



End Term (Odd) Semester Examination November 2025

Roll no.

Name of the Course and semester: MBA-III

Name of the Paper: *Financial Derivatives*

Paper Code: MB 303 FN 2

Time: 3 hour

Maximum Marks: 100

Note:

- (i) This question paper contains two Sections-Section A and B
- (ii) Both Sections are compulsory
- (iii) Answer any two sub questions from a, b & c in each main question of Section A. Each sub question carries 10 marks.
- (iv) Section B, consisting of a case study, is compulsory. It is of 20 Marks.

Section A

Q1. (2X10=20 Marks)

- a. Differentiate between interest rate swaps, currency swaps, and credit default swaps in terms of purpose, underlying exposure, and cash flow structure. (CO2)
- b. Describe the key features of a currency swap. How does it enable firms to manage foreign exchange and interest rate risk simultaneously? (CO2)
- c. Identify and explain two major challenges or ethical considerations faced by market participants in derivatives trading. How can proper governance and transparency help mitigate these concerns? (CO2)

Q2. (2X10=20 Marks)

- a. Suppose the actual market futures price is higher than the theoretical price derived from the cost of carry model. Apply your understanding of no-arbitrage pricing to describe how traders could exploit this arbitrage opportunity. (CO3)
- b. Apply the cost of carry principle (8% p.a. or 0.75% per month) to determine how financing cost influences the net arbitrage gain. Explain how changes in interest rates would affect the attractiveness of the arbitrage opportunity. (CO3)
- c. Apply your understanding of index construction methods to design a simple price-weighted or market capitalization-weighted index using data from five Indian companies. Show the calculation steps and interpret how index value changes with stock price movements. (CO3)

Q3. (2X10=20 Marks)

- a. Analyze how the Delta of a call and a put option behaves as the underlying asset's price moves from deep out-of-the-money to deep in-the-money. Use a hypothetical data table or graph to explain the relationship between Delta and option moneyness. (CO4)
- b. Given that the risk-neutral probability depends on the risk-free rate and up/down movement factors, analyze how changes in the risk-free rate influence the option value. Support your explanation with suitable equations and reasoning. (CO4)
- c. Analyze how an increase in market volatility would affect the premium of the long put option and the shape of the payoff curve. Support your explanation using reasoning from the payoff table. (CO4)

Q4. (2X10=20 Marks)

- a. Assume you are managing a **high-volatility options portfolio**. Given the option premiums and exercise prices of XYZ Ltd., **design an alternative trading position** that reduces the **cost of a long straddle** while maintaining similar upside potential. Derive and explain the **expected payoff structure** and discuss the associated **risk-return trade-off**. (CO5)
- b. Critically assess whether the straddle strategy is more suitable for **speculative investors** or **hedgers**, justifying your answer using the assumptions of "wide fluctuation" and "uncertainty of direction" (CO5)
- c. Assume Reliance's price increases to Rs 2,750 at expiry. Critically assess whether the covered call



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position outperforms a simple buy-and-hold position. Present your justification with **numerical derivation and conceptual analysis** of risk mitigation versus profit capping. (CO5)

Section B

Q5. Case Study

(20 Marks)

A trader holds 400 shares of a stock priced at Rs 250. They are considering:

Covered Call: Sell 400 call options (Strike Rs 260, Premium Rs 7)

Protective Put: Buy 400 puts (Strike Rs. 240, Premium Rs. 6)(CO6)

After analysis, the stock price is expected to be either Rs 230, Rs 250, or Rs 270 at expiry.

- A. Calculate the total payoff under each price scenario for both strategies.
- B. Evaluate which strategy provides better downside protection and which gives higher return potential.