

**Name of the Subject:** DERIVATIVES AND RISK MANAGEMENT  
**Course Code and Subject Code:** FS 421, DRM  
**Course Credit:** FULL (50 SESSIONS OF 60 MINUTES EACH)

**Course Description**

Upon successful completion of the course, the student will be able to: Equip with the ability to apply stock market basics to Indian Derivative market. , Learn valuation, analysis and application for hedging, speculation and arbitrage for Financial Derivatives. , Learn the mechanics, valuation and trading strategies of derivative market; develop their own trading strategies in the volatile market

**Evaluation pattern:**

Class participation and Attendance	10%
Quizzes, Presentations and Assignments	20%
Mid Term Examination	30%
End Term (University) Examination	40%

**Pedagogy:**

- Lectures
- Case study
- Minor projects

Session	Course Content	Percentile weightage
1 - 2	Derivative- An Introduction Introduction, Managing Risk, Types of Business Risks, Derivatives, Products, Classification, participant, Evolution, Functions	6 %
3-6	Forward & Future Introduction, Forward Contract, settlement of Forward Contract, Futures contract, Specifications of Futures contract, difference, Pricing, Arbitrage, Convergence, Relationship of futures price & expected spot price	6%
7-10	Commodity Futures Introduction, benefit, commodity futures & economy, Difference of	7%

	commodity & financial futures, Pricing, hedging, Perfect & imperfect hedge, Basis & Basis Risk, Optimal Hedge Ratio, Spread strategies	
11-14	Stock & Index Futures Index Futures, forward contracts & stocks, Future contract on indices & individual stocks, Features, specifications, pricing, Hedging, Speculation & arbitrage with stock index futures	7%
15-20	Currency Forwards & Futures Foreign exchange markets, Foreign exchange risk, FOREX rates, transactions, Arbitrage, Hedging, Speculation & arbitrage, NDF – Evolution, Growth, Features, Interest rate parity, Currency future – Trading, settlement, pricing, Hedging, Speculation & arbitrage	10%
21-23	Interest rate Forwards & Futures FRA – Introduction, settlement, Pricing, Hedging, Speculation & Arbitrage with FRA and T-Bills, Euro dollars, Treasury bond futures, Pricing T-Bonds, Duration & Modification, Interest rate futures in india	8%
24-26	Interest rate & currency swaps Features of Swap, Need, swap dealer, Applications, Rationale, Types, hedging, Features, Valuing Interest rate and currency swap, Commodity swaps, equity swaps	8%
27-28	Options –Basic Terminology, call, Put, Quotations, Trading & settlement, Margins, Adjustment for corporate actions, Options other than stocks/indices, Difference options & futures/ forwards	4%
29-31	Option Pricing-1 Intrinsic value & time value, Boundary conditions for option pricing, arbitrage based relationship of option pricing, Put call parity	8%
32-37	Option Pricing-2	10%

	Binomial Option Pricing Model, Equivalent portfolio approach for option valuation, Multi period Binomial Model, Binomial Model for Index options, Binomial Tree, Factors affecting option price, Black & Scholes Option Pricing Model – Assumption, Interpretation, Implied volatility	
38-39	Options-Sensitivities Delta & Delta Hedging, Theta, Gamma & Neutrality, Greek Letters	5%
40-42	Options-Applications Hedging strategies with Options, Income generation with options, Option trading strategies	9%
43-45	Exotic Options Forward start option, Binary or digital option, Chooser option, Shout option, Barrier options, Asian options, Other Exotics	4%
46-48	Credit Derivatives Introduction & Meaning, Types of credit risks, Assessment of credit risk, Credit default swaps, Total return swap, Credit linked notes, collateralized debt obligations	4%
49-50	Other derivatives Payoff of options on futures, Binomial model for future options, Valuation of futures options- Black's Model, Interest rate options, Cap, Floor, Collar	4%

**Text Book:**

1. Derivatives & Risk Management, Rajiv Srivastava, 4<sup>th</sup> Edition, Oxford Publication House

**Reference Books:**

1. Futures and Option Markets, John C. Hull, Pearson Education
2. Risk Management & Derivative, Rene M. Stulz, Cengage