



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB03092041

Course / Subject Name : Financial Derivatives and Risk Management

| | |
|-------------------------|----------------------------------|
| w. e. f. Academic Year: | 2025-26 |
| Semester: | 3 |
| Category of the Course: | Specialization Finance (Major 2) |

| | |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prerequisite: | Any Graduate |
| Rationale: | <p>In an increasingly volatile and globalized financial environment, the ability to manage financial risk effectively has become a critical skill for finance professionals. Derivative instruments—such as futures, forwards, options, and swaps—play a pivotal role in risk mitigation, investment strategies, and speculative activities. Understanding how these instruments function, how they are priced, and how they can be applied in real-world scenarios is essential for finance professionals, traders, and policy makers.</p> <p>This course is designed to equip MBA Finance students with comprehensive knowledge and practical insights into financial derivatives and their role in risk management. The course focuses on the understanding, mechanics, valuation, and strategic use of derivatives to manage various types of financial risks including currency risk, and commodity price risk. It balances conceptual frameworks with analytical tools and real-world applications.</p> <p>Given the dynamic regulatory environment in India—under the purview of SEBI and RBI—the course also emphasizes compliance, ethical considerations, and systemic risk implications of derivative markets. Through case studies, projects, and exposure to Indian and global practices, students will be better prepared to work in investment banking, corporate finance, risk advisory functions.</p> |

Course Outcome:

After Completion of the Course, Student will able to:

| No | Course Outcomes | RBT Level |
|----|----------------------------------------------------------------------------------|------------------------|
| 01 | Demonstrate an understanding of risks, financial risks and its management tools. | Understand |
| 02 | Analyze and value (price) different types of financial derivatives. | Analyze |
| 03 | Apply hedging, speculation, and arbitrage strategies using derivatives. | Apply/ Create |
| 04 | Critically assess the role of derivative markets in financial decision-making. | Evaluate |
| 05 | Exhibit ethical and regulatory considerations in the use of derivatives. | Understand/ Analyze |

*Revised Bloom's Taxonomy (RBT)

Teaching and Examination Scheme:



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB03092041

Course / Subject Name : Financial Derivatives and Risk Management

| Teaching Scheme (in Hours) | | | Total Credits L+T+ (PR/2) | Assessment Pattern and Marks | | | | Total Marks |
|-------------------------------|---|----|------------------------------|------------------------------|-------------|-----------|----------------------|----------------|
| L | T | PR | | C | Theory | | Tutorial / Practical | |
| | | | ESE (E) | | PA / CA (M) | PA/CA (I) | ESE (V) | |
| 3 | 1 | 0 | 4 | 70 | 30 | 50 | 0 | 150 |

Course Content:

| Unit No. | Content | No. of Hours | % of Weightage |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------|
| 1. | <p>Understand risk management</p> <ul style="list-style-type: none"> • Different types of risks, pure risk and price risk • A brief history of Risk Management • Commodity price risk, • Foreign exchange risk • Approaches to Risk management <p>Introduction to Derivatives:</p> <ul style="list-style-type: none"> • Understanding derivatives and derivative markets • Types of derivatives (forward, futures, options, swaps) • Uses of derivatives • Spot v/s derivative market <p>Derivative market:</p> <ul style="list-style-type: none"> • Indian and International derivative market • Operations of derivatives exchanges • Trading, clearing and settlement system | 10 | 17 |
| 2. | <p>Analyze the pricing and valuation of forwards, futures. Formulate strategies using futures</p> <p>Forward Contracts:</p> <ul style="list-style-type: none"> • Meaning, purpose, advantages and problems • Pricing of commodity forward contracts (Theory and numerical). • Interest rate forwards (Theory and numerical). • Currency forward (Theory and numerical) <p>Future Contracts:</p> <ul style="list-style-type: none"> • Meaning, difference between forward and future contracts • Specifications of future contracts • Closing the position (Theory and numerical). • Margins and marking-to-market (Theory and numerical). | 13 | 18 |



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB03092041

Course / Subject Name : Financial Derivatives and Risk Management

| | | | |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| | <ul style="list-style-type: none"> • Cost of Carry Models (Theory and numerical). • Price quotes, settlement price, open interest • Types of orders <p>Hedging, Speculation and Arbitrage using Futures:</p> <ul style="list-style-type: none"> • Basis risk. Factors affecting basis risk • Single stock futures and Stock Index Futures (Theory and numerical). • Commodity futures (Theory and numerical). • Pricing of futures | | |
| 3. | <p>Design strategies using options.</p> <p>Fundamentals of Options:</p> <ul style="list-style-type: none"> • Options issued by corporations (introduction) • Meaning of options contract, options terminologies • Moneyness in options (ITM, ATM, OTM) (Theory and numerical). • Factors affecting Options premium • Exchange traded options <p>Call and Put options. (Theory and numerical).</p> <p>Options Trading Strategies:</p> <ul style="list-style-type: none"> • Uncovered • Covered • Spread • Combination | 11 | 17 |
| 4. | <p>Analyze the pricing and valuation of options. Examine the regulatory environment governing derivatives in India</p> <p>Binomial Options Pricing Model: (Theory and numerical).</p> <ul style="list-style-type: none"> • Binomial Options Pricing model for call and put options • Single period and two-period binomial options pricing Model <p>Black-Scholes Options Pricing model: (Theory and numerical).</p> <ul style="list-style-type: none"> • Stock price behaviour • Assumptions in Black-Scholes model • Black-Scholes model for pricing call and put options <p>Greeks in Options (only theory):</p> <ul style="list-style-type: none"> • Risks in options trading • Characteristics of options hedging • Greeks in options hedging: delta, gamma, theta, vega, rho. <p>Regulatory framework of derivatives market in India</p> | 11 | 18 |



