PRM® Designation Exam Prep Kit

Course Outline:

- Understanding how PRM exam is structured and overview of credit, market operational risk and present financial market crisis. Introduction to risk-return and portfolio theory in finance.

- Mean, variance, kurtosis, skewness
- Correlation and covariance
- Probability distributions
- Regression, hypothesis testing and statistical interference
- Simulation methods: Monte Carlo

The following topics would be covered through recorded lectures –

- Sequence and Series, Exponential and Logarithmic function, Equations and Inequalities, Functions & Graphs
- Differential Calculus, Integral Calculus, Optimization, Numerical Methods
- Linear Algebra, Probability Theory in finance

- Financial markets
- Interest rates and Fixed Income Instruments
- Futures, Forwards, FRA and SWAPs
- Behavior of Stock process
- Options: Plain-vanilla and Exotics, Trading strategies, Black-Scholes Model, Binomial Trees and Greeks

- Volatility term structure and Volatility smile
- Derivatives on equity, foreign exchange, market index, interest rates and

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- VaR: Analytic, Historical Simulation and Monte Carlo Simulation
- VaR of instruments with linear and non-linear Pay-offs, First order and second order approximations:
- Duration, Convexity, Delta, Gamma; Full-revaluation
- Credit VaR: Exposure and portfolio expected and unexpected loss
- Stress testing and Scenario Analysis

- Market efficiency, Portfolio theory, CAPM, APT
- Risk-return and performance analysis (Sharpe ratio, Tryenor ratio, Jensen Alpha, Sortino ratio etc.)
- Practice exam

- Case-Studies: Risk Management failures
- Backtesting VaR
- Mapping cash-flows and risk positions
- Coherent risk measures: Expected shortfall
- Extreme value theory
- Copulas and tail dependence
- Mortgage backed securities

- Securitization
- Credit derivatives: CDS, CLN, Basket products, Nth-to-default, CDO
- Credit risk mitigation techniques
- Subprime and credit cirsis
- CDO, MBS
- Liquidity crisis
- Limitation of VaR, Stress testing, coherent measures of risk, tail dependence

- PD (KMV, Merton, Reduced-form models), LGD, EAD and default correlation
- Exposure and portfolio expected and unexpected loss and Portfolio models

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- Basel II capital requirement: Pillar I, Pillar II and Pillar III
- Operational risk: Definition, Business lines, Risk types, KRI, RCSA, Loss data models and scenario analysis.

- Performance analysis
- Hedge funds: Strategies and risk measurement
- Pension fund risk management
