

Issues in using the Dividend Discount Model. Free Cash Flow to Equity (FCFE) Discount Models: Free Cash Flows to Equity, FCFE Valuation Models – Constant Growth, Two Stage FCFE Model. FCFE Valuation Vs. Dividend Discount Model Valuation. Firm Valuation: Free Cash Flow to the Firm (FCFF), Firm Valuation Approaches: The Cost of Capital Approach, The Adjusted Present Value (APV) Approach, Cost of Capital Vs. APV Valuation. Applied Valuation of a Company using Excel.

Unit 4: Relative Valuation and Multiples

(11 Hours)

Relative Valuation: Concept, Reasons for popularity and potential pitfalls. Standardized Values and Multiples (brief overview) – Earnings Multiples, Book Value Multiples, Revenue Multiples, and Sector-specific Multiples. Basic Steps to using Multiples. Select Multiples – Price-Earnings (PE) Ratio, PEG Ratio, Price to Book Ratio, Enterprise Value to EBITDA Multiple, Enterprise Value/Sales, Enterprise Value/Book Value, Tobin’s Q. Reconciling Relative and Discounted Cash Flow Valuation.

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

1. Foster, George Financial Statement Analysis, Pearson Education Pvt Ltd.
2. Damodaran, A. Damodaran on Valuation, Security Analysis for investment and Corporate Finance (2nd ed.). Wiley India Pvt. Ltd.
3. Damodaran, Investment Valuation, Tools and Techniques for determining the value of any asset, 3rd Edition, Wiley India Pvt. Ltd.

Suggestive Readings (latest edition of readings to be used)

1. K. G., CA, & Sehrawat, N. K (2018). Handbook on Valuation- Concept & Cases. New Delhi, Bharat Law House Pvt. Ltd,
2. Damodaran, Corporate Finance (2000) – Theory and Practical, 2nd Edition, Wiley India Pvt. Ltd.

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

DISCIPLINE SPECIFIC ELECTIVE -FINANCE (DSE-10)

DSE 10: ADVANCE DERIVATIVES

Credit distribution, Eligibility and Pre-requisites of the Course

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Advance Derivatives (DSE 10)	4	3	1	0	Class XII	Basics of options, swaps, interest rates and cryptocurrencies

Learning Objectives

The course will help the learner to:

- Learn how to calculate and apply different options Greeks (delta, gamma, rho, theta, and Vega) for stocks and currencies, and how to use Delta and Gamma hedging techniques.
- Understand the concept of swaps, interest rate futures, and credit default swaps, their valuation, and their use in managing risk.
- Get acquainted with exotic options and their various types, such as gap options, barrier options, and Asian options, among others.
- Explore cryptocurrencies, including Bitcoin, Ethereum, EOS, Litecoin, and Ripple, and their futures and options contract specifications, as well as SWAP contracts.
- Gain knowledge of cryptography and its role in cryptocurrencies, and learn how to calculate and apply BTC and ETH options.

Learning Outcomes

On successful completion of the course the learner will be able to:

- Analyze and evaluate the risk characteristics of various financial instruments, including stock options, currency options, swaps, interest rate futures, and exotic options.
- Apply knowledge of Greeks (delta, gamma, rho, theta, and Vega) to make informed decisions on option pricing, hedging, and portfolio management.
- Create and implement strategies for delta hedging, gamma hedging, and making a portfolio delta/gamma neutral.
- Evaluate the value and risk of nonstandard American options, gap options, forward start options, cliquet options, compound options, chooser options, barrier options, binary options, lookback options, shout options, Asian options, options to exchange one asset for another, and basket options.
- Analyze and evaluate the risks and benefits of investing in cryptocurrencies, including Bitcoin, Ethereum, EOS, Litecoin, Bitcoin Cash, and Ripple, and apply knowledge of crypto futures and options to make informed decisions.

SYLLABUS OF DSE 10

Unit 1: Greeks

(11 Hours)

Calculation of delta, gamma, rho, theta and Vega for stock options (with and without dividend) and currency options. Relationship and comparison among stock Greeks. Delta Hedging, Gamma Hedging. Making a portfolio Delta Neutral, Gamma Neutral, Delta positive Gamma Neutral and Delta positive Gamma Neutral.

Unit 2: Swaps & Interest Rate Futures

(11 Hours)

Introduction to Swaps, Interest rate swaps, currency swaps, cross-currency swaps. Understanding Credit default swaps (CDS), Valuation of CDS. CDS: Forwards and Options. Interest rate Futures, Interest rate cap and floor, FRA.

Unit 3: Exotic Options

(11 Hours)

Nonstandard American options, Gap options, Forward start options, Cliquet options, Compound options, Chooser options, Barrier options, Binary options, Lookback options, Shout options, Asian options, Options to exchange one asset for another, Basket options.

Unit 4: Cryptocurrencies**(12 Hours)**

Introduction to cryptography & crypto currencies. Introduction of Bitcoin (BTC), Ethereum coin (ETH), Electro-Optical System coin (EOS), Litecoin (LTC), Bitcoin Cash (BCH), Ripple (XRP). Futures Contract Specification: BTC, ETH, EOS, LTC, BCH, XRP. Understanding of these coins with USDT. SWAP contract of BTC & ETH. Introduction and calculation of BTC & ETH options.

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

1. Hull, J. C. (2018). Options, futures, and other derivatives. Pearson Education Limited.
2. Fabozzi, F. J. (Ed.). (2016). Handbook of finance, financial markets and instruments. John Wiley & Sons.
3. Haferkorn, M., Zimmermann, K. F., & Grothe, O. (2018). Value drivers of cryptocurrency: Evidence from bitcoin. Economics Letters, 163, 6-8.
4. Wystup, U. (2016). FX options and structured products. John Wiley & Sons.

Suggestive Readings (latest edition of readings to be used)

1. Cryptocurrency Prices | Cryptocurrency List | Market Cap | OKX
2. Buy/Sell Bitcoin, Ether and Altcoins | Cryptocurrency Exchange | Binance
3. Bitcoin and Cryptocurrency Exchange | Huobi Global
4. Jurgen Franke, Wolfgang Hardle and Christian Hafner. Introduction to Statistics of Financial Markets.
5. R. Madhumathi, M. Ranganatham. Derivatives and risk management (1st ed.) Redhead, K.
6. Financial Derivatives – An introduction to futures, forwards, options, swaps. Prentice Hall of India
7. McDonald, Derivatives Markets, (latest ed.), Pearson.
8. Robert Reitano, 2010, Introduction to Quantitative Finance, MIT Press.
9. 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.

DISCIPLINE SPECIFIC ELECTIVE -FINANCE (DSE-11)
DSE 11: FINANCIAL ECONOMETRICS
Credit distribution, Eligibility and Pre-requisites of the Course

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		