Printed Page:-3 **Subject Code:- AMIBAFM0811**

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MBA (Integrated)

SEM: VIII - THEORY EXAMINATION (2025 - 2026)

Subject: Financial Derivatives and Risk Management

Time: 2.5 Hours **Max. Marks: 60**

General Instructions:

IMP: *Verify that you have received the question paper with the correct course, code, branch etc.*
1. This Question paper comprises of three Sections -A, B, & C. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.
2. Maximum marks for each question are indicated on right -hand side of each question.
3. Illustrate your answers with neat sketches wherever necessary.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.
6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A 15

1. Attempt all parts:-

(1.1) Identify the meaning of 'notional value' in derivatives. (CO1, K1) 1
- (a) Loan size
- (b) Premium paid
- (c) Total leveraged value
- (d) Market value

(1.2) Identify the pricing model used for futures contracts.(CO2,K1) 1
- (a) Net Present Value
- (b) Black-Scholes
- (c) Cost of Carry
- (d) Put-Call Parity

(1.3) Recognize the formula where Black-Scholes is primarily applied.(CO3,K1) 1
- (a) Interest calculation
- (b) Futures pricing
- (c) European option valuation
- (d) Arbitrage profit

(1.4) Identify the market where interest rate futures are traded.(CO4,K1) 1
- (a) Spot market
- (b) Retail market
- (c) Derivatives exchange
- (d) Forex market

(1.5) Select a qualitative method of risk assessment.(CO5,K1) 1

(a) Scenario analysis
(b) Standard deviation
(c) Beta analysis
(d) Sharpe ratio

2. Attempt all parts:-

(2.1)	Explain the key differences between exchange-traded and over-the-counter derivatives.(CO1,K2)	2
(2.2)	If the spot price of gold is ₹50,000 per 10 grams, the risk-free rate is 5% per annum, and storage costs are ₹500 per annum, what is the 1-year futures price? (CO2,K3)	2
(2.3)	If a call option on USD/INR has a strike price of ₹83, the premium is ₹2, and the spot price at expiry is ₹85, what is the profit for the speculator? (CO3,K3)	2
(2.4)	Two companies enter into a 5-year interest rate swap where Company A pays a fixed rate of 5% on a notional amount of ₹10 crore, and Company B pays a floating rate based on MIBOR (Mumbai Interbank Offer Rate). If MIBOR is 4.2% in the first year, what is the net cash flow for Company A? (CO4,K3)	2
(2.5)	A company wants to hedge ₹10 crore in foreign exchange exposure using a forward contract at ₹83/$. If the spot rate moves to ₹85/$, what is the hedging gain? (CO5,K3)	2

SECTION-B 15

3. Answer any three of the following:-

(3.1)	Explain how do businesses use forward contracts to hedge against currency risk?(CO1,K2)	5
(3.2)	Discuss the relationship between spot prices and futures prices in the cost of carry model.(CO2,K2)	5
(3.3)	Discuss how do traders use index options for speculative trading? Provide examples.(CO3,K2)	5
(3.4)	In what ways do currency swaps assist multinational corporations in mitigating foreign exchange risk and ensuring stability in cross-border financial transactions?(CO4,K2)	5
(3.5)	"There are six possibilities that may constitute credit events in CDS contracts". Comment.(CO5,K3)	5

SECTION-C 30

4. Answer any one of the following:-

(4.1)	Discuss the regulatory framework governing derivatives trading in India.(CO1,K2)	6
(4.2)	Discuss the role of options in portfolio diversification and risk management.(CO1,K2)	6

5. Answer any one of the following:-

(5.1)	Compare the cost of carry model in commodity futures versus financial futures.(CO2,K4)	6

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(5.2) A company enters into a 6-month forward contract to buy 1,000 barrels of crude oil at ₹6,500 per barrel. If the spot price at maturity is ₹7,000 per barrel, what is the gain or loss? (CO2,K3) 6

6. Answer any <u>one</u> of the following:-

(6.1) Compare the liquidity and trading volume of index options in India versus global markets.(CO3,K3) 6

(6.2) The shares of BSE Ltd. are currently priced at ₹ 415 and call option exercisable in three months' time has an exercise rate of ₹ 400. Risk-free interest rate is 5% p.a. (continuous compounded) and standard deviation (volatility) of share price is 22%. Based on the assumption that BSE Ltd. is not going to declare any dividend over the next three months, is the option worth buying for ₹ 25?Calculate value of aforesaid call option if the current price is considered as ₹ 380. (Use BS Model.) (CO3,K4) 6

7. Answer any <u>one</u> of the following:-

(7.1) How do financial swaps facilitate cost-effective financing for multinational corporations? Provide examples.(CO4,K3) 6

(7.2) Analyze the impact of benchmark interest rate changes on the valuation of interest rate swaps.(CO4,K3) 6

8. Answer any <u>one</u> of the following:-

(8.1) "R-squared is a statistical measure that represents the percentage of a fund portfolio or a security's movements" Justify.(CO5,K2) 6

(8.2) A Credit Default Swap (CDS) provides protection against the default of the reference entity specified in the contract. Comment. (CO5,K3) 6