

DSE 15: Derivatives and Financial Risk Management

Credit distribution, Eligibility and Pre-requisites of the Course
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Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course
		Lecture	Tutorial	Practical/ Practice		
Derivatives and Financial Risk Management (DSE 15)	4	3	1	0	Class XII	Basics of Finance

Learning Objectives:

- To equip students with principles and techniques of Derivatives and its Greeks, and Risk Management through stock market.

Learning Outcomes:

- Explain derivative such as forward, futures, options, trading strategies etc.
- Evaluate risk Management using forward, futures, options.
- Analyse option pricing models

Syllabus DSE 15

Unit 1: Spot, Forwards and Futures

(12 hours)

Define Risk. Managing Risk. Type of Risks. Introduction of Spot Market. History of derivatives and origin of derivatives in India. Convergence of Spot and Futures. Participants of Derivatives Markets. Valuation of Forwards and Futures. Contango and Backwardation. Hedging: Long security-sell futures, Speculation: With and Without derivative market, Arbitrage: Buy spot-sell futures & Sell Spot-Buy futures.

Unit 2: Risk Management with Currency Market (12 hours)

Currency futures: understand and valuation, Quotations- direct, indirect. Calculation of Bid & Ask in cross currency Pair. Hedging with futures: Concept of Basis & impact of change in basis on Payment/receivables. Hedging with Forwards: Early Delivery, Early Cancellation, Early Extension, Maturity Cancellation and Maturity Extension.

Unit 3: Options and Trading Strategies (12 hours)

Options: Type – Call and Put of European options and their payoffs. Calculation of P/L in Option Trade. Factors affecting option Prices. Upper Bound and Lower Bound of Call and Put option with and without dividend. Put – call parity theorem. Spreads (Bull, Bear, Box, Butterfly and Calendar Spread), combinations (Straddle, Strangle, Strip, Straps).

Unit 4: Option Valuation & Managing Risk with Option (9 hours)

Binomial model: One Period, Two Period and multiple Period. Black-Scholes option model (For stock and currency both) with and without dividend. Managing Delta, Delta zero portfolio,

Essential/recommended Readings (latest editions of readings to be used)

1. John C. Hull. *Options, Futures and Other Derivatives* (Eighth ed.). Pearson Education (Latest Edition).

Suggestive Readings (latest editions of readings to be used)

1. [https://www.bseindia.com/downloads/Training/file/NISM-Series-1%20Currency%20Derivatives%20\(new%20workbook%20effective%202021-Feb-2012\).pdf](https://www.bseindia.com/downloads/Training/file/NISM-Series-1%20Currency%20Derivatives%20(new%20workbook%20effective%202021-Feb-2012).pdf)
2. Jurgen Franke, Wolfgang Hardle and Christian Hafner. Introduction to Statistics of Financial Markets.
3. R. Madhumathi, M. Ranganatham. Derivatives and risk management (1st ed.) Redhead.
4. K. Financial Derivatives- An introduction to futures, forwards, options, swaps. Prentice Hall of India.
5. McDonald, Derivatives Markets, (latest ed.), Pearson.
6. Robert Reitano, 2010, Introduction to Quantitative Finance, MIT Press.
7. Chance, 2003, Analysis of Derivatives for the CFA Program

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time