

MBPC3006 DERIVATIVES AND RISK MANAGEMENT (3-0-0)

Course Objectives:

1. To gain knowledge of various derivative instruments such as forwards, futures, swaps, and options, including their definitions, characteristics, and types.
2. To examine the economic functions of derivatives, focusing on price discovery mechanisms and risk management strategies in financial markets.
3. To study the mechanics of forward and future contracts, including their pricing principles, value calculations, and hedging strategies for different asset classes.
4. To explore option contracts, their types (e.g., call, put), trading mechanics, and pricing models (e.g., Binomial, Black-Scholes-Merton), and explore trading strategies using options spreads and combinations.

Module-I :

Introduction to Derivatives - Meaning of Derivative, Insurance V/s. Derivatives, Types of Derivatives Instruments (Forwards, Futures, Swaps, Options), Types of derivative traders (Hedger, Speculator, Arbitrageur), Economic Functions of Derivative- Price Discovery and Risk Management, Use and Misuses of Derivatives.

Derivative Market - Size of Derivative Market, Exchange Traded Derivative Market, Over the Counter Derivative Market, Trading and Settlement Mechanism.

Fundamentals of Forward and Future Contract - Meaning of Forward and Future Contract, Pricing of forward and future contract, Value of forward and future contract, Pricing Model- Cost of Carry Model, Short Selling, Stock Index, Index Arbitrage, Futures and Forwards on Currencies. Pay-off of forward and future.

Hedging with Forward and Futures - Why Hedge, Hedging Concepts, Basis Risk, Hedging Strategies - Long hedge, short hedge and cross hedge.

Module-II:

Option Contracts - Meaning of Option Contract, Development of Option Market, Types of Option Contracts- Call Option, Put Option, Concept of ITM, ATM and OTM. Exchange Traded Vs. Over-the-Counter Options Market, Mechanics of Option Trading, Option Price Quotations.

Principle of Option Pricing - Basic notations and terminologies, Put – Call Parity, Principle of Call Option Pricing and Principle of put Option Pricing. Pay-off of Option Contract.

Trading Strategies Using Options Spreads, Combinations.

Option Pricing Models - The Binomial Model – Concept of Risk Neutral Arbitrage, One- Period Binomial Model, Two Period Binomial Model.

Option Pricing Models - The Black- Scholes-Merton Model - Assumption of BSM Model, Factors in the BSM Model, Valuation of Call and Put Option.

Module-III:

Swaps -Introduction, concept, Nature, Evolution, Features,Market for Swap Contracts.

Types of Swaps: Interest Rate Swap –Basic concept of Interest Rate Swap, Currency Swap- Basic Concept of Currency Swap.

Course Outcomes:

- CO-1: Describe about basics of financial derivative products and traders etc. of financial derivative and concept about Risk Management.
- CO-2: Analyse different concept and technicalities of forward and future contracts and evaluating the value of the contracts.
- CO-3: Apply different concept and technicalities of Options contracts and determining the pricing of options using Binomial and Black Scholes model.
- CO-4: Describe different concept and technicalities of Swap contracts.

Books:

- Options, Futures and other Derivatives, Hull J.C, Pearson
- Financial Derivatives-Theory, concepts and problems, Gupta, PHI
- Derivatives and Risk Management, Srivastava, Oxford
- Derivatives and Risk Management, Verma J.R, TMH
- Fundamentals of Financial Derivatives, NR Parasuraman, Wiley India