**COURSE HANDOUT**

FINANCIAL DERIVATIVES (MBA-422)

MBA-4th SEMESTER

ACADEMIC YEAR (2023-24)

**Dr. Mamta Sharma**

Assistant Professor

UG School of Management

UG School of Management

Model Institute of Engineering & Technology (Autonomous)

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| Course Code | Course Name | Course Type | Cd | L | T | P | Marks | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sessional | Final Exam | Total |
| MBA-422 | Financial Derivatives | Core | 4 | 4 | 0 | 0 | 30 | 70 | 100 |

**COURSE OUTCOMES**

| At the end of the course the student will be able to: | |
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| CO1 | Understand Financial Derivatives with reference to the Indian stock market. |
| CO2 | Understand the concepts and types of forwards and future contracts. |
| CO3 | Understand the concepts and types of financial swaps and options. |
| CO4 | Evaluate the various trading and pricing strategies for derivative products. |
| CO5 | Interpret the strategies and models of hedging for minimizing risk. |

**Unit-I**
Introduction-Definition, features and types of financial derivatives, Basic financial derivatives and their utility, Types of traders, Critiques of the derivatives, Financial derivative market in India.
(8 Hours)

**Unit-II**
Forwards and Futures- Financial future contracts and its types. Function of future market, Specification of future contract. Clearing house, Concept and types of margin, Settlement/closing of future position Forward contract and trading mechanism, Gain on long and short position contract, Payoff from forward contract, Forward Prices versus future prices. Main distinction between future and forward contracts.
(8 Hours)

**Unit-III**
Financial Swaps and Option- Concept and features of swaps, Major types of swaps- Concept, features, Types and valuation of Interest rate swaps and currency swaps, Debt- Equity Swaps-Concept and types of option, Option Valuation, Option position, Underlying assets in exchange traded option.
(8 Hours)

**Unit- IV**
Trading with options- Strategies involving a single option and a stock, Spreads- Vertical, Horizontal, Butterfly and Diagonal spreads, Combination, Determinants of option prices, Black- Scholes option pricing model, Binomial option pricing model.
(8 Hours)

**Unit-V**
Hedging Strategy- concept, basic long and short hedge, Cross Hedging, The prefect hedging model, Basic risk and hedging, Basic risk versus price risk, Devising a hedging strategy, Hedge ratio, Management of hedge, Concept of fixed hedge, Zero cost option strategy, Delta Hedging, Theta, Gamma, Vega, Rho and Phi.
(8 Hours)

**Textbooks**

| S.No | Name of the Books | Name of the Author | Publisher Name | Edition (Pub.Yr.) |
|---|---|---|---|---|
| 1 | Financial Derivatives Theory Concepts and Problems | By S. L. Gupta | Prentice- Hall of India Private Limited | 2nd (2005) |
| 2. | Options, Futures and Other Derivatives | By John C. Hull | Prentice- Hall of India Private Limited | 10th (2018) |

**Reference Books**

| S.No | Name of the Books | Name of the Author | Publis2her Name | Edition (Pub.Yr.) |
|---|---|---|---|---|
| 1 | Fundamental of Financial Derivatives | By N.R. Parsuraman | Wiley Preice Textbook Series | 3rd (2014)) |

| COURSE PLAN | | |
|---|---|---|
| **Unit-I Introduction** | | |
| **S.No** | **Topics** | **Recommended Books** |
| 1 | Definition, features and types of financial derivatives | Book 1, Ch.1 |
| 2 | Basic financial derivatives and their utility. | Book 1, Ch.1 |
| 3 | Types of traders | Book 1, Ch.1 |
| 4 | Critiques of the derivatives | Book 1, Ch.1 |
| 5 | Financial derivative market in India. | https://www1.nseindia.com/content/us/ismr2019ch6.pdf |
| **Unit-II Forwards and Futures** | | |
| 6 | Financial future contracts and its types. | Book 1, Ch. 1 |
| 7 | Function of future market. | Book 1, Ch. 2 |
| 8 | Specification of future contract & Clearing house | Book 1, Ch. 2 |
| 9 | Concept and types of margin | Book 1, Ch. 2 |
| 10 | 5Settlement/closing of future position | Book 1, Ch. 2 |
| 11 | Forward contract and trading mechanism | Book 1 , Ch. 3 |
| 12 | Gain on long and short position contract. | Book 1 , Ch. 3 |
| 13 | Payoff from forward contract | https://financetrainingcourse.com/education/2010/03/master-class-options-and-derivatives-crash-course-session-three-payoff-profiles-forwards/ |
| 14 | Forward Prices versus future prices | Book 1 , Ch. 3 |
| 15 | Main distinction between future and forward contracts. | Book 1 , Ch. 3 |
| **Unit-III Financial Swaps and Options** | | |
| 16 | Concept and features of swaps | Book 1, Ch.13 |
| 17 | Major types of swaps- Concept, features | Book 1, Ch. 13 |
| 18 | Types and valuation of Interest rate swaps and currency swaps | Book 1, Ch. 13 |
| 19 | Debt- Equity Swaps-Concept and types of option. | Book 1, Ch. 13 |
| 20 | Option Valuation | Book 1, Ch. 14 |
| 21 | Option position | Book 1, Ch. 14 |
| 22 | Underlying assets in exchange traded option. | Book 1, Ch. 14 |
| **Unit-IV Trading with Options** | | |
| 22 | Strategies involving a single option and a stock | Book 1, Ch. 16 |
| 23 | Spreads- Vertical, Horizontal, Butterfly and Diagonal spreads Combinations | Book 1, Ch. 16 |
| 24 | Determinants of Option Prices | Book 1, Ch. 15 |

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| 25 | Black- Scholes option pricing model. | Book 2, Ch. 15 |
| 26 | Binomial option pricing model | Book 1, Ch. 15 |
| | **Unit-V Hedging Strategy** | |
| 27 | Concept of Hedging | Book 2, Ch. 17 |
| 28 | Basic long and short hedge | Book 1, Ch. 7 |
| 29 | Cross Hedging | Book 2, Ch. 7 |
| 30 | The prefect hedging model | Book 1, Ch. 7 |
| 31 | Basic risk and hedging | Book 2, Ch. 7 |
| 32 | Basic risk versus price risk, Devising a hedging strategy. | Book 2, Ch. 7 |
| 33 | Hedge ratio, Management of hedge, Concept of fixed hedge Zero cost option strategy | Book 2, Ch. 7 |
| 34 | Delta Hedging, Theta, Gamma, Vega, Rho and Phi | Book 2, Ch. 17 |

## ADDITIONAL WEB RESOURCES

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| 1. | **MOOC**: Derivatives - Options & Futures<br><br>https://www.coursera.org/learn/derivatives-options-futures |
| 2. | **NPTEL:** Financial Derivatives & Risk Management<br><br>https://onlinecourses.nptel.ac.in/noc19_mg39/preview |

## GRADING AND ASSESSMENT

- **Sessional Test**: 15 marks
- **Assignment**: 10 marks
- **Attendance**: 5 marks
- **Final Examination**: 70 marks

## COURSE POLICIES

- **Attendance**: Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Academic Integrity**: MIET's academic integrity policies apply. Plagiarism will not be tolerated.
- **Late Submissions**: Assignments and projects must be submitted by the specified timelines.

## FACULTY INFORMATION

- **Office Hours**

  Monday (12:05 PM - 12:55 PM)
  Friday (12:05 PM - 12:55 PM)

- **Contact Information**
  mamta.bcom@mietjammu.in