack of central clearing.
36. **Regulatory Reforms**: Post-2008 crisis, increased focus on exchange-traded derivatives.
37. **Volatility Impact**: Higher volatility drives demand for derivative instruments.
38. **Benchmark Rates**: MIBOR, Treasury bill rates used as underlyings.
39. **Contract Specifications**: Define terms like lot size, tick size, and expiry.
40. **Risk Management**: Derivatives reduce uncertainty in interest rate fluctuations.
41. **Global Integration**: Aligns domestic markets with international standards.
42. **Exchange Benefits**: Include price transparency and reduced counterparty risk.
43. **OTC Flexibility**: Allows tailored contracts for specific needs.
44. **Market Efficiency**: Derivatives enhance allocation of financial resources.
45. **Speculative Risks**: High leverage can lead to significant losses.
46. **Hedging Effectiveness**: Depends on alignment with underlying exposure.

47. **Arbitrage Profit**: Requires simultaneous trades in mispriced markets.
48. **Clearing Mechanism**: Ensures trade settlement and reduces default risk.
49. **Market Access**: Open to various entities under regulatory guidelines.
50. **Derivative Evolution**: Driven by technological advancements and market needs.

Chapter 3: Exchange Traded Interest Rate Futures

1. **Interest Rate Futures (IRF)**: Contracts to buy/sell interest rate instruments at a future date.
2. **Payoff Structure**: Linear, with gains/losses based on price movements.
3. **Contract Specifications**: Include underlying, lot size, tick size, and expiry date.
4. **Rationale for IRFs**: Hedge interest rate risk and enhance market liquidity.
5. **Advantages Over FRAs**: Standardized, transparent, and lower counterparty risk.
6. **Limitations vs. FRAs**: Less flexibility due to standardization.
7. **IRF Pricing**: Based on the cost-of-carry model, adjusted for interest rates.
8. **Underlying Assets**: Typically government securities or notional bonds.
9. **Lot Size**: Fixed quantity of the underlying per contract.
10. **Tick Size**: Minimum price movement increment.
11. **Contract Value Change**: Tick size multiplied by lot size per tick movement.
12. **Exchange-Traded Benefit**: Ensures liquidity and price transparency.
13. **Hedging Use**: Protects against adverse interest rate movements.
14. **Speculative Use**: Allows betting on future rate changes.
15. **Arbitrage Use**: Exploits price differences between markets.
16. **Cash Settlement**: Most IRFs in India are cash-settled, not physically delivered.
17. **Notional Bonds**: Hypothetical bonds used as IRF underlyings.
18. **Contract Expiry**: Typically the last Thursday of the contract month.
19. **Margin Requirements**: Initial and variation margins ensure financial integrity.
20. **Price Computation**: Incorporates spot price, interest rates, and time to expiry.
21. **Market Participants**: Include banks, financial institutions, and corporates.
22. **Regulatory Oversight**: SEBI and RBI set guidelines for IRF trading.
23. **Liquidity Advantage**: High trading volumes ensure ease of entry/exit.
24. **Risk Management**: IRFs reduce exposure to interest rate volatility.
25. **Standardization**: Fixed terms enhance market efficiency.
26. **Counterparty Risk**: Mitigated by clearing corporation as central counterparty.
27. **Price Transparency**: Real-time pricing available on exchanges.
28. **Basis Risk**: Arises from mismatches in hedging instruments.
29. **Contract Design**: Balances liquidity and risk management needs.
30. **Exchange Role**: Matches buyers and sellers for efficient trading.
31. **Clearing Role**: Guarantees trade settlement, reducing default risk.
32. **Volatility Impact**: IRFs help manage rate fluctuation risks.
33. **Market Growth**: Driven by demand for risk management tools.
34. **Trading Strategies**: Include hedging, speculation, and arbitrage.
35. **IRF Introduction**: Aimed to deepen India's debt market.
36. **Notional Bond IRFs**: Based on 6-year, 10-year, or 13-year bonds.
37. **Cash Settlement Risk**: May lead to imperfect hedging.
38. **Margin Calls**: Required to cover potential losses.
39. **Contract Tenure**: Weekly or monthly expiries available.
40. **Price Discount**: IRF prices often trade below future prices due to borrowing costs.
41. **Regulatory Support**: RBI and SEBI promote IRF adoption.
42. **Market Access**: Open to eligible entities meeting prudential norms.
43. **Liquidity Risk**: Lower in exchange-traded IRFs than OTC.
44. **Hedging Effectiveness**: Depends on contract alignment with exposure.
45. **Speculative Leverage**: High leverage amplifies gains and losses.
46. **Arbitrage Opportunities**: Exploit mispricing in related markets.

