

- International Financial Management – Jain, Peyrard& Yadav, Macmillan 2010.
- International Finance – Thomas O'Brien, Oxford University Press, 2010.

## FINANCIAL DERIVATIVES

Subject Code	: 16MBA FM405	IA Marks	:20
No. of Lecture Hours / Week	: 03	Exam Hours	: 03
Total Number of Lecture Hours	: 56	Exam Marks	: 80
Practical Component	: 02 Hours / Week		

### Objectives:

- To understand the features of financial derivatives.
- To hedge risk and practice risk management using derivatives.
- Explain the use of options and futures contracts for tactical portfolio strategies purpose
- To provide an understanding of pricing financial derivatives, including familiarity with some central techniques, like the binomial model, and the Black-Scholes model
- To explain the fundamentals of credit risk management and Value at Risk

### Course Outcome:

At the end of the course, the students are able to:

- Know the features of financial derivatives.
- Understand the risk management process using derivatives.
- Realize use of options and futures contracts
- Understand the pricing of financial derivatives.
- Be aware of fundamentals of credit risk management and Value at Risk

### Unit 1:

(6 Hours)

**Financial Derivatives** - Introduction, economic benefits of derivatives - Types of financial derivatives - Features of derivatives market - Factors contributing to the growth of derivatives - functions of derivative markets - Exchange traded versus OTC derivatives - traders in derivatives markets - Derivatives market in India

### Unit 2:

(12 Hours)

**Futures and forwards** - differences-valuation of futures, valuation of long and short forward contract. Mechanics of buying & selling futures, Margins, Hedging using futures - specification of futures - Commodity futures, Index futures, interest rate futures - arbitrage opportunities.

**Interest rate markets** - Type of rates, Determining Zero rates, Forward rate agreements (FRA), Interest rate derivatives.

### Unit 3:

(10 Hours)

**Financial Swaps** - features and uses of swaps - Mechanics of interest rate swaps – valuation of interest rate swaps – currency swaps – valuation of currency swaps.

**Unit 4: (12 Hours)**

**Options:** Types of options, option pricing, factors affecting option pricing – call and put options on dividend and non-dividend paying stocks put-call parity - mechanics of options - stock options - options on stock index - options on futures – interest rate options. Concept of exotic option. Hedging & Trading strategies involving options, valuation of option: basic model, one step binomial model, Black and Scholes Model, option Greeks. Arbitrage profits in options.

**Unit 5: (8 Hours)**

**Commodity derivatives:** commodity futures market-exchanges for commodity futures in India, Forward Market Commissions and regulation-commodities traded – trading and settlements – physical delivery of commodities.

**Unit 6: (8 Hours)**

**Credit risk** - Bond prices and the probability of default, Historical default experience, reducing exposure to Credit risk, Credit default swaps, Total return swaps, Credit spread options, Collateralized debt obligation. Basics of Interest rate risk and risk management strategies.

**Value at Risk (VAR)** - Measure, Historical simulation, Model building approach, linear approach, Quadratic model, Monte Carlo simulation, stress testing and back testing

**(Question Paper: 50% Theory and 50% Problems)**

**Practical Components:**

- Students can visit a financial institution dealing in derivatives and study the products offered by them
- Students should individually select various futures or options and watch the behavior of these futures and options on a day to day for 15 days to see how futures and options might help mitigate the risks of investors.

**RECOMMENDED BOOKS:**

- Options Futures & Other Derivatives - John C. Hull, 6/e, Pearson Education.
- Derivatives and Risk Management, Rajiv Srivastava, Oxford University Press, 2010
- Options & Futures- Vohra & Bagri, 2/e, TMH
- Derivatives- Valuation & Risk Management - Dubofsky& Miller, Oxford University Press, 2005.
- An introduction to derivatives and risk management, Chance, Cengage, 9<sup>th</sup> edition.

**REFERENCE BOOKS:**

- Derivatives, Principles and Practice, Sundaram& Das, Mc Graw Hill, 2013
- Risk Management, VajjanathBabshetti& Prakash B. Yaragol, 1<sup>st</sup> edition, Kalyani Publishers, 2014.
- Introduction to Derivatives and Risk Management – Don M. Chance, Cenage Learning, 2008.
- Financial Derivatives- Bishnupriya Mishra and SathyaSwaroopDebashish, Excel BOOKS, 2007.
- Options & Futures –Edwards & Ma, 1/e, McGraw Hill.