

College of Engineering Pune
(An Autonomous Institute of Government of Maharashtra)
Department of Mathematics

(MA (MI))- Trading Platforms and Global Markets

Minor Certification in Mathematics with specialization in ‘Quantitative Finance’ (Semester VII)

Teaching Scheme
Lectures: 3 hrs / week

Examination Scheme
Internal Test 1: 20 marks
Internal Test 2: 20 marks
End Sem. Exam: 60 marks

Course Description: Trading used to be done using voice, email and spreadsheets in the early days. Now, over 90% of trading happens only via electronic platforms. These platforms are used for price discovery, best price determination, trading rules, suitability checks and the actual trade execution.

UNIT I : Stock Exchanges, Defining Stock Exchanges and how they operate, Auction Exchanges, Open Outcry, Electronic Exchanges, OTC, Indexes, IPOs, Bloomberg, Algo Trading, Revisit to Back testing, Forward testing, strategy optimization, Mean reversion strategies, corporate actions.

[08 Hrs]

UNIT II : Futures Exchanges, Futures Markets, Clearing and Margin Mechanism, Contracts, Trading Setup (RM, Traders, Dealers, Clients), Bonds Dealing, Nomenclature of bonds, Bond order entry, YTM, Coupon Calculations, Schedules.

[08 Hrs]

UNIT III :

FX Multi Dealer Platforms - FX trades, Pre-trade, Trade & Post-trade phases, Order entry, Workflow blotter.

FX Derivatives Platforms – Pre-trade, Trade & Post-trade phases, Order entry, Workflow blotter

Structured Products Platforms - EQ Connect, Order entry, Order workflow, Termsheets. **[10 Hrs]**

UNIT IV : Clearing and Settlements, Mutual Funds Execution, Active funds, Passive funds, Risk Profile, Target portfolio. **[06 Hrs]**

UNIT V : Portfolio and Rebalancing, Calendar rebalancing, Threshold rebalancing, Proportional rebalancing, TWRR, MWRR, Proposal Generation, Hedging and Risk Management, Arbitrage, Liquidity, Delta Hedging, Gamma Hedging, Vega Hedging, Duration Matching, Replicating portfolio. **[08 Hrs]**

Text Book :

Proprietary FinIQ Documents & Manuals.

Course Outcomes :

1. relate to Capital Markets and Money Markets from an insider's perspective.
2. outline the Settlements cycle for derivatives and understand Mutual Fund execution.
3. utilize the concept of portfolio rebalancing and perform rebalancing on simple portfolios.
4. interpret the hedging and risk management strategies at use in the Global Markets.
5. develop an understanding of price discovery, best price determination and trade execution.