47. **Exchange Benefits**: Include reduced transaction costs and high liquidity.
48. **Clearing Guarantee**: Ensures settlement even if a party defaults.
49. **Contract Specifications**: Critical for understanding trade obligations.
50. **Risk Management Tools**: IRFs are key for financial institutions' stability.

Important Formulas:

1. IRF Price: Spot Price + (Cost of Carry - Coupon/Accrued Interest)

Chapter 4: Exchange Traded Interest Rate Options

1. **Options Definition**: Contracts giving the right, not obligation, to buy/sell at a strike price.
2. **Futures vs. Options**: Options offer choice; futures mandate obligation.
3. **Option Styles**: European (exercised at expiry) and American (exercised anytime).
4. **Moneyness**: In-the-money, at-the-money, or out-of-the-money based on strike vs. spot price.
5. **Option Pricing**: Influenced by spot price, strike price, volatility, time, and risk-free rate.
6. **Option Greeks**: Delta, Gamma, Vega, Theta, Rho measure price sensitivities.
7. **Delta**: Change in option price per unit change in underlying price.
8. **Gamma**: Rate of change in Delta per unit change in underlying price.
9. **Vega**: Sensitivity to changes in volatility.
10. **Theta**: Time decay effect on option price.
11. **Rho**: Sensitivity to changes in risk-free interest rate.
12. **Black-Scholes Model**: Used for option pricing, assumes European style.
13. **Implied Volatility (IV)**: Market's expectation of future volatility.
14. **Payoff Diagrams**: Visualize option gains/losses at expiry.
15. **Call Option Payoff**: Max(0, Spot Price - Strike Price) - Premium.
16. **Put Option Payoff**: Max(0, Strike Price - Spot Price) - Premium.
17. **Contract Specifications**: Define strike prices, expiry, and underlying.
18. **Exchange-Traded Options**: Standardized, transparent, and liquid.
19. **OTC vs. Exchange-Traded**: OTC options are customizable but less transparent.
20. **Hedging Use**: Options protect against adverse rate movements.
21. **Speculative Use**: Options allow betting on rate directions.
22. **Arbitrage Use**: Exploit pricing inefficiencies across markets.
23. **European Options**: Common in Indian exchange-traded markets.
24. **Premium Components**: Intrinsic value and time value.
25. **Intrinsic Value**: Immediate exercise value of the option.
26. **Time Value**: Value due to potential future price movements.
27. **Volatility Impact**: Higher volatility increases option premiums.
28. **Time Decay**: Options lose value as expiry approaches.
29. **Risk-Free Rate**: Affects option pricing via cost-of-carry.
30. **Liquidity Advantage**: Exchange-traded options ensure ease of trading.
31. **Counterparty Risk**: Reduced by clearing corporation guarantees.
32. **Margin Requirements**: Apply to option sellers, not buyers.
33. **Strike Price**: Predetermined price for exercising the option.
34. **Expiry Date**: Date when the option contract terminates.
35. **Market Participants**: Include hedgers, speculators, and arbitrageurs.
36. **Regulatory Oversight**: SEBI and RBI regulate option markets.
37. **Price Transparency**: Real-time pricing on exchange platforms.
38. **Hedging Effectiveness**: Depends on option alignment with exposure.
39. **Speculative Leverage**: Options amplify gains/losses due to low premiums.
40. **Arbitrage Opportunities**: From mispricing between spot and derivatives.
41. **Exchange Benefits**: Include liquidity and standardized terms.
42. **Clearing Role**: Ensures settlement and mitigates default risk.
43. **Option Strategies**: Combine calls/puts for specific risk-reward profiles.
44. **Volatility Risk**: Impacts option pricing significantly.
45. **Contract Standardization**: Enhances market efficiency and liquidity.
46. **Risk Management**: Options reduce interest rate fluctuation exposure.

47. **Market Growth**: Driven by demand for flexible hedging tools.
48. **Option Premium**: Cost paid to acquire the option contract.
49. **Payoff Asymmetry**: Options limit downside to premium paid.
50. **Trading Platforms**: Facilitate efficient option trading and pricing.

