Mandatory Course 2: Derivatives and Risk Management

Course Type:	SE: Skill enhancement course	Course Credits:	4
Course Code:	F3SE508	Course Duration:	60 Hours

Course Objective:

- To introduce the structure, instruments, and participants in derivative markets.
- To enable students to apply valuation models and arbitrage strategies for forwards and futures.
- To analyze option contracts, pricing models, Greeks, and volatility.
- To equip students with the ability to design and apply derivative strategies for hedging, speculation, and arbitrage.
- To provide an understanding of trading, clearing, legal, regulatory, accounting, and compliance aspects.

Course Outcomes:

- C01: Understand the fundamentals, types, and market participants in derivatives
- CO2: Interpret the trading mechanisms, clearing systems and regulatory frameworks.
- CO3: Apply pricing techniques and arbitrage strategies in forwards and futures.
- CO4: Evaluate mechanics, payoffs, and arbitrage of options using theoretical frameworks.
- CO5: Analyze and apply option pricing models including Binomial and Black-Scholes.
- CO6: Design hedging, spread, and combination strategies using derivatives and Excel tools.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Derivatives:** Meaning, types, evolution, global & Indian markets, participants, and significance.	CO1	4

2	**Derivative Markets & Risks:** Exchange-traded vs OTC, types of risk (credit, basis, liquidity, systemic), Regulatory role.	CO1, CO6	4
3	**Futures and Forwards:** Mechanics, payoffs, pricing (Cost-of-Carry), arbitrage, currency derivatives	CO3, CO6	5
4	**Applications of Futures**: Hedging, speculation, arbitrage, basis risk, Excel-based equity arbitrage.	CO3, CO5	3
5	**Stock Market Indices & Derivatives:** Index types, construction, maintenance, and application in futures/options.	CO1, CO2	3
6	**Options Fundamentals:** Option types, payoffs, moneyness, profit-loss diagrams, boundary conditions	CO4	4
7	**Option Arbitrage & Put-Call Parity:** Arbitrage strategies, synthetic options, conversions, reversals, box spreads	CO3, CO4	4
8	**Option Pricing Models:** Binomial (1 & 2		6

	periods), Black-Scholes (equity and currencies)	CO4, CO5	
9	**Option Greeks & Sensitivities:** Delta, Gamma, Theta, Vega, Rho—interpretation, usage in hedging, visualization	CO4, CO5	5
10	**Option Strategies:** Hedging (covered call/put), spreads (bull/bear, butterfly, condor), straddles/strangles (Excel-based)	CO5, CO6	5
11	**Trading Mechanism & Infrastructure:** Order types, trading platforms, margining, SPAN, position limits	CO2	4
12	**Legal, Regulatory, Accounting & Compliance**: SEBI/NSE norms, taxation, KYC, AML, grievance redressal	CO2, CO6	3

Text Books:

1. Options, Future & other Derivatives – by John. C Hull and Shankarshan Basu, Pearson Education India
2. Derivatives and Risk Management by Rajiv Shrivastav, OUP India
3. Derivatives and Risk Management by R Madhumati Pearson Education India.
4. Derivatives and Risk Management by Dhanesh Kumar Khatri (PHI Publication)
5. NISM-Series-VIII: Equity Derivatives Certification Examination
6. National Stock Exchange of India Ltd: NCFM- Options Trading Strategies Module

Reference Books:

1. Applied Derivatives – Richard. J. Rendleman. J R
2. Option Volatility & Pricing – Sheldon Naten Berg
3. The New Options Market – Max Ansbacher