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB03092041

Course / Subject Name : Financial Derivatives and Risk Management

| Derivatives Misuse & Ethics Debate | | | |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|
| 5. | <p>Practical: Evaluate real-world cases of risk management using derivatives.</p> <ul style="list-style-type: none"> Design a portfolio using options to hedge equity exposure. Simulate futures trading using NSE/BSE virtual platform. Calculate the value of currency forward contracts. Design options strategy with real life data Design strategies using futures with different underlying assets with real life data. Compare Indian and global derivatives markets. Develop a risk management strategy for a business case. Analysing Various Derivative Contract Specifications from Exchanges. Mark to Market Margin Calculation on real time data from Exchanges. Understanding the trading and settlement process and other documentary requirements at Brokers' office to open the trading account. Calculating the futures and options price with cost of carry, binomial and BS Models on real time data from exchange & analyse them with current market price. Find out the arbitrage opportunity if any. | 15 | CEC (30 Marks) |
| Total | | 60 | 100 |

Suggested Specification Table with Marks (Theory):

| Distribution of Theory Marks (in %) | | | | | |
|--------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| R Level | U Level | A Level | N Level | E Level | C Level |
| 10 % | 10% | 20% | 25% | 25% | 10% |

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

Suggestive Case Studies:

- Case on Enterprise Risk Management
- Bearing Bank
- Sairam metals (From reference book number1)
- Case study on fundamental of options (From reference book number1)
- Case study on call and put options (From reference book number1)
- Case study of any big listed company and study their risk management practices



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB03092041

Course / Subject Name : Financial Derivatives and Risk Management

References/Suggested Learning Resources:

(a) Books:

| Sr No. | Author | Name of the Book | Publisher | Year of Publication / Edition |
|--------|---------------------------------------|--------------------------------------------|-------------------------|-------------------------------|
| 1 | Sundaram Janakiramanan | Derivatives and Risk Management | Pearson Education | 2011 / 1 st |
| 2 | Rajiv Srivastava | Derivatives & Risk Management | Oxford University | 2014 / 2 nd |
| 3 | R. Madhumathi, M. Ranganatham | Derivatives & Risk Management | Pearson | 2014 / 2 nd |
| 4 | John C. Hull | Fundamentals of Futures and Options Market | Pearson | 2016 / 8 th |
| 5 | Verma | Derivatives & Risk Management | Tata McGraw hill | 2008 |
| 6 | Vohra & Bagri | Futures and Options | McGraw Hill | 2017 / 2 nd |
| 7 | David A. Dufresne, Thomas W. Miler | Derivatives: Valuation and Risk Management | Oxford University Press | Latest Edition |
| 8 | A. Maheshwari, D. Chugh | Financial Derivatives | Pearson | 2012 / 1 st |

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

(b). List of Journals/Periodicals/Magazines/Newspapers / Web resources, etc.

1. Indian Journal of Finance
2. International Journal of Financial Markets and Derivatives
3. Business Standard
4. The Economic Times
5. Financial Express
6. NSE & BSE, SEBI, FMC, RBI Websites
7. ICFAI journal of Derivative Market
8. Business Today
9. Business India
10. Business World
11. Finance India
12. Treasury Management
13. Financial Risk Management



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB03092041

Course / Subject Name : Financial Derivatives and Risk Management

Suggested Project List, if any:

NISM certifications

Suggested Activities for Students, if any:

Virtual investment in derivatives

CO- PO Mapping:

| Semester 3 | Course Name : Financial Derivatives and Risk Management | | | | |
|-----------------|---------------------------------------------------------|-----|-----|-----|-----|
| | POs | | | | |
| Course Outcomes | PO1 | PO2 | PO3 | PO4 | PO5 |
| CO1 | 3 | 1 | 2 | 2 | 3 |
| CO2 | 3 | 3 | 1 | 3 | 2 |
| CO3 | 3 | 3 | 1 | 2 | 1 |
| CO4 | 3 | 2 | 1 | 3 | 2 |
| CO5 | 2 | 1 | 2 | 3 | 2 |

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.