Important Formulas:

1. Call Option Payoff: Max(0, S - K) - Premium
2. Put Option Payoff: Max(0, K - S) - Premium

Chapter 5: Strategies Using Exchange Traded Interest Rate Derivatives

1. **Market Participants**: Hedgers, speculators, and arbitrageurs with distinct objectives.
2. **Hedging**: Reduces risk from adverse interest rate movements.
3. **Speculation**: Aims to profit from predicted rate changes.
4. **Arbitrage**: Exploits price discrepancies for risk-free gains.
5. **Hedging Strategies**: Use futures/options to offset rate risk exposure.
6. **Speculative Strategies**: Leverage derivatives for high returns.
7. **Arbitrage Strategies**: Simultaneous trades in mispriced markets.
8. **Option Strategies**: Include covered calls, protective puts, and spreads.
9. **Covered Call**: Sell call options against owned underlying assets.
10. **Protective Put**: Buy puts to hedge against price declines.
11. **Bull Spread**: Buy low strike call, sell high strike call.
12. **Bear Spread**: Buy high strike put, sell low strike put.
13. **Straddle**: Buy call and put with same strike and expiry.
14. **Strangle**: Buy call and put with different strikes, same expiry.
15. **Butterfly Spread**: Combine bull and bear spreads for limited risk/reward.
16. **Condor Spread**: Similar to butterfly, with wider strike range.
17. **Spread Trading**: Uses price differences between contracts.
18. **Calendar Spread**: Trades contracts with different expiry dates.
19. **Hedging Limitation**: Basis risk from imperfect hedge alignment.
20. **Basis Risk**: Arises from mismatches in amount, maturity, or underlying.
21. **Cash Settlement Limitation**: Leads to imperfect hedging outcomes.
22. **Leverage Risk**: High leverage amplifies potential losses.
23. **Liquidity Risk**: May affect ability to enter/exit positions.
24. **Hedging Effectiveness**: Depends on correlation with underlying exposure.
25. **Speculative Risk**: High leverage increases loss potential.
26. **Arbitrage Challenges**: Requires precise timing and low transaction costs.
27. **Option Payoffs**: Vary based on strategy and market conditions.
28. **Risk-Reward Profiles**: Strategies balance potential gains and losses.
29. **Market Volatility**: Impacts strategy selection and outcomes.
30. **Regulatory Constraints**: Limit certain speculative strategies.
31. **Margin Requirements**: Apply to futures and option sellers.
32. **Trading Costs**: Impact profitability of speculative strategies.
33. **Contract Standardization**: Limits flexibility in hedging strategies.
34. **Price Transparency**: Aids in identifying arbitrage opportunities.
35. **Counterparty Risk**: Mitigated by exchange clearing mechanisms.
36. **Market Access**: Available to eligible entities under regulations.
37. **Hedging Tools**: Futures and options are primary instruments.
38. **Speculative Leverage**: Options provide high leverage potential.
39. **Arbitrage Execution**: Requires simultaneous market access.
40. **Spread Benefits**: Reduce risk compared to outright positions.
41. **Strategy Complexity**: Varies from simple hedges to complex spreads.
42. **Market Efficiency**: Enhanced by derivative trading strategies.
43. **Risk Management**: Central to hedging strategy design.
44. **Volatility Impact**: Higher volatility favors option-based strategies.
45. **Time Decay**: Affects option strategy performance.
46. **Delta Hedging**: Adjusts positions to maintain neutrality.

47. **Gamma Impact**: Influences delta hedging adjustments.
48. **Vega Sensitivity**: Critical for volatility-based strategies.
49. **Theta Decay**: Impacts long-term option strategies.
50. **Regulatory Compliance**: Ensures fair and transparent trading.

