NPTEL Video Course - Mathematics - NOC:Mathematical Finance

Subject Co-ordinator - Prof. Siddhartha Pratim Chakrabarty

Co-ordinating Institute - IIT - Guwahati

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Introduction to Financial Markets and Bonds
Lecture 2 - Introduction to Stocks, Futures and Forwards and Swaps
Lecture 3 - Introduction to Options
Lecture 4 - Interest Rates and Present Value
Lecture 5 - Present and Future Values, Annuities, Amortization and Bond Yield
Lecture 6 - Price Yield Curve and Term Structure of Interest Rates
Lecture 7 - Markowitz Theory, Return and Risk and Two Asset Portfolio
Lecture 8 - Minimum Variance Portfolio and Feasible Set
Lecture 9 - Multi Asset Portfolio, Minimum Variance Portfolio, Efficient Frontier and Minimum Variance Line
Lecture 10 - Minimum Variance Line (Continued), Market Portfolio
Lecture 11 - Capital Market Line, Capital Asset Pricing Model
Lecture 12 - Performance Analysis
Lecture 13 - No-Arbitrage Principle and Pricing of Forward Contracts
Lecture 14 - Futures, Options and Put-Call-Parity
Lecture 15 - Bounds on Options
Lecture 16 - Derivative Pricing in a Single Period Binomial Model
Lecture 17 - Derivative Pricing in Multiperiod Binomial Model
Lecture 18 - Derivative Pricing in Binomial Model and Path Dependent Options
Lecture 19 - Discrete Probability Spaces
Lecture 20 - Filtrations and Conditional Expectations
Lecture 21 - Properties of Conditional Expectations
Lecture 22 - Examples of Conditional Expectations, Martingales
Lecture 23 - Risk-Neutral Pricing of European Derivatives in Binomial Model
Lecture 24 - Actual and Risk-Neutral Probabilities, Markov Process, American Options
Lecture 25 - General Probability Spaces, Expectations, Change of Measure
Lecture 26 - Filtrations, Independence, Conditional Expectations
Lecture 27 - Brownian Motion and its Properties
Lecture 28 - ItÃ´ Integral and its Properties
Lecture 29 - ItÃ´ Formula, ItÃ´ Processes