Paper ID : 250373

Subject Code: KMBNFM03

Roll No: | | | | | | | | | | | | | |

MBA
(SEM IV) THEORY EXAMINATION 2024-25
FINANCIAL DERIVATIVES

TIME: 3 HRS **M.MARKS: 100**

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1. Attempt all questions in brief. **2x10=20**

a.	Define financial derivatives and state two of their key characteristics.
b.	Differentiate between forwards and futures contracts with one example each.
c.	What is the cost of carry model in futures pricing?
d.	Name two major uses of index futures in the stock market.
e.	What is meant by intrinsic value and time value of an option?
f.	State the purpose of the Black-Scholes model.
g.	Which option strategy will you select if you anticipate market will move significantly on either side? Justify your answer.
h.	Mention two participants in the commodity derivative markets and their roles.
i.	What is an interest rate swap?
j.	Distinguish between forward rate agreements (FRA) and interest rate futures.

SECTION B

2. Attempt any three of the following: **10x3=30**

a.	Explain how forward contracts are used for hedging purposes with an example.
b.	Describe the differences between speculation and arbitrage in currency futures.
c.	Explain the payoff structure of a call option for both buyer and seller.
d.	Discuss the role of commodity indices in analyzing commodity market trends.
e.	The current price of one stock is Rs. 50 and it is expected that stock price after one year will be either Rs. 60 or Rs. 40. Calculate the value of call option on this stock, if its exercise price is 50. Find the probability of the stock price increase and decrease also. (Assume lending and borrowing rate = 10%).

SECTION C

3. Attempt any one part of the following: **10x1=10**

a.	Explain the evolution and significance of derivative markets in India. Discuss how derivatives contribute to financial risk management with suitable examples.
b.	A company expects to receive ₹50 lakh in three months. It is worried about exchange rate fluctuations. Describe how the company can use a forward contract to hedge this exposure. Include a hypothetical numerical example.

4. Attempt any one part of the following: **10x1=10**

a.	Distinguish between forward and futures contracts on the basis of standardization, settlement, and counterparty risk. Also explain the mechanics of a futures contract using a stock index example.
b.	A trader enters into a long futures contract on gold. The spot price is ₹60,000 per 10 grams and the futures price is ₹61,200. The contract size is 100 grams. Calculate the payoff if the spot price at expiration becomes ₹62,500 and also if it falls to ₹59,000. Explain your answer.

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5. Attempt any one part of the following: **10x1=10**

a.	What are the differences between call and put options? Explain how investors can use options to hedge, speculate, and arbitrage. Include strategy examples.
b.	Using the Black-Scholes option pricing model, calculate the theoretical price of a European call option with the following details:Stock price = ₹100, Strike price = ₹95, Time to expiration = 3 months (0.25 years), Risk-free rate = 5%, Volatility=30% *(Use standard normal distribution values or provide assumptions in your solution.)*

6. Attempt any one part of the following: **10x1=10**

a.	Discuss the structure and functioning of commodity derivative markets in India. Explain the roles of various participants in these markets.
b.	A trader buys a commodity futures contract at ₹4,200 per unit. Contract size is 50 units. After a week, the price rises to ₹4,380. Calculate the profit/loss for the trader. Also explain margin requirements and MTM settlements in commodity futures.

7. Attempt any one part of the following: **10x1=10**

a.	What is a currency swap? Explain its working with a diagram and example involving two multinational companies wanting to raise funds in each other's currency.
b.	Company A has a floating-rate loan (LIBOR + 2%) and wants fixed-rate exposure. Company B has a fixed-rate loan at 8% but wants floating. Market fixed rate is 7.5%, and LIBOR is 5.5%. Design an interest rate swap between the two companies to benefit both. Show net savings.