Chapter 6: Trading Mechanism in Exchange Traded Interest Rate Derivatives

1. **Trading Entities**: Include exchanges, brokers, and clearing corporations.
2. **Exchange Role**: Matches buyers and sellers for trades.
3. **Clearing Corporation**: Acts as central counterparty, guaranteeing trades.
4. **Trading System**: Electronic platforms ensure efficient trading.
5. **Order Types**: Market, limit, stop-loss, and spread orders.
6. **Order Management**: Involves order entry, modification, and cancellation.
7. **Risk Management**: Includes margins and position limits.
8. **Order Routing**: Directs orders to exchange trading systems.
9. **Price Limit Circuit Filter**: Caps price movements to prevent volatility.
10. **Trading Costs**: Include brokerage, exchange fees, and taxes.
11. **Market Orders**: Execute immediately at best available price.
12. **Limit Orders**: Execute at specified or better price.
13. **Stop-Loss Orders**: Trigger at predefined price to limit losses.
14. **Spread Orders**: Trade price differences between contracts.
15. **Co-Location**: Allows faster access to exchange trading systems.
16. **Market Makers**: Provide liquidity by quoting bid/ask prices.
17. **Trading Platforms**: Support real-time price dissemination.
18. **Order Book**: Displays all active buy and sell orders.
19. **Trade Execution**: Occurs when buy and sell orders match.
20. **Margin Calls**: Required to cover potential losses.
21. **Position Limits**: Restrict exposure to manage risk.
22. **Liquidity Provision**: Ensured by exchange mechanisms and market makers.
23. **Transparency**: Real-time price and volume data available.
24. **Regulatory Oversight**: SEBI ensures fair trading practices.
25. **Broker Role**: Facilitates client trades and compliance.
26. **Clearing Member**: Ensures trade settlement via clearing corporation.
27. **Trading Hours**: Defined by exchange for IRF and options.
28. **Order Validation**: Ensures compliance with exchange rules.
29. **Risk Controls**: Include pre-trade and post-trade checks.
30. **Circuit Breakers**: Halt trading during extreme volatility.
31. **Transaction Costs**: Impact profitability of frequent trading.
32. **Electronic Trading**: Enhances speed and efficiency.
33. **Order Priority**: Based on price and time of entry.
34. **Market Depth**: Reflects liquidity in the order book.
35. **Trade Confirmation**: Issued post-execution to both parties.
36. **Margin Types**: Initial, variation, and maintenance margins.
37. **Liquidity Risk**: Managed by exchange liquidity provisions.
38. **Technology Risks**: Include system glitches and connectivity issues.
39. **Broker Compliance**: Adheres to SEBI and exchange regulations.
40. **Order Modification**: Allows changes to price or quantity.
41. **Order Cancellation**: Removes unexecuted orders from the book.
42. **Spread Trading**: Exploits price differences for profit.
43. **Market Surveillance**: Monitors for manipulative practices.
44. **Trading Software**: Supports order entry and risk management.
45. **Counterparty Risk**: Mitigated by clearing corporation guarantees.
46. **Price Discovery**: Achieved through active trading and order book.

47. **Regulatory Reporting**: Brokers report trades to exchanges.
48. **Client Orders**: Executed based on client instructions and preferences.
49. **Exchange Fees**: Part of trading costs, vary by contract.
50. **Risk Disclosure**: Brokers inform clients of trading risks.

Chapter 7: Clearing, Settlement and Risk Management in Exchange Traded Interest Rate Derivatives

1. **Clearing Mechanism**: Ensures trade settlement via clearing corporation.
2. **Settlement Obligations**: Determined post-trade for funds and securities.
3. **Entities Involved**: Clearing corporations, members, and depositories.
4. **Interoperability**: Allows clearing through multiple corporations.
5. **Clearing Corporation Role**: Acts as central counterparty to mitigate risk.
6. **Position Limits**: Restrict exposure to manage systemic risk.
7. **Settlement Types**: Cash settlement predominant in Indian IRFs.
8. **Funds Settlement**: Involves transfer of cash obligations.
9. **Physical Settlement**: Not currently used in Indian ETIRDs.
10. **Risk Management**: Includes margins, position limits, and stress testing.
11. **Margin Types**: Initial, variation, and calendar spread margins.
12. **Core Settlement Guarantee Fund (SGF)**: Protects against member defaults.
13. **Margin Collection**: By clearing corporations to cover losses.
14. **Novation**: Clearing corporation becomes counterparty to both parties.
15. **Settlement Cycle**: Daily or on expiry, depending on contract.
16. **Default Management**: SGF covers losses from member defaults.
17. **Interoperability Benefits**: Enhances efficiency and competition.
18. **Position Monitoring**: Ensures compliance with regulatory limits.
19. **Risk Models**: SPAN model used for margin calculations.
20. **Stress Testing**: Assesses portfolio resilience under adverse scenarios.
21. **Margin Adjustments**: Variation margins reflect daily price changes.
22. **Funds Transfer**: Via designated banks for settlement obligations.
23. **Clearing Member Role**: Facilitates client trade clearing.
24. **Depository Role**: Manages securities for physical settlement (if applicable).
25. **Regulatory Oversight**: SEBI and RBI enforce clearing rules.
26. **Default Procedures**: Include use of SGF and member contributions.
27. **Margin Requirements**: Based on contract value and volatility.
28. **Settlement Guarantee**: Ensures completion of trades despite defaults.
29. **Risk Mitigation**: Through robust margin and position controls.
30. **Clearing Efficiency**: Enhanced by interoperability and technology.
31. **Daily Settlement**: Mark-to-market adjustments for futures.
32. **Final Settlement**: On expiry, based on contract terms.
33. **Calendar Spread Margin**: Lower margins for offsetting positions.
34. **SPAN Margin**: Scenario-based margin calculation method.
35. **Liquidity Risk**: Managed through clearing corporation guarantees.
36. **Counterparty Risk**: Eliminated via novation process.
37. **Regulatory Reporting**: Clearing members report to authorities.
38. **SGF Contributions**: Include exchange and member funds.
39. **Default Waterfall**: Sequence of resources to cover losses.
40. **Margin Calls**: Issued to cover shortfall in accounts.
41. **Settlement Delays**: Mitigated by strict timelines and penalties.
42. **Risk Exposure**: Monitored daily by clearing corporations.
43. **Interoperability Rules**: Defined by SEBI for clearing flexibility.
44. **Funds Availability**: Ensured for timely settlement obligations.
45. **Clearing Software**: Supports efficient trade processing.
46. **Position Limits Enforcement**: Prevents excessive risk concentration.

47. **SGF Adequacy**: Reviewed periodically to ensure sufficiency.
48. **Regulatory Compliance**: Critical for clearing and settlement integrity.
49. **Client Protection**: Ensured through SGF and margin systems.
50. **Cyber Security**: CSCRF framework protects trading infrastructure.

Chapter 8: Regulatory Framework for Exchange Traded Interest Rate Derivatives

1. **Securities Contracts (Regulation) Act, 1956**: Governs securities and derivatives trading.
2. **RBI-SEBI Standing Technical Committee**: Oversees currency and interest rate derivatives.
3. **RBI Guidelines**: Regulate bank participation in ETIRDs.
4. **SEBI Regulations**: Ensure fair and transparent derivative markets.
5. **FIMMDA Role**: Sets standards for fixed income and derivatives markets.
6. **Eligibility Criteria**: Defines membership requirements for ETIRD trading.
7. **Market Participants**: Include banks, financial institutions, and corporates.
8. **RBI Prudential Norms**: Ensure financial stability for bank members.
9. **SEBI Oversight**: Enforces compliance with trading regulations.
10. **FIMMDA Standards**: Promote best practices in derivatives markets.
11. **Membership Requirements**: Include capital adequacy and regulatory compliance.
12. **Bank Participation**: Allowed in currency derivatives with prudential norms.
13. **Regulatory Reporting**: Mandatory for brokers and clearing members.
14. **Market Integrity**: Ensured through SEBI and RBI guidelines.
15. **FIMMDA Guidelines**: Support transparent pricing and trading.
16. **Trading Restrictions**: Apply to certain entities and securities.
17. **Compliance Monitoring**: Conducted by exchanges and regulators.
18. **Capital Requirements**: Mandatory for ETIRD market participants.
19. **Regulatory Updates**: Reflected in March 2025 workbook revisions.
20. **Market Access**: Restricted to eligible, compliant entities.
21. **SEBI Circulars**: Provide detailed operational guidelines.
22. **RBI Directions**: Align ETIRDs with monetary policy objectives.
23. **FIMMDA's Role**: Enhances market efficiency and standardization.
24. **Membership Process**: Involves application and regulatory approval.
25. **Regulatory Penalties**: Imposed for non-compliance with rules.
26. **Market Surveillance**: Prevents manipulative trading practices.
27. **Bank Membership**: Subject to RBI's minimum prudential requirements.
28. **SEBI's Role**: Protects investors and ensures market fairness.
29. **FIMMDA's Influence**: Shapes fixed income market practices.
30. **Regulatory Framework**: Balances innovation and market stability.
31. **Compliance Audits**: Conducted to ensure adherence to rules.
32. **Membership Criteria**: Include financial and operational standards.
33. **Market Transparency**: Enhanced by regulatory reporting requirements.
34. **RBI-SEBI Coordination**: Ensures cohesive derivative market oversight.
35. **FIMMDA Membership**: Open to banks and financial institutions.
36. **Regulatory Updates**: Highlighted in yellow in March 2025 workbook.
37. **Trading Permissions**: Granted based on regulatory compliance.
38. **Market Conduct**: Governed by SEBI's code of conduct.
39. **Bank Regulations**: Align with Basel III capital norms.
40. **FIMMDA Standards**: Adopted by market participants for consistency.
41. **Regulatory Reporting**: Includes trade and position data.
42. **Membership Obligations**: Include timely reporting and compliance.
43. **Market Stability**: Supported by robust regulatory framework.
44. **SEBI Guidelines**: Cover trading, clearing, and settlement.
45. **RBI Oversight**: Ensures alignment with monetary policies.
46. **FIMMDA's Role**: Includes benchmark administration via FBIL.

47. **Compliance Enforcement**: Through penalties and suspensions.
48. **Market Access Rules**: Define eligible participants and activities.
49. **Regulatory Objectives**: Promote investor protection and market integrity.
50. **Membership Standards**: Ensure financial and operational robustness.

Chapter 9: Accounting and Taxation

1. **Accounting Guidelines**: Define treatment of ETIRD transactions.
2. **Disclosure Requirements**: Ensure transparency in financial statements.
3. **Taxation of ETIRDs**: Governed by Income Tax Act provisions.
4. **Derivative Accounting**: Records gains/losses based on contract type.
5. **Fair Value Accounting**: Applies to derivative instruments.
6. **Hedge Accounting**: Used for effective hedging relationships.
7. **Disclosure Norms**: Include risk exposure and accounting policies.
8. **Taxable Income**: Includes gains from ETIRD transactions.
9. **Mark-to-Market**: Reflects current market value in accounts.
10. **Hedge Effectiveness**: Assessed for hedge accounting eligibility.
11. **Tax Treatment**: Varies for speculative vs. hedging transactions.
12. **Financial Reporting**: Complies with Indian Accounting Standards.
13. **Derivative Gains**: Taxed as business or capital gains.
14. **Disclosure of Risks**: Includes market and credit risk details.
15. **Tax Deductions**: Available for losses in certain cases.
16. **Accounting Standards**: Align with Ind AS for derivatives.
17. **Speculative Transactions**: Taxed differently from hedging.
18. **Fair Value Gains**: Recognized in profit and loss statements.
19. **Hedge Documentation**: Required for hedge accounting compliance.
20. **Tax Reporting**: Mandatory for ETIRD transactions.
21. **Derivative Valuation**: Based on market prices or models.
22. **Tax Authorities**: Income Tax Department oversees compliance.
23. **Accounting Records**: Maintained for audit and regulatory purposes.
24. **Disclosure of Positions**: Includes open derivative contracts.
25. **Taxable Events**: Include settlement and exercise of contracts.
26. **Hedge Accounting Rules**: Specify criteria for qualification.
27. **Fair Value Changes**: Recorded in financial statements periodically.
28. **Tax Compliance**: Ensured through timely filings.
29. **Derivative Losses**: May offset other taxable income.
30. **Accounting Policies**: Disclosed in financial statement notes.
31. **Tax Rates**: Vary based on transaction type and entity.
32. **Hedge Effectiveness Testing**: Conducted periodically for compliance.
33. **Derivative Classification**: As trading or hedging instruments.
34. **Tax Implications**: Differ for residents and non-residents.
35. **Accounting Adjustments**: Reflect mark-to-market changes.
36. **Disclosure of Gains/Losses**: Enhances financial transparency.
37. **Tax Audits**: Verify compliance with tax regulations.
38. **Hedge Accounting Benefits**: Align income with hedged item.
39. **Derivative Reporting**: Includes notional and fair values.
40. **Tax Planning**: Considers ETIRD tax implications.
41. **Accounting Framework**: Aligns with SEBI and RBI guidelines.
42. **Disclosure of Risks**: Includes interest rate and counterparty risks.
43. **Taxable Gains**: Reported in annual tax returns.
44. **Hedge Documentation**: Includes risk management objectives.
45. **Fair Value Models**: Used when market prices are unavailable.
46. **Tax Exemptions**: Limited for ETIRD transactions.

47. **Accounting Audits**: Ensure compliance with standards.
48. **Derivative Taxation**: Complex due to varied transaction types.
49. **Disclosure Requirements**: Enhance investor confidence.
50. **Tax Compliance Deadlines**: Adhere to statutory timelines.

Chapter 10: Code of Conduct and Investor Protection Measure

1. **SEBI Code of Conduct**: Governs broker behavior and ethics.
2. **Investor Grievance Redressal**: Mechanisms to resolve client disputes.
3. **Online Dispute Resolution (ODR)**: Facilitates conciliation and arbitration.
4. **Investor Protection Fund (IPF)**: Compensates legitimate client claims.
5. **Power of Attorney (PoA)**: Optional, used for specific purposes.
6. **Demat Debit and Pledge Instruction (DDPI)**: Replaces PoA for settlement and pledging.
7. **KYC Requirements**: Mandatory for client onboarding and compliance.
8. **Broker Responsibilities**: Include fair dealing and transparency.
9. **Grievance Redressal**: Via SCOREs and ODR portals.
10. **Arbitration Process**: Quasi-judicial, resolves disputes online.
11. **IPF Contributions**: Include listing fees and penalties.
12. **PoA Usage**: Limited to settlement and margin obligations.
13. **DDPI Purpose**: Authorizes securities transfer for settlement.
14. **KYC Documents**: Include PAN, address, and financial details.
15. **Risk Disclosure**: Informs clients of trading risks.
16. **ODR Portal**: Facilitates online conciliation and arbitration.
17. **IPF Eligibility**: Covers legitimate, non-speculative claims.
18. **Broker Code**: Ensures ethical and transparent practices.
19. **Grievance Reporting**: Via SEBI's SCOREs platform.
20. **Arbitration Fees**: Vary based on claim value.
21. **PoA Restrictions**: Cannot be mandatory for account opening.
22. **DDPI Benefits**: Mitigates misuse of PoA.
23. **KYC Compliance**: Aligns with SEBI and AML regulations.
24. **Risk Disclosure Document**: Details market, liquidity, and leverage risks.
25. **ODR Process**: Includes conciliation before arbitration.
26. **IPF Trust**: Administers funds for client compensation.
27. **Broker Training**: Ensures staff handle grievances effectively.
28. **Arbitration Awards**: Enforceable with regulatory oversight.
29. **PoA Misuse**: Prevented through SEBI guidelines.
30. **DDPI Usage**: Limited to settlement and pledging purposes.
31. **KYC Verification**: Includes e-KYC via UIDAI.
32. **Risk Categories**: Low, medium, high based on client profile.
33. **Suspicious Transaction Reporting (STR)**: To Financial Intelligence Unit (FIU).
34. **IPF Funding**: From exchange contributions and penalties.
35. **ODR Venue**: Based on investor's residence or registration.
36. **Broker Compliance**: Adheres to SEBI and exchange rules.
37. **Arbitration Challenges**: Require deposit of award amount.
38. **KYC Documents**: Include ITR, bank statements, and net-worth certificates.
39. **Risk Disclosure Types**: Include market, liquidity, and basis risks.
40. **STR Reporting**: Within 7 days of identifying suspicious transactions.
41. **IPF Compensation**: Limited to set per-investor caps.
42. **ODR Fees**: Non-refundable, vary by claim size.
43. **PoA Limitations**: Exclude off-market securities transfers.
44. **DDPI Implementation**: Enhances transparency in settlements.
45. **KYC Norms**: Include anti-money laundering compliance.
46. **Risk Disclosure Importance**: Ensures informed client decisions.

47. **IPF Review**: Conducted half-yearly for adequacy.
48. **Arbitration Timelines**: Strict deadlines for fee deposits.
49. **Broker Obligations**: Include timely grievance redressal.
50. **Investor Protection**: Central to SEBI's regulatory framework.

Summary of Formulas

1. **Effective Interest Rate**: [(1 + annual interest rate / n)^n – 1]
2. **Real Interest Rate (Approximation)**: r = R - i
3. **Real Interest Rate (Exact)**: (1 + r) × (1 + i) = (1 + R)
4. **Interest Rate Futures Price**: Spot Price + (Cost of Carry - Coupon/Accrued Interest)
5. **Call Option Payoff**: Max(0, S - K) - Premium
6. **Put Option Payoff**: Max(0, K - S) - Premium

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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.

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All the Best ☺